

December 2012

# PREVENTIVE HEALTH ACTIVITIES

## Available Information on Federal Spending, Cost Savings, and International Comparisons Has Limitations

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## Why GAO Did This Study

Preventive health activities have received attention for their potential to improve health outcomes or lower health care expenditures. While there is no widespread agreement on what constitutes preventive health activities, in this report they include clinical preventive services, such as immunizations provided in clinical settings, and community-oriented preventive health activities, such as health education media campaigns. A preventive health activity is considered cost saving if the activity costs less than the costs averted by it; an activity is cost-effective if it achieves benefits in a less costly way than alternatives. HHS, VA, and DOD administer programs that include preventive health activities.

GAO was asked to report on preventive health activities. This report provides available information and discusses the limitations of this information regarding (1) preventive health activities in programs administered by HHS, VA, and DOD and the departments' spending on such activities; (2) reported cost savings from and cost effectiveness of preventive health activities; and (3) U.S. spending on preventive health activities compared to that of other countries.

GAO reviewed documents from HHS, VA, and DOD; interviewed officials from those departments and researchers; conducted a literature review; and reviewed OECD data on national health spending.

HHS and VA provided technical comments on a draft of this report, which were incorporated as appropriate.

View [GAO-13-49](#). For more information, contact Katherine Iritani at (202) 512-7114 or [iritanik@gao.gov](mailto:iritanik@gao.gov).

## PREVENTIVE HEALTH ACTIVITIES

### Available Information on Federal Spending, Cost Savings, and International Comparisons Has Limitations

## What GAO Found

The Departments of Health and Human Services (HHS), Veterans Affairs (VA), and Defense (DOD) administer programs that include preventive health activities such as health screenings and education campaigns, but the departments reported that they do not track department-wide spending on these activities. Departments reported that determining such spending is challenging because these activities can be integrated with other health activities. For fiscal year 2011, the departments provided to GAO a mix of information related to spending for preventive health activities, and noted limitations. These limitations included incomplete estimates, estimates that included activities that were prevention-related but not specifically for clinical preventive services or community-oriented preventive health activities, and estimates that represented funding—not spending—information. Funding estimates represent amounts available to the departments at a particular time, but not necessarily actual spending. For fiscal year 2011, HHS combined estimates of spending for prevention for one agency with estimates of funding for nine other HHS agencies for a total of about \$24 billion; however, the estimate did not include the Centers for Medicare & Medicaid Services, which oversees health coverage programs for over 100 million individuals. VA and DOD estimated that, for example, fiscal year 2011 spending for clinical preventive services was about \$576 million and \$1 billion, respectively.

Researchers, reports, and articles have indicated that some preventive health activities may result in cost savings—that is, the costs averted, such as medical costs to treat a disease or condition, exceed the cost of implementing it—and a number of preventive health activities, while not necessarily cost saving, may be cost-effective—that is, the activity provides good value at low cost relative to alternative activities. For example, according to one report that synthesized the results of three reviews, two clinical preventive services—counseling on the use of low-dose aspirin to reduce coronary heart disease and childhood immunizations—were considered to be cost saving. Researchers noted, however, that estimates of cost savings or cost-effectiveness are affected by multiple factors, such as how an activity is targeted. In addition, Centers for Disease Control and Prevention officials and others reported that a lack of key data may affect estimates of cost savings or cost-effectiveness and reported taking steps toward improving available information.

Data for international comparisons of countries' spending specifically for preventive health activities are not available. Instead, data available from the Organization for Economic Co-operation and Development (OECD) combine spending on certain preventive health activities—including community-oriented preventive health activities, such as vaccination programs—with spending on other public health activities, such as disease surveillance. On the basis of these data, the United States ranked 8th among 23 OECD member countries in the percentage of total health care spending reported for prevention and public health services. However, these data have limitations. For example, they do not include U.S. spending for preventive services provided in physicians' offices or hospitals in the public and private sectors.

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# Contents

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Letter		1
	Background	7
	HHS, VA, and DOD Programs Include Preventive Health Activities, but Department-wide Spending on These Activities Is Not Specifically Tracked	14
	Some Preventive Health Activities May Be Cost Saving or Cost-Effective, but Multiple Factors Affect Estimates, and Key Data May Be Lacking	21
	International Data on Preventive Health Activities Are Not Available, but United States Ranks Eighth in OECD Category That Combines Spending on Prevention and Public Health Services	28
	Concluding Observations	32
	Agency Comments	33
Appendix I	Requirements Related to Preventive Health Activities in the Duncan Hunter National Defense Authorization Act	34
Appendix II	Department of Health and Human Services Estimates of Spending and Funding for Preventive Health Activities	36
Appendix III	Department of Veterans Affairs Estimates of Spending and Funding for Preventive Health Activities	40
Appendix IV	Department of Defense Estimates of Spending for Preventive Health Activities	42
Appendix V	GAO Contact and Staff Acknowledgments	44
Tables		
	Table 1: Selected HHS Agencies and Their Functions	8

---

Table 2: Types of Preventive Health Activities Included in Programs Administered by HHS Agencies	15
Table 3: Effect of Targeting on Cost-Effectiveness Ratio for Selected Preventive Health Activities	25
Table 4: DOD Estimates of Spending for Providing Clinical Preventive Services in DOD's Direct Care and Purchased Care Systems, Fiscal Years 2010 and 2011	42

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## Figures

Figure 1: Total Health Care Spending per Capita, by OECD Member Country, 2010	13
Figure 2: Spending for Prevention and Public Health Services as a Percentage of Total Health Spending, by OECD Member Country, 2010	29
Figure 3: Spending for Prevention and Public Health Services as a Percentage of Gross Domestic Product, by OECD Member Country, 2010	30
Figure 4: Spending for Prevention and Public Health Services per Capita, by OECD Member Country, 2010	31

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### Abbreviations

ACF	Administration for Children and Families
ACL	Administration for Community Living
ACIP	Advisory Committee on Immunization Practices
AHRQ	Agency for Healthcare Research and Quality
AOA	Administration on Aging
ASFR	Office of the Assistant Secretary for Financial Resources
CDC	Centers for Disease Control and Prevention
CMS	Centers for Medicare & Medicaid Services
DOD	Department of Defense
FDA	Food and Drug Administration
HHS	Department of Health and Human Services
HIV	human immunodeficiency virus
HPV	human papillomavirus
HRSA	Health Resources and Services Administration
IHS	Indian Health Service
LDL	low-density lipoprotein
NIH	National Institutes of Health
NHLBI	National Heart, Lung, and Blood Institute
OASH	Office of the Assistant Secretary for Health
OECD	Organization for Economic Co-operation and Development
QALY	quality-adjusted life-year
SAMHSA	Substance Abuse and Mental Health Services Administration
USPSTF	U.S. Preventive Services Task Force
VA	Department of Veterans Affairs
VHA	Veterans Health Administration

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**United States Government Accountability Office**  
Washington, DC 20548

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December 6, 2012

The Honorable Max Baucus  
Chairman  
Committee on Finance  
United States Senate

The Honorable Tom Harkin  
Chairman  
Committee on Health, Education, Labor, and Pensions  
United States Senate

The Honorable Carl Levin  
Chairman  
Committee on Armed Services  
United States Senate

In recent years, preventive health activities have received attention for their potential to improve health outcomes or lower health care expenditures. Preventive health activities can prevent health conditions from occurring, or screen for or diagnose existing health conditions. For example, vaccinations can prevent infectious diseases, and mammograms are used to screen for breast cancer. Preventive health activities can also manage diagnosed health conditions and prevent certain conditions from worsening—for example, weight-reduction counseling to help manage diabetes. While there is no widespread agreement on what constitutes preventive health activities, in this report preventive health activities include clinical preventive services and community-oriented preventive health activities. Clinical preventive services are services that are provided to individuals in clinical settings such as immunizations, screenings, and counseling, and community-oriented preventive health activities are activities to improve the health of people in a community such as health education media campaigns and health screenings at community health fairs.

The Department of Health and Human Services (HHS), the Department of Veterans Affairs (VA), and the Department of Defense (DOD) administer programs that provide preventive health activities and other health services to millions of Americans. For example, HHS's Medicare and

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Medicaid programs provide coverage for clinical preventive services for seniors and low-income adults and children,<sup>1</sup> VA provides clinical preventive services and community-oriented preventive health activities for veterans and other eligible beneficiaries, and DOD provides clinical preventive services and community-oriented preventive health activities for active duty personnel and other beneficiaries. According to the National Prevention Strategy prepared by the National Prevention Council—a council that includes the heads of these three departments—the federal government will support preventive health activities to promote health and wellness by taking new or continuing actions such as promoting and expanding research efforts to identify high-priority preventive health activities.<sup>2</sup> State and local governments, nonprofit organizations, companies in the private sector, as well as governments in other countries, also administer programs that include preventive health activities.

Preventive health activities may have impacts on health care costs and improve health outcomes. Preventive health activities are considered to be cost saving when the cost of implementing the activity is less than costs—such as future medical costs to treat a disease or condition—that could be averted by the preventive health activity. Preventive health activities that may improve health outcomes are considered cost-effective if the activity generates benefits, such as improved health outcomes, in a less costly way than alternatives—that is, they provide good value at relatively low cost.

You asked us to provide information on preventive health activities, including spending on these activities by HHS, VA, and DOD and limitations in this information. This report provides available information

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<sup>1</sup>Medicare is the federal health insurance program for people age 65 or older, individuals under age 65 with certain disabilities, and individuals diagnosed with end-stage renal disease. Medicaid is a joint federal and state program that finances health care coverage for certain low-income individuals and families.

<sup>2</sup>See National Prevention Council, *National Prevention Strategy* (Washington, D.C.: U.S. Department of Health and Human Services, Office of the Surgeon General, 2011). The National Prevention, Health Promotion and Public Health Council (referred to as the National Prevention Council) was established under the Patient Protection and Affordable Care Act (Pub. L. No. 111-148, § 4001, 124 Stat. 119, 538 (2010)) and is composed of the heads of 17 federal agencies and chaired by the Surgeon General. Information about the National Prevention Council and its National Prevention Strategy is available at <http://www.healthcare.gov/prevention/nphpphc> (accessed Aug. 30, 2012).

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and discusses the limitations of this information regarding (1) preventive health activities included in programs administered by HHS, VA, and DOD and the departments' spending information on such activities; (2) reported cost savings from and cost-effectiveness of preventive health activities; and (3) U.S. spending on preventive health activities compared to that of other countries.

To provide information and discuss the limitations of this information regarding preventive health activities included in programs administered by HHS, VA, and DOD and the departments' spending information on such activities, we reviewed documents and interviewed officials from HHS, VA, and DOD. We asked officials from each of these departments to describe completed or ongoing efforts, if any, to identify and track spending on clinical preventive services and community-oriented preventive health activities included in programs administered by their respective departments, and we reviewed the related documents they provided.<sup>3</sup> We asked the departments to provide readily available information from their data systems or existing documents. As a result, the information provided by the departments may not be based on a uniform definition of preventive health activities or comparable estimates of spending. We did not independently verify the information provided by the departments nor did we assess the rationale for including or excluding particular preventive health activities in the information that the departments provided.

- For HHS, we reviewed documents provided by HHS's Office of the Assistant Secretary for Financial Resources (ASFR) (the office that provides guidance to HHS's Office of the Secretary on all aspects of HHS's budget) that include estimates of spending and other information, reviewed documents from HHS agencies that identified

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<sup>3</sup>We did not contact the Department of the Treasury to review federal tax expenditures, which are not within the scope of our work. Tax expenditures are preferential provisions in the tax code, such as exemptions and exclusions from taxation, deductions, credits, deferral of tax liability, and preferential tax rates that result in forgone revenue for the federal government. The revenue that the government forgoes is viewed by many analysts as spending channeled through the tax system. According to the Office of Management and Budget, in fiscal year 2011, for example, the tax exclusion for employer-provided health care alone totaled about \$267.8 billion in forgone federal revenue. See Office of Management and Budget, *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2013* (Washington, D.C.: 2012).



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preventive health activities included in programs administered by the agencies, and interviewed ASFR and HHS agency officials.<sup>4</sup>

- For VA, we reviewed documents describing estimates of spending developed by VA's Veterans Health Administration (VHA), which administers VA's health care system, and we interviewed VHA officials. Specifically, we reviewed documents identifying selected clinical preventive services provided in VA medical facilities and describing spending estimates developed by VHA's Allocation Resource Center for these services.<sup>5</sup> In addition to estimates of spending for clinical preventive services, we reviewed VA documents identifying community-oriented preventive health activities included in programs administered by VA's National Center for Health Promotion and Disease Prevention and VA's Clinical Public Health Group. We also interviewed officials who provided these documents.
- For DOD, we reviewed documents describing estimates of spending developed by the department and interviewed DOD officials about the department's preventive health activities. For example, to learn about DOD's clinical preventive services provided through TRICARE—DOD's program that provides health care to active duty personnel and other beneficiaries, including retired servicemembers—we reviewed documents describing spending estimates provided by DOD's TRICARE Management Activity (the DOD component that oversees TRICARE) and interviewed officials from the TRICARE Management Activity.<sup>6</sup>

For all the departments, we reviewed documents describing limitations of the information or discussed limitations with HHS, VA, and DOD officials. We did not independently verify the accuracy of the information. We determined the information to be sufficiently reliable for providing information on preventive health activities in programs administered by

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<sup>4</sup>In this report we use the term *agency* to refer to HHS agencies, as well as the Office of the Assistant Secretary for Health.

<sup>5</sup>VHA's Allocation Resource Center is responsible for developing, implementing, and maintaining management information systems that provide data for VHA's budget process.

<sup>6</sup>We also reviewed documents, including DOD reports to Congress, related to preventive health provisions in the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009. Pub. L. No. 110-417, §§ 711- 714, 122 Stat. 4536, 4500-04 (2008).

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HHS, VA, and DOD and on the departments' estimates of spending on such activities, and limitations of this information. Where we identified limitations, we report them.

To provide information about the reported cost savings from and cost-effectiveness of preventive health activities, we conducted a literature review and interviewed researchers and government officials.<sup>7</sup> For our literature review, we searched four databases—EMBASE, MEDLINE, SciSearch, and ProQuest—and identified 23 articles that met our inclusion criteria—that is, each of the 23 articles reviewed multiple research studies; clearly described a methodology; was published in a peer-reviewed journal between January 2007 and March 2012; and identified U.S. based services that were cost saving or cost-effective, or factors that affect whether a preventive health activity is cost saving or cost-effective. In addition to conducting a literature review of articles published in peer-reviewed publications, we reviewed government and independent reports, including reports published by nonprofit organizations that were referenced in articles in our literature review or were suggested to us by the federal officials and researchers we interviewed. We interviewed officials from the following HHS agencies that provide research support to organizations that work on issues related to preventive health activities: the Agency for Healthcare Research and Quality (AHRQ)—specifically, we spoke to officials who provide research support to the U.S. Preventive Services Task Force (USPSTF); and the Centers for Disease Control and Prevention (CDC)—specifically, we spoke to officials in the National Center for Chronic Disease Prevention and Health Promotion and the National Center for Immunization and Respiratory Diseases who provide support to the Community Preventive Services Task Force and the Advisory Committee on Immunization Practices (ACIP), respectively. We also interviewed members of ACIP, including the ACIP Chair.

To provide information on U.S. spending on preventive health activities compared to that of other countries, we reviewed data collected by the Organization for Economic Co-operation and Development (OECD) on

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<sup>7</sup>We interviewed researchers at two nonprofit organizations that focus on preventive health activities and two academic institutions. These researchers were referred to us by federal officials or published articles in peer-reviewed publications or reports on the topic of the cost savings or cost-effectiveness of preventive health activities, including articles or reports cited by HHS.

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national health spending for the United States and other OECD member countries.<sup>8</sup> OECD is an organization that, among other things, collects data on health spending from member countries. We reported relevant 2010 spending statistics for OECD member countries using data available on OECD's website.<sup>9</sup> We also identified trends for the United States over time by comparing rankings for 2010 spending statistics with similar rankings for 2001 through 2009. We reviewed documents published by OECD and interviewed experts—including officials from the Centers for Medicare & Medicaid Services' (CMS) Office of the Actuary (the office that submits the U.S. health care spending data to OECD) as well as researchers—to learn about guidelines established by OECD and the data submitted by OECD member countries. While there are limitations to using OECD data, the researchers we interviewed reported that the OECD data are the best available data for making international comparisons on health spending. We did not independently verify the accuracy of the data. We assessed the reliability of the data and determined that the data were sufficiently reliable for purposes of presenting available data comparing U.S. spending with that of other countries, noting limitations associated with these data.

We conducted our work from December 2011 through December 2012 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform our work to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our research objectives. We believe

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<sup>8</sup>As of August 2012, OECD had 34 member countries. According to OECD, its member countries include many of the world's most advanced economies but also emerging economies like Mexico, Chile, and Turkey. OECD lists the member countries on its website: [http://www.oecd.org/document/58/0,3746,en\\_2649\\_201185\\_1889402\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/58/0,3746,en_2649_201185_1889402_1_1_1_1,00.html) (accessed Aug. 8, 2012). OECD also reports data on health outcomes. OECD health data are used by researchers and others to compare health spending and outcomes in the United States with that of other countries.

<sup>9</sup>We used 2010 spending data because it was the most recent data available for most member countries at the time of our review. As of July 2012, OECD had posted 2010 health spending data from 28 of its 34 member countries, and posted data on prevention and public health services from 23 of these countries. Data from these 23 countries were used for this report. To identify the rankings for relevant 2010 spending statistics, we used the OECD.Stat database available on OECD's website ([http://www.oecd.org/document/30/0,3746,en\\_2649\\_37407\\_12968734\\_1\\_1\\_1\\_37407,00.html](http://www.oecd.org/document/30/0,3746,en_2649_37407_12968734_1_1_1_37407,00.html), accessed July 11, 2012).

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that the evidence obtained provides a reasonable basis for our findings and conclusions based on our research objectives.

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## Background

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### HHS, VA, and DOD Health Care

HHS is the federal government's principal department for protecting the health of all Americans and providing essential human services, especially for vulnerable populations. For fiscal year 2011, HHS's department-wide expenditures totaled about \$891 billion. HHS agencies that administer programs that include preventive health activities have missions and key functions that vary. For example, CMS administers the Medicare and Medicaid programs and the Children's Health Insurance Program, which provide health care insurance for more than 100 million adults and children. Three other agencies—the Indian Health Service (IHS), the Health Resources and Services Administration (HRSA), and the Substance Abuse and Mental Health Services Administration (SAMHSA)—provide health care services or support systems that provide these services. Two agencies—the National Institutes of Health (NIH) and AHRQ—are primarily research agencies. CDC develops and supports public health prevention programs and systems, such as disease surveillance and provider education programs. (See table 1 for more information about these HHS agencies.)

**Table 1: Selected HHS Agencies and Their Functions**

<b>HHS agency</b>	<b>Agency functions</b>
Administration for Children and Families (ACF)	Administers programs to promote the economic and social well-being of children, youth, families, and communities, focusing particular attention on vulnerable populations, such as children in low-income families, refugees, Native Americans, and children in foster care.
Agency for Healthcare Research and Quality (AHRQ)	Supports research that examines how people get access to health care, how much health care costs, and what happens to patients as a result of the health care they receive.
Administration for Community Living (ACL) <sup>a</sup>	Administers programs to advance the concerns and interests of older Americans, people with disabilities, and their families through national networks of service, system change efforts, and protections to promote optimal life outcomes.
Centers for Disease Control and Prevention (CDC)	Administers programs to prevent significant health conditions and their risk factors, including infectious diseases, chronic diseases, birth defects and developmental disabilities, intentional and unintentional injury, and health conditions from environmental exposures.
Centers for Medicare & Medicaid Services (CMS)	Oversees the financing of health care services for the 43 million beneficiaries covered through Medicare and the nearly 60 million low-income individuals (including adults and children) covered through Medicaid and the Children's Health Insurance Program.
Health Resources and Services Administration (HRSA)	Administers programs to improve access to health care services for people who are uninsured, isolated, or medically vulnerable.
Indian Health Service (IHS)	Provides health care to approximately 2.2 million American Indians and Alaska Natives through a network of 650 hospitals, clinics, and health stations.
National Institutes of Health (NIH)	Supports medical research in the United States. It conducts and funds research about, for example, the causes, diagnosis, prevention, and cure of human diseases.
Office of the Assistant Secretary for Health (OASH)	Coordinates population-based public health and science activities across HHS agencies.
Substance Abuse and Mental Health Services Administration (SAMHSA)	Administers programs to promote emotional health and reduce the likelihood of mental illness, substance abuse, and suicide.

Source: GAO summary of HHS information.

<sup>a</sup>In April 2012, HHS created the ACL by combining the Administration on Aging (AOA), the Office on Disability, and the Administration on Intellectual and Developmental Disabilities.

VA also provides health care services that include preventive health activities. VA operates one of the largest health care delivery systems in the nation. VA provides a range of health care services to eligible veterans and certain eligible dependents or survivors of veterans. These services include primary care, inpatient and outpatient surgery, prosthetics, mental health services, prescription drugs, nursing home care, and preventive health activities. To provide this care, VA operates about 150 hospitals, 130 nursing homes, and 800 outpatient clinics, as well as other facilities. In fiscal year 2011, VA spent about \$51 billion on health care services and provided health care services to about 6.2 million patients.

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DOD operates a large, complex health system that in fiscal year 2011 provided health insurance coverage for about 9.6 million active duty personnel and other beneficiaries, including eligible family members and retired servicemembers. DOD's health system consists of the Office of the Assistant Secretary for Health Affairs, the medical departments of the Army, Navy, and Air Force; the Joint Chiefs of Staff; the Combatant Command surgeons; and the TRICARE network of health care providers. DOD delivers health care services—including diagnostic, therapeutic, inpatient, and outpatient care—through the military services' medical departments at 59 military treatment facilities, 365 ambulatory care clinics, and 281 dental clinics, which make up what is known as the direct care system. DOD also delivers similar services to TRICARE beneficiaries through its purchased care system, which consists of network and nonnetwork private-sector civilian primary and specialty care providers, hospitals, pharmacies, and suppliers. In fiscal year 2011, spending in DOD's health system totaled about \$52 billion.

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## Estimating Cost Savings and Cost-Effectiveness of Preventive Health Activities

Preventive health activities may result in cost savings and may be cost-effective. An activity may be cost saving if the costs averted by the activity, such as future medical costs to treat a disease or condition, exceed the cost of implementing the preventive health activity. An activity may be considered cost-effective if it generates benefits, such as improved health outcomes, in a less costly way than alternatives. Cost-effectiveness analysis can help to evaluate whether the improvement in health care outcomes justifies the expenditures relative to other choices.

Cost-effectiveness analyses typically compare the costs and health outcomes between two activities or compare an activity with no intervention. Estimates of cost-effectiveness are typically presented as a ratio of the net costs to the net outcomes of utilizing one preventive health activity over another. In presenting outcomes of cost-effectiveness analyses, researchers often use a measure called the quality-adjusted life-year (QALY), which takes into account both the number and quality of years added by an intervention. A year in perfect health is worth 1 QALY, and a year with less than perfect health—for example, with an adverse health condition—is generally worth between 0 and 1 QALY. The preventive health activity with the lower cost-effectiveness ratio is preferred because it costs less to achieve the desired health outcome. While there is no agreement on the specific threshold for determining that

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an activity is cost-effective, researchers have used a threshold of \$50,000 per QALY or \$100,000 per QALY to consider a preventive health activity to be cost-effective.<sup>10</sup>

In the United States, three federally supported organizations—USPSTF, ACIP, and the Community Preventive Services Task Force—assess information about preventive health activities and make recommendations to providers and policymakers based on an activity’s effectiveness—that is, how well the activity produces a desired health outcome.

- USPSTF is an independent panel of nonfederal experts in prevention and evidence-based medicine that makes recommendations to primary care clinicians on clinical preventive services.<sup>11</sup> USPSTF reviews evidence from randomized control trials and other studies documenting the effectiveness of clinical preventive services.<sup>12</sup> It then issues recommendations for providers and may include guidance on the sex and age groups most likely to benefit from the service, as well as the interval of the service. The USPSTF is convened by AHRQ, and AHRQ also provides it with administrative, research, technical, and dissemination support.
- ACIP—a federal advisory committee of 15 experts selected by the Secretary of Health and Human Services—makes recommendations for vaccination administration, including a schedule of recommended vaccines for adults and children.<sup>13</sup> As part of its recommendation process, ACIP reviews information on the cost or economic impact of

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<sup>10</sup>Because there is no commonly accepted cost-effectiveness ratio threshold that determines whether a preventive health activity is cost-effective, the thresholds researchers apply may vary. Given such variations, a preventive health activity may be found to be cost-effective in one research study that uses a particular threshold, but not in another study that applies a different threshold. For example, a preventive health activity may be considered cost-effective when using a threshold cost-effectiveness ratio of \$100,000 per QALY, but when a lower cost-effectiveness threshold is used, such as \$50,000 per QALY, the same activity might not be considered cost-effective.

<sup>11</sup>USPSTF is made up of 16 volunteer members who are primary care providers (such as internists, pediatricians, family physicians, obstetricians/gynecologists, nurses, and behavioral health specialists).

<sup>12</sup>The USPSTF does not consider economic information, such as whether a preventive health service is cost saving or cost-effective, as part of its recommendation process.

<sup>13</sup>ACIP recommendations are not considered official until they are approved by the CDC Director and published in CDC’s *Morbidity and Mortality Weekly Report*.

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the vaccinations it evaluates. CDC provides ACIP with management and support services.

- The Community Preventive Services Task Force—an independent, nonfederal panel of 15 members appointed by the CDC Director—conducts systematic reviews of community-oriented preventive services, programs, and policies and issues recommendations and findings to help inform decision making about policy, practice, and research. The task force examines the evidence, produces findings and recommendations about effective and ineffective programs, services, and policies, and identifies research gaps that need to be filled. While the Community Preventive Services Task Force does not consider economic information, such as whether a preventive health service is cost saving or cost-effective, as part of its recommendation process, it makes publicly available the economic information for the preventive health activities it recommends.<sup>14</sup> The task force reviews research, including cost-effectiveness research, funded and conducted by CDC’s Epidemiology and Analysis Program Office. CDC staff support the Community Preventive Services Task Force by conducting the systematic reviews with oversight from the task force, and by disseminating task force recommendations and findings.

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## OECD

OECD is an international economic organization in which its member countries discuss, develop, and analyze economic and social policy. OECD collects data on total health spending and spending on specific health categories such as medical goods, inpatient care, and outpatient care, from its member countries, including the United States. For the United States, CMS’s Office of the Actuary reports national health spending data to OECD. To make the data collected from member countries as comparable as possible, OECD establishes guidelines for the types of spending that should be included in various spending

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<sup>14</sup>The Community Preventive Services Task Force reviews published information related to the cost savings or cost-effectiveness of the preventive health activities it recommends and posts this information online. For example, the task force finding and rationale statement on interventions for children and adolescents with asthma included information from studies that considered costs and benefits of the interventions—see <http://www.thecommunityguide.org/asthma/rrchildren.html> (accessed Aug. 17, 2012).



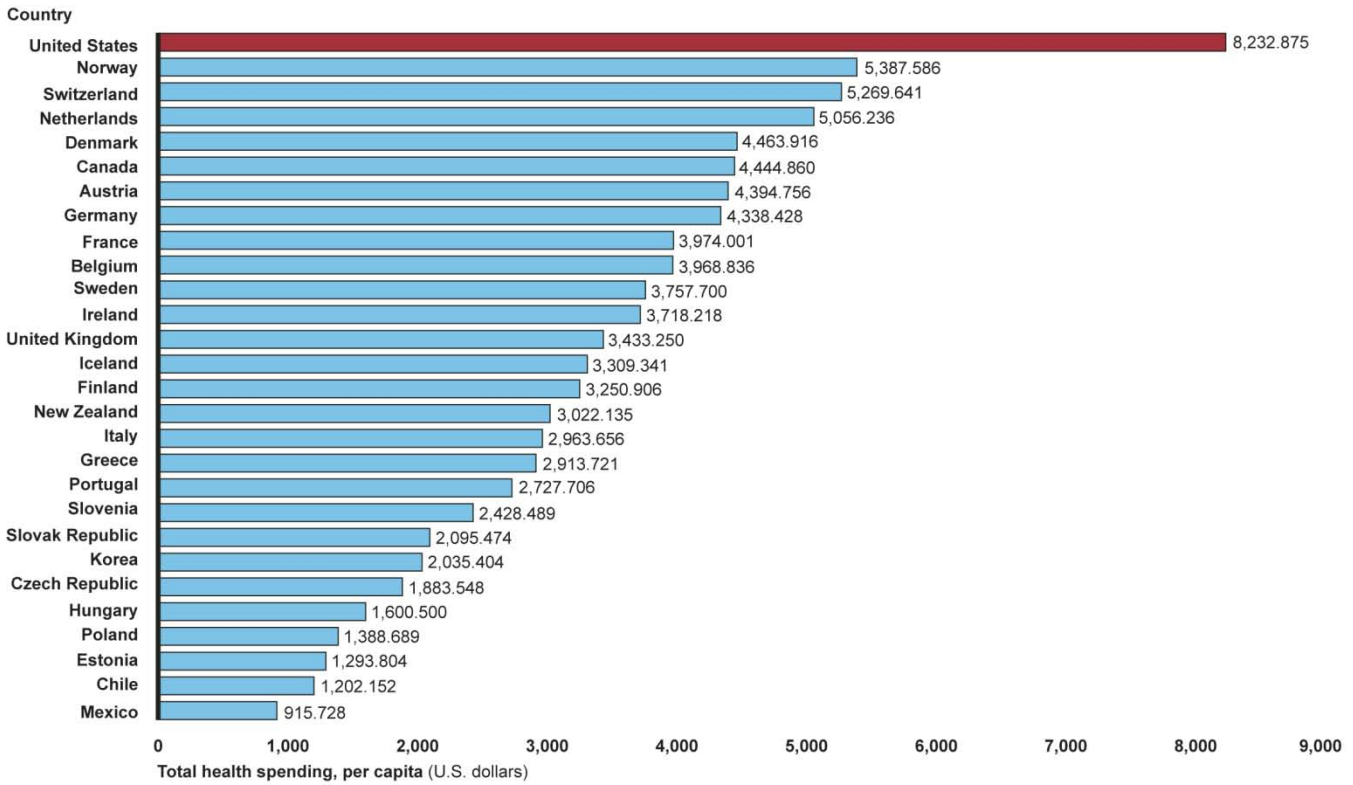
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categories.<sup>15</sup> For example, OECD's guidelines for total health spending in 2010 included spending in both the public and private sectors on health services conducted in hospitals and other facilities or settings such as long-term nursing care centers and physicians' offices. The guidelines also included total spending on pharmaceuticals, health administration, and public health. In 2010, the United States ranked first among OECD countries in total health care spending (about \$2.5 trillion). The United States also ranked first among OECD countries in total health care spending as a percentage of the country's gross domestic product (about 18 percent) and in total health care spending per capita—\$8,233 per person (see fig. 1).

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<sup>15</sup>OECD disseminates its guidelines in a published manual called A System of Health Accounts. The manual containing guidelines for OECD's 2010 data—the data used for this report—was released by OECD in 2000. A revised version of the manual was released in November 2011.

**Figure 1: Total Health Care Spending per Capita, by OECD Member Country, 2010**



Source: GAO summary of data from the Organization for Economic Co-operation and Development (OECD).

Note: This figure presents a summary of 2010 data on total health care spending per capita for 28 OECD member countries. OECD adjusted spending per capita for purchasing power parity.

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**HHS, VA, and DOD  
Programs Include  
Preventive Health  
Activities, but  
Department-wide  
Spending on These  
Activities Is Not  
Specifically Tracked**

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**HHS, VA, and DOD  
Identified Preventive  
Health Activities Included  
in the Programs They  
Administer**

HHS agencies identified preventive health activities—specifically, clinical preventive services and community-oriented preventive health activities— included in programs that they administer, with different programs targeting different populations. (See table 2 for types of preventive health activities included in programs that HHS agencies administer and examples of such activities.) For example, CMS’s Medicare and Medicaid programs provide coverage for clinical preventive services for Medicare and Medicaid beneficiaries, while IHS’s programs provide preventive health activities for American Indians and Alaska Natives. CDC administers programs that include community-oriented preventive health activities such as the National Tobacco Control Program, which provides access to quit lines and ad campaigns to reduce smoking.

**Table 2: Types of Preventive Health Activities Included in Programs Administered by HHS Agencies**

HHS agency	Type of preventive health activities included		Example
	Clinical preventive services	Community-oriented preventive health activities	
Administration for Children and Families (ACF)	x		ACF awards discretionary grants to states through its Office of Refugee Resettlement Preventive Health Services program to coordinate and promote access to clinical preventive services that include health screenings for refugees.
Agency for Healthcare Research and Quality (AHRQ)	x		AHRQ convenes the U.S. Preventive Services Task Force (USPSTF)—a panel of experts that makes recommendations on clinical preventive services—and provides administrative, research, technical, and dissemination support for the USPSTF.
Administration for Community Living (ACL) <sup>a</sup>		x	ACL administers programs that promote opportunity, healthy lifestyles, and healthy behaviors for older Americans, people with disabilities, and their families through education, research and service across diverse networks of state and local programs.
Centers for Disease Control and Prevention (CDC)	x	x	CDC administers programs that include community-oriented preventive health activities such as the National Tobacco Control Program, which provides access to quit lines and ad campaigns to reduce smoking. CDC also supports the Community Preventive Services Task Force, which conducts reviews on the effectiveness of community-oriented preventive health activities. CDC’s Vaccines for Children program and Section 317 Immunization Program fund the purchasing and delivery of vaccines to vulnerable populations.
Centers for Medicare & Medicaid Services (CMS)	x	x	CMS’s Medicare and Medicaid programs provide coverage for many clinical preventive services such as wellness examinations, screenings, vaccinations, and counseling for Medicare and Medicaid beneficiaries. CMS’s Everyone with Diabetes Counts program includes community-oriented preventive health activities that seek to educate Medicare beneficiaries with diabetes in vulnerable populations and increase their health literacy.
Health Resources and Services Administration (HRSA)	x	x	HRSA’s National Health Service Corps supports the provision of clinical preventive health activities and community-oriented preventive health activities by offering assistance to underserved communities in every state to recruit and retain primary care providers.

HHS agency	Type of preventive health activities included		Example
	Clinical preventive services	Community-oriented preventive health activities	
Indian Health Service (IHS)	x	x	IHS provides clinical preventive services to American Indians and Alaska Natives through its network of hospitals and clinics. IHS's Community Health Representative program supports community-oriented preventive health activities by, for example, providing health education in patients' homes and schools and facilitating screening at health fairs.
National Institutes of Health (NIH)	x	x	NIH supports research designed to yield results directly applicable to identifying and assessing risk, and to develop interventions for preventing or ameliorating high-risk behaviors, the occurrence of disease, disorder, injury, or progression of detectable but asymptomatic disease. Research projects support clinical preventive services and community-oriented preventive health activities.
Office of the Assistant Secretary for Health (OASH)	x	x	OASH leads the President's Council on Physical Fitness, Sports, and Nutrition in efforts to increase physical activity in the United States. The council advises the President through the Secretary of Health and Human Services about physical activity, fitness, sports, and good nutrition. In addition, OASH provides funding support for Title X family planning clinics which provide clinical preventive services to millions of individuals.
Substance Abuse and Mental Health Services Administration (SAMHSA)	x	x	SAMHSA's Safe Schools/Healthy Students Initiative includes both clinical preventive services and community-oriented preventive health activities. It provides funding to local law enforcement, juvenile justice agencies, social services, mental health agencies, and other community organizations to plan and implement comprehensive and coordinated programs, policies, and service delivery systems that promote mental, emotional, and behavioral well-being and prevent violence and drug abuse among children and youth.

Source: GAO summary of HHS information.

<sup>a</sup>In April 2012, HHS created the ACL by combining the Administration on Aging (AOA), the Office on Disability, and the Administration on Intellectual and Developmental Disabilities.

VA also identified clinical preventive services and community-oriented preventive health activities in the programs it administers for veterans and other beneficiaries in VA facilities. Examples of the clinical preventive services that VA provides to beneficiaries who are eligible for such services include immunizations; dental cleanings; depression screenings; post-traumatic stress screenings; diabetes screenings; hypertension screenings; tobacco use screenings and counseling; and screenings for

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breast cancer, cervical cancer, and colorectal cancer. VA provides these services to beneficiaries in VA medical centers, community-based outpatient clinics, and other VA facilities.<sup>16</sup> In addition, VA's National Center for Health Promotion and Disease Prevention provides support for clinical staff in VA medical facilities and coordinates VA's community-oriented preventive health activities. For example, the center leads the department's efforts to provide guidance to clinicians and veterans on a range of clinical preventive services, and administers the department's MOVE! Weight Management Program. VA's Clinical Public Health Group—an office that addresses public health concerns through, among other things, education and outreach, policy development, and research—also administers community-oriented preventive health activities, including prevention education for tobacco use, human immunodeficiency virus (HIV), and influenza.

In addition, DOD identified clinical preventive services and community-oriented preventive health activities included in programs administered through the department's direct care and purchased care systems for active duty personnel and other beneficiaries, including retired servicemembers. Examples of services include immunizations; depression screenings; dental screenings; diabetes screenings; obesity screenings; vision screenings; and screenings for breast cancer, cervical cancer, and colorectal cancer. DOD's direct care system also includes community-oriented preventive health activities such as tobacco cessation and obesity and alcohol abuse prevention programs. For example, DOD's TRICARE Management Activity coordinates the Quit Tobacco—Make Everyone Proud program, which is a tobacco cessation marketing and education campaign to increase awareness of the negative effects of tobacco use and decrease its use and acceptance in the military work environment. DOD also reported that the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 required DOD to reduce beneficiary cost sharing and undertake certain preventive health activities.<sup>17</sup> (For more information on these provisions, see app. I.)

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<sup>16</sup>In addition to services it provides directly, VA also operates a fee-based purchased care program that covers health care services—including dental services, outpatient care, inpatient care, emergency care, and medical transportation—provided to eligible veterans outside of the VA when a VA facility is not available. Total annual fee payments under this program were about \$3.8 billion in fiscal year 2009. VA did not identify clinical preventive services provided through its fee-based purchased care program.

<sup>17</sup>Pub. L. No 110-417, §§711-714, 122 Stat. 4356, 4500-04 (2008).

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HHS, VA, and DOD Do Not Track Department-wide Spending for Preventive Health Activities, but Provided a Mix of Information Related to Spending for Preventive Health Activities

HHS, VA, and DOD reported that they do not specifically track department-wide spending<sup>18</sup> on preventive health activities and that determining total spending on preventive health activities is challenging because such activities are often integrated with other activities. According to HHS, VA, and DOD officials, spending for preventive health activities is not easily distinguished in their data from spending on other health activities. For example, VA and DOD officials reported that it can be challenging to identify the portion of spending linked to a clinical preventive service and identify the portion that is for treatment when both types of services are provided in a single patient visit. The departments noted that they are not required to specifically track department-wide spending on all the preventive health activities included in the programs they administer.

HHS, VA, and DOD provided us with a mix of information related to spending for preventive health activities, and noted limitations associated with the information. For example, some spending for preventive health activities was not included, or prevention-related spending was included but was not for preventive health activities. In addition, in some cases, information provided by HHS and VA did not present estimated spending for these activities, but rather funding, which represents an amount available at a particular time, but does not necessarily reflect actual spending that occurred.<sup>19</sup> Funding estimates provided by HHS and VA suggest that there was spending on preventive health activities, but the funding estimates may not represent the amounts that were spent on the

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<sup>18</sup>Spending means obligations, including those for which expenditures have been made. The term obligation refers to a definite commitment by a federal agency that creates a legal liability to make payments immediately or in the future. Agencies incur obligations, for example, when they award grants or contracts to private entities. An expenditure is the actual spending of money by the issuance of checks, disbursement of cash, or electronic transfer of funds made to liquidate a federal obligation. See GAO, *A Glossary of Terms Used in the Federal Budget Process*, [GAO-05-734SP](#) (Washington, D.C.: September 2005).

<sup>19</sup>When spending estimates were not readily available, HHS and VA provided available information for funding for those activities. Funding means budget authority, which is the authority provided by federal law to enter into financial obligations that will result in immediate or future outlays involving federal government funds.

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activities. For example, a department may not have spent all of its available funding for a preventive health activity.<sup>20</sup>

HHS

The most readily available information related to preventive health activities compiled by HHS is found in its annual crosscut briefing documents—documents that are used by HHS’s Office of the Secretary to make budget-related decisions and to answer questions from Congress and others related to the President’s annual budget request. ASFR compiles the information for these documents, but in its requests for information from the agencies for the documents, it has not provided agencies with a specific definition of activities to include in their prevention estimates nor specified a method for calculating an estimate. These annual crosscut briefing documents on prevention provide a mix of spending and funding estimates for prevention-related activities that include, but are not limited to, preventive health activities, and in recent years did not include estimates for CMS, which oversees health coverage programs for over 100 million individuals. In particular:

- The most recent annual crosscut briefing document on prevention available at the time of our review included estimates of spending for one HHS agency and funding for nine HHS agencies for fiscal year 2011.<sup>21</sup>
- The document did not include an estimate of spending for fiscal year 2011 for CMS—that is, it did not include estimated spending for preventive health activities in Medicare, Medicaid, and the Children’s Health Insurance Program.<sup>22</sup>

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<sup>20</sup>Funding represents an amount available at a particular time for spending (obligation and expenditure) for what may potentially be a range of activities including but not limited to preventive health activities. Funding amounts may not actually have been spent for the activities expected at the time the amounts were made available (for example, within applicable authority, amounts may have been subsequently transferred to other accounts or reprogrammed within an existing account in a departmental budget) and, even if spent for those activities, it may not be clear whether they were preventive in nature.

<sup>21</sup>The most recent crosscut briefing document on prevention in our review included the estimated amount of requested funding related to the President’s budget request for fiscal year 2012 and estimated spending on or funding for prevention for fiscal year 2011.

<sup>22</sup>The most recent estimate for CMS that was included in an HHS annual crosscut briefing document on prevention we reviewed was for fiscal year 2008. CMS’s estimated spending for prevention reported for that year was about \$39 billion, but CMS noted that this estimate did not include preventive services covered by Medicare or Medicaid through managed care and included substantial amounts for treatment services provided.



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- The document included estimates for prevention-related activities that include, but are not limited to, clinical preventive services and community-oriented preventive health activities. That is, the document included estimates of other prevention-related funding or spending such as emergency preparedness, environmental health, and occupational safety. For example, HHS's prevention estimates included funding for the Food and Drug Administration's (FDA) oversight of food safety, tobacco products, and medical products.<sup>23</sup>

The most recent HHS annual crosscut briefing document included in our review reported that for one agency (NIH), estimated spending on prevention for fiscal year 2011 was about \$6 billion, and that estimated funding for prevention for nine agencies—ACF, AHRQ, AOA, CDC, FDA, HRSA, IHS, OASH, and SAMHSA—was about \$18 billion that year. The annual crosscut briefing document did not include any estimated spending for fiscal year 2011 for CMS. (See app. II for more information on HHS's prevention estimates.)

## VA

VA estimated spending of about \$576 million for providing selected clinical preventive services in its VA medical facilities, including VA medical centers, outpatient clinics, and other facilities. VA's estimated spending included UPSTSF-recommended services and other clinical preventive services that VA provided to its beneficiaries in outpatient settings in fiscal year 2011. The estimate also included estimated related spending for salaries and benefits for providers, administrative activities, and maintenance of facilities. VA did not include estimated spending for pharmaceutical drugs, services provided through VA's purchased care program (which covers health care services provided to eligible veterans outside of VA when a VA facility is not available) or services provided in an inpatient setting. VA also provided its estimates of funding (totaling over \$5 million) for its National Center for Health Promotion and Disease Prevention, which is responsible for developing the resources that support VA medical centers in providing community-oriented preventive health activities, and its Clinical Public Health Group's community-oriented preventive health activities for fiscal year 2011. VA officials told us that individual VA medical facilities may have conducted additional community-oriented preventive health activities, such as taking measures

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<sup>23</sup>According to FDA, FDA activities are related to prevention, but do not include clinical preventive health activities or community-oriented preventive health activities.

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to increase testing for HIV, that are not included in VA's estimates. (See app. III for more information on VA's estimates of spending and funding.)

DOD

DOD estimated spending about \$1 billion to provide selected clinical preventive services, including (but not limited to) services recommended by the USPSTF, through its direct care and purchased care systems to active duty personnel, retired servicemembers, and other beneficiaries for fiscal year 2011. DOD also estimated spending about \$407 million on some of its community-oriented preventive health activities and other activities (such as epidemiology) in DOD's direct care system for fiscal year 2011. DOD's spending estimates also have limitations. For example, because DOD's estimates were limited to a review of purchased care claims and direct care data records, spending for some clinical preventive services—such as counseling about smoking cessation provided during a visit in which the patient received services for hypertension—is not included in the estimates. Also, while DOD's estimates of spending include amounts for some community-oriented preventive health activities, they also include estimated spending on other activities (such as those related to drinking water safety and food and facility sanitation); DOD noted that it cannot separately identify spending specifically for the community-oriented preventive health activities. (See app. IV for more information on DOD's estimates of spending.)

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## Some Preventive Health Activities May Be Cost Saving or Cost-Effective, but Multiple Factors Affect Estimates, and Key Data May Be Lacking

Some Preventive Health Activities May Result in Cost Savings or May Be Cost-Effective

Articles in peer-reviewed publications and government and independent reports we reviewed identified some preventive health activities that may result in cost savings and reported that a larger number may be cost-effective. The articles and reports we reviewed identified preventive health activities, such as childhood immunizations, workplace wellness programs, and disease screenings, that have been found in certain

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circumstances to be cost saving—that is, the costs averted by the activity, such as future medical costs to treat a disease or condition, exceed the cost of implementing it.<sup>24</sup> For example, according to one report that synthesized the results of three reviews of a number of clinical preventive services (the synthesis report), several clinical preventive services were estimated to be cost-saving by one or more of the three reviews.<sup>25</sup> The report found that two preventive services—counseling on the use of low-dose aspirin to reduce coronary heart disease and childhood immunizations—were estimated to be cost-saving by all three reviews. The National Prevention Council’s National Prevention Strategy also reported that preventive health activities such as certain diabetes and tobacco interventions can result in cost savings.<sup>26</sup> The articles and reports we reviewed, including the synthesis report, also identified a number of preventive health activities that, while not found to be cost saving, were estimated to be cost-effective—that is, they provided good value at low cost relative to alternative activities.<sup>27</sup> The synthesis report identified several preventive health activities that were estimated by at least one of the reviews to be cost-effective, including counseling women to use calcium supplements, colorectal cancer screening, and hepatitis B screening in pregnant women. Colorectal cancer screening in adults

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<sup>24</sup>See, for example, J. T. Cohen, P. J. Neumann, and M. C. Weinstein, “Does Preventive Care Save Money? Health Economics and the Presidential Candidates,” *New England Journal of Medicine*, vol. 358, no. 7 (2008); K. Baicker, D. Cutler, and Z. Song, “Workplace Wellness Programs Can Generate Savings,” *Health Affairs*, vol. 29, no. 2 (2010); and R. S. Braithwaite and S. M. Mentor, “Identifying Favorable-Value Cardiovascular Health Services,” *American Journal of Managed Care*, vol. 17, no. 6 (2011).

<sup>25</sup>The report synthesized the findings of work by the National Commission on Prevention Priorities, the National Business Group on Health, and an academic researcher. According to the report, these three reviews were included because they all evaluated intervention costs and health benefits, quantified benefits (for example, in terms of QALYs gained), and were not limited to a particular intervention or to interventions for a particular subpopulation. J. T. Cohen and P. J. Neumann, *The Cost Savings and Cost-Effectiveness of Clinical Preventive Care*, Research Synthesis Report No. 18 (Princeton, NJ: Robert Wood Johnson Foundation, September 2009).

<sup>26</sup>National Prevention Council, National Prevention Strategy (Washington, D.C.: U.S. Department of Health and Human Services, Office of the Surgeon General, 2011).

<sup>27</sup>See, for example, J. W. Kahende et al., “A Review of Economic Evaluations of Tobacco Control Programs,” *International Journal of Environmental Research and Public Health*, vol. 6 (2009) and R. L. Fleurence, C. P. Iglesias, and J. M. Johnson, “The Cost Effectiveness of Bisphosphonates for the Prevention and Treatment of Osteoporosis,” *Pharmacoeconomics*, vol. 25, no. 11 (2007).

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50 years old and older was found to be cost-effective by all three reviews.<sup>28</sup>

Articles and reports we reviewed noted that there are important limitations associated with estimates of cost savings and cost-effectiveness. For example, some of the articles noted that preventive health activities that are found not to be cost saving or cost-effective may be less likely to be published in peer-reviewed journals.<sup>29</sup> In addition, the synthesis report noted that there is no evidence that the findings included in the three reviews it examined are representative of the available literature on preventive health activities as a whole.

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### Multiple Factors Affect Cost Savings and Cost-Effectiveness Estimates, and Key Data May Be Lacking

According to articles in peer-review publications and government and independent reports we reviewed, as well as researchers and federal officials we interviewed, each cost savings and cost-effectiveness estimate is affected by multiple factors. These include how an activity is targeted, the assumptions used in calculating cost savings and cost-effectiveness estimates, and a lack of key data.

The targeting of a preventive health activity is an important factor affecting estimates of the cost savings or cost-effectiveness of that activity. Articles in peer-reviewed publications and reports, researchers we interviewed, and CDC officials reported that if a preventive health activity is targeted to a population at a higher risk of developing a specific disease, instead of being provided to the entire population regardless of their risk to develop the disease, the intervention will more likely result in cost savings or be cost-effective.<sup>30</sup> For example, CDC officials told us that

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<sup>28</sup>Articles in peer-reviewed publications and reports we reviewed also identified some preventive health activities that have been found not to be cost-effective. For example, one article estimated that screening for type 2 diabetes in all U.S. residents aged 45 years and older who have no other health factors, such as hypertension, was not cost-effective. See R. Li et al., "Cost-Effectiveness of Interventions to Prevent and Control Diabetes Mellitus: A Systematic Review," *Diabetes Care*, vol. 33, no. 8 (2010).

<sup>29</sup>See, for example, R. Braithwaite, and S. Mentor. "Identifying Favorable-Value Cardiovascular Health Services," *American Journal of Managed Care*, vol. 17, no. 6 (2011) and K. Baicker, D. Cutler, and Z. Song, "Workplace Wellness Programs Can Generate Savings," *Health Affairs*, vol. 29, no. 2 (2010).

<sup>30</sup>In some cases, successful targeting can lead to additional costs. For example, if someone is screened for and has high blood pressure, the person may need to take medication or have additional tests for the rest of his or her life, which is an added cost.

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childhood vaccinations are often estimated to be cost saving and cost-effective because the vaccines target a very specific, easy to identify, and high-risk population at relatively low financial costs. In addition, a CDC official noted that because the majority of children are at risk for developing the diseases targeted by the vaccinations, the vaccinations prevent a large number of diseases and thus avert the costs associated with the treatment of those diseases.<sup>31</sup> As another example, a review of smoking cessation programs found that programs targeted to specific groups of smokers, such as pregnant women, were more cost-effective than those targeted at the general population of smokers. See table 3 for an illustration of how targeting can affect estimates of a preventive health activity's cost-effectiveness—for example, targeting smokers on the basis of their levels of low-density lipoprotein (LDL) cholesterol and risk factors of developing heart disease.<sup>32</sup> However, it can be difficult for physicians, for example, to know beforehand which patients are at a higher risk of developing a disease, in order to target a specific preventive health activity, as the Congressional Budget Office has reported.<sup>33</sup> As a result, some preventive health activities may be provided to many patients, even those who will most likely not develop the disease, and costs can accumulate as the number of patients utilizing the preventive health activity increases.

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<sup>31</sup>According to HHS officials, preventive health activities directed specifically to high-risk populations, such as children with developmental disabilities and special health care needs, may realize even greater cost savings and benefit.

<sup>32</sup>Estimates of cost-effectiveness are typically presented as a ratio of the net costs to the net outcomes of utilizing one preventive health activity over another.

<sup>33</sup>D. Elmendorf, Director, Congressional Budget Office, letter to the Honorable Nathan Deal, (Washington, D.C.: Aug. 7, 2009). This letter is available online at <https://www.cbo.gov/publication/20967>. This letter responds to a question concerning the Congressional Budget Office's analysis of the budgetary effects of proposals to expand governmental support for preventive medical care and wellness services. In making its estimates of the budgetary effects of expanded governmental support for preventive care, CBO takes into account any estimated savings accruing within specified time frames that would result from greater use of such care as well as the estimated costs of that additional care. CBO's estimates take into account that preventive care may reduce spending for an individual and that, to avert one case of acute illness, it is often necessary to provide preventive care to many patients, most of whom would not have suffered the illness anyway.

**Table 3: Effect of Targeting on Cost-Effectiveness Ratio for Selected Preventive Health Activities**

Preventive health activity	Compared to	Target population	Cost-effectiveness ratio (dollars) <sup>a</sup>
Using a statin to prevent heart disease	Diet-based prevention	Male smokers with <b>very high low-density lipoprotein (LDL) cholesterol</b> , <sup>b</sup> high blood pressure, age 35-44 years	\$54,000/QALY
Using a statin to prevent heart disease	Diet-based prevention	Male smokers with <b>high LDL cholesterol</b> , <sup>b</sup> high blood pressure, age 35-44 years	100,000/QALY
Using alendronate to prevent fragility fractures	No intervention	Postmenopausal women with bone marrow density <b>2.4 standard deviations</b> below normal, no vertebral abnormalities, <b>age 60</b>	37,482/QALY
Using alendronate to prevent fragility fractures	No intervention	Postmenopausal women with bone marrow density <b>1.0 standard deviation</b> below normal, no vertebral abnormalities, <b>age 80</b>	166,219/QALY

Source: GAO summary of information from published research.

Notes: Data are from L. A. Prosser et al., “Cost-Effectiveness of Cholesterol-Lowering Therapies According to Selected Patient Characteristics,” *Annals of Internal Medicine*, vol. 132, no. 10 (2000) and R. L. Fleurence, C. P. Iglesias, and J. M. Johnson, “The Cost Effectiveness of Bisphosphonates for the Prevention and Treatment of Osteoporosis,” *Pharmacoeconomics*, vol. 25, no. 11 (2007).

<sup>a</sup>The cost-effectiveness ratio represents the cost per quality-adjusted life-year (QALY) that would be added by the activity. A year in perfect health is worth 1 QALY, and a year in less than perfect health—that is, with any adverse condition—is generally worth between 0 and 1 QALY. The preventive health activity with the lower cost-effectiveness ratio is preferred because it costs less to achieve the health outcome. For example, if the cost-effectiveness ratio of one preventive health activity is \$80,000/QALY and that of another activity is \$20,000/QALY, the activity with the \$20,000/QALY cost-effectiveness ratio would be preferred.

<sup>b</sup>The National Heart, Lung, and Blood Institute (NHLBI) categorizes LDL cholesterol between 160 to 189 milligrams per deciliter as high. Very high LDL cholesterol is 190 milligrams per deciliter or higher. NHLBI categorizes high blood pressure as a diastolic blood pressure of 95 millimeters of mercury or higher. The target population also has low levels of “good” cholesterol, or high-density lipoproteins.

Also affecting an estimate of a preventive health activity’s cost savings or cost-effectiveness are the assumptions used in calculating the estimate, such as those regarding the effectiveness of the activity, perspective of the study, and accounting for future medical technology. For example, in modeling the cost-effectiveness of a vaccine, a researcher might assume that the vaccine is 90 percent effective at preventing a disease in the model, but the actual effectiveness of the vaccine may not be known.

- *Assumptions about the effectiveness of the activity.* Assumptions about the effectiveness of an activity can affect estimates of cost savings or cost-effectiveness. For example, researchers reviewed multiple estimates of the cost-effectiveness of vaccination against human papillomavirus (HPV) and found that varying the assumptions for the vaccine’s effectiveness, the number of years the vaccine would provide protection against HPV, or the years of costs for additional

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screening and testing for HPV produced estimates of the vaccine's cost-effectiveness ranging from \$20,600 per QALY to more than \$3.5 million per QALY.<sup>34</sup>

- *The perspective of a study.* The perspective of a study—that is, who is receiving the benefit or bearing the cost—can affect an estimate of the extent to which a preventive health activity is cost saving or cost-effective. Many studies are conducted from the perspective of the entity providing the preventive health activity, such as an employer or hospital system, so the costs and benefits of an activity to an individual consumer or others may not be considered. For example, a review of multiple estimates of the cost-effectiveness of HIV screenings noted that a study conducted from the perspective of the entity funding the activity may not incorporate certain costs, such as treatment costs, or long-term benefits, such as extension of life expectancy. As a result, the study may not reflect all possible costs and savings that could result from a preventive health activity.
- *Assumptions about technology.* Assumptions about future medical technology may also affect a cost saving and cost-effectiveness estimate about a preventive health activity. A CDC official told us that in projecting the costs and benefits of an activity, the typical assumption is that medical technology will be and cost the same years into the future, even though technology, which can alter the costs and benefits of an activity, can change rapidly over time.

Difficulties in estimating cost savings and cost-effectiveness for a preventive health activity, including the need to make assumptions, can arise from a lack of key data. For example, ACIP officials said a challenge in determining the cost savings or cost-effectiveness of vaccines is that data needed for the analysis, such as the actual price of a new vaccine, are not available at the time they make a recommendation. Similarly, data on outcomes resulting from a preventive health activity are not available

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<sup>34</sup>In a study of HPV vaccine, when the researcher assumed the vaccine was 90 percent effective and provided lifetime protection at a cost of \$377 per 3-shot series, it produced a cost-effectiveness ratio of \$24,300 per QALY. When the assumptions were changed to assume 100 percent effectiveness, the cost-effectiveness improved to \$20,600 per QALY. When researchers used a model with other assumptions for the HPV vaccination strategy such as vaccination at age 12 years and preventive screenings—annual cervical screening and liquid-based cytology testing starting at age 18—and compared it to the next-best strategy, which was similar to this strategy but did not include liquid-based cytology, cost-effectiveness worsened to more than \$3.5 million per QALY.

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for many diseases. A CDC official stated that when a community-oriented preventive health activity has not been found to be cost-effective, this is often due to a lack of sufficient data needed to conduct cost-effectiveness analysis rather than evidence that the activity is not cost-effective. In some cases, the outcome measures used to study the effects of a preventive health activity make determining cost-effectiveness difficult. For example, instead of using an outcome measure such as the cost per QALY, a study evaluating efforts to increase vaccination may measure the cost per child immunized. Additional economic modeling would have to occur, and assumptions be made, in order to convert the data to cost per QALY. Researchers also noted that some studies that focus on the effectiveness of preventive health activities do not report costs of the preventive health activity. A research article that reviewed studies that estimated cost savings resulting from workplace wellness programs reported that nearly one-third of the studies in its review did not report program costs.<sup>35</sup> According to CDC officials, CDC is taking steps to collect data for cost-effectiveness analyses for programs related to preventive health activities for which relevant data have been lacking. In addition, the Institute of Medicine conducted a study to develop a framework for assessing community-oriented preventive health activities. This framework considers, among other things, the sources of data that are available and needed for analysis.<sup>36</sup>

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<sup>35</sup>K. Baicker, D. Cutler, and Z. Song, "Workplace Wellness Programs Can Generate Savings," *Health Affairs*, vol. 29, no. 2 (2010).

<sup>36</sup>For the report on this study, see the Institute of Medicine website (<http://www.iom.edu/Activities/PublicHealth/CommunityPrevention.aspx>, accessed Nov. 14, 2012).



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## International Data on Preventive Health Activities Are Not Available, but United States Ranks Eighth in OECD Category That Combines Spending on Prevention and Public Health Services

Data for international comparisons of countries' spending specifically for preventive health activities are not available. Instead, the most readily available data is a category of OECD health data called "prevention and public health services,"<sup>37</sup> which combines spending on certain clinical preventive services and community-oriented preventive health activities, such as vaccination programs, and public health activities, such as disease surveillance and blood banks.<sup>38</sup> On the basis of these data, the United States ranked 8th among 23 OECD member countries in the percentage of total health care spending reported for prevention and public health services (see fig. 2). In 2010, U.S. spending on prevention and public health services was about \$88.4 billion, or 3.5 percent of total U.S. health care spending of \$2.5 trillion—a rate that has remained relatively steady since 2001.<sup>39</sup>

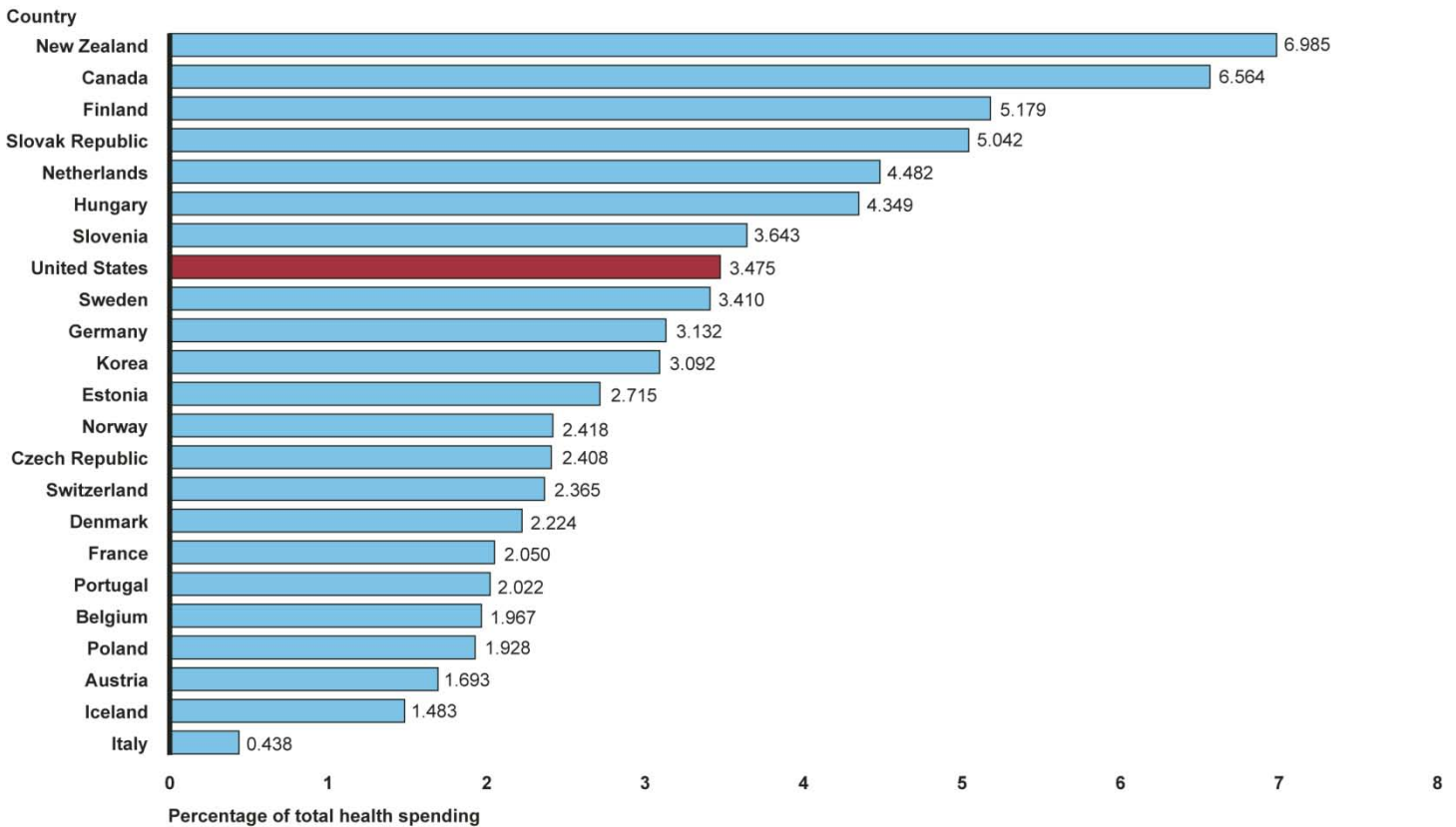
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<sup>37</sup>OECD defines prevention and public health services as services designed to enhance the health status of the population, as opposed to curative services, which repair health dysfunction.

<sup>38</sup>These data are not comparable to the spending and funding estimates provided by HHS, VA and DOD. For example, OECD's data pertaining to the United States do not capture spending for certain clinical preventive services provided by HHS, VA, and DOD, and combine federal spending with state and local spending.

<sup>39</sup>As of July 2012, OECD posted 2010 health spending data from 28 of its member countries, and posted data for the OECD category of prevention and public health services from 23 of these countries. For the most recent data, see the OECD.Stat database available on OECD's website ([http://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT#](http://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT#), accessed July 12, 2012). In order to compare spending, OECD converts countries' health expenditures to a common currency (e.g., U.S. dollars) and makes adjustments to take account of the different purchasing power of the national currencies.

**Figure 2: Spending for Prevention and Public Health Services as a Percentage of Total Health Spending, by OECD Member Country, 2010**

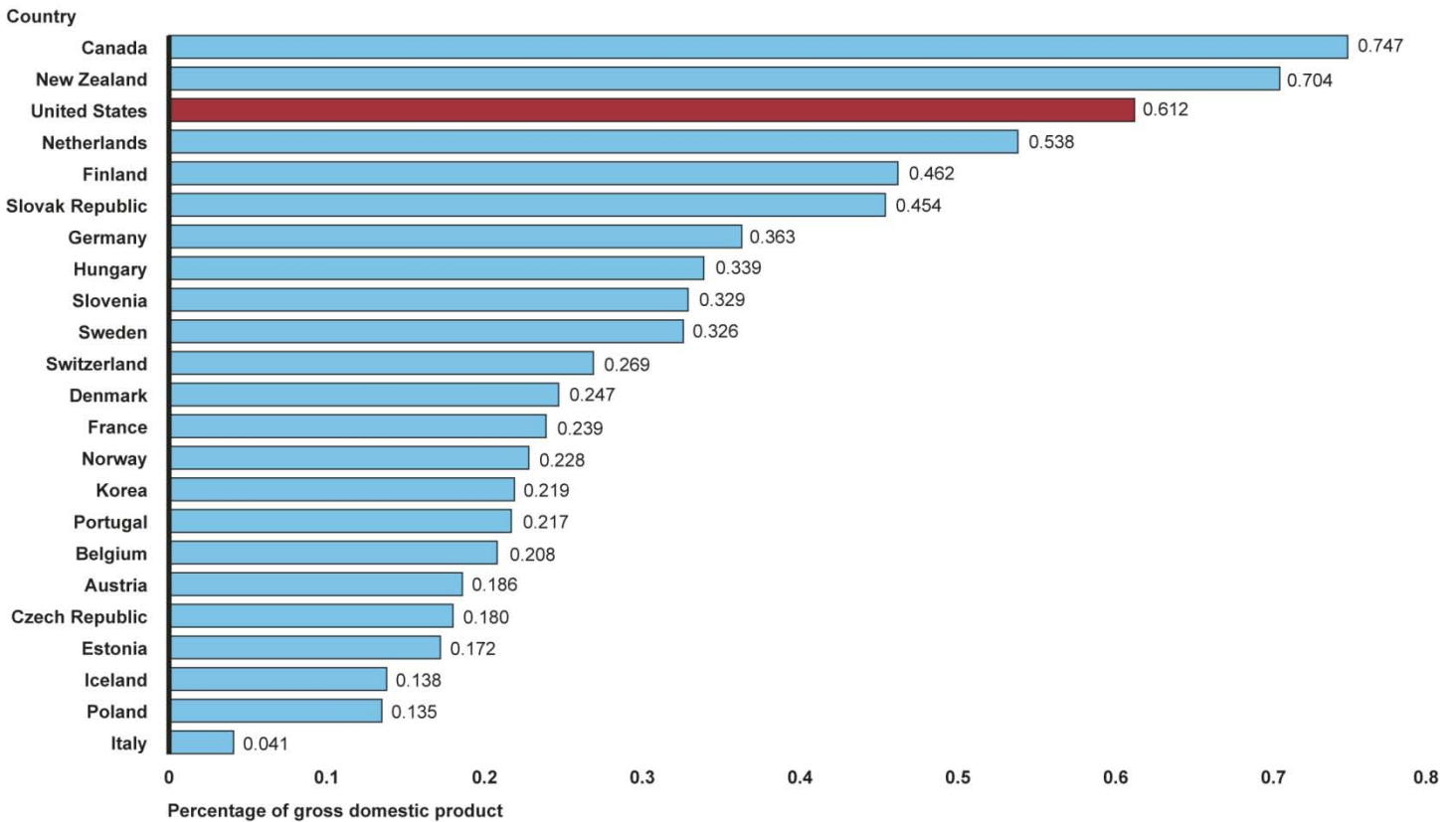


Source: GAO summary of data from the Organization for Economic Co-operation and Development (OECD).

Note: This figure presents a summary of 2010 data on health care spending, including spending for the 23 OECD member countries that submitted data to OECD on the category of prevention and public health services.

U.S. spending in the OECD category of prevention and public health services also ranked third highest as a percentage of gross domestic product among the 23 countries reporting 2010 data to OECD. Specifically, total U.S. spending on prevention and public health services was 0.6 percent of U.S. gross domestic product (about \$88.4 billion for prevention and public health spending out of a total gross domestic product of about \$14.4 trillion). Canada and New Zealand spent a higher percentage of gross domestic product on prevention and public health services (see fig. 3). U.S. rankings in OECD's international comparisons of spending on prevention and public health services as a percentage of gross domestic product have been generally constant since 2001.

**Figure 3: Spending for Prevention and Public Health Services as a Percentage of Gross Domestic Product, by OECD Member Country, 2010**

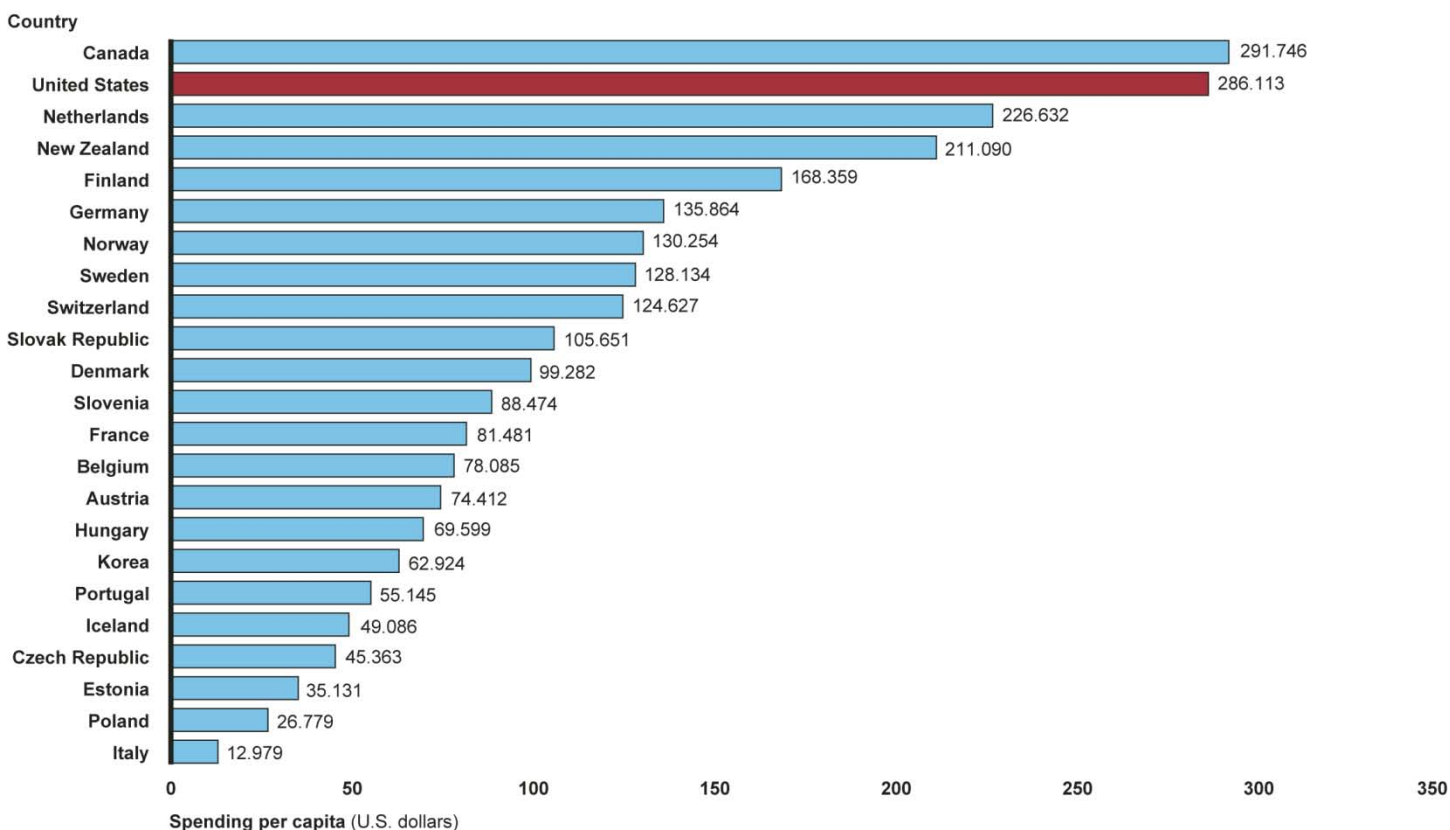


Source: GAO summary of data from the Organization for Economic Co-operation and Development (OECD).

Note: This figure presents a summary of 2010 data on health care spending, including spending for the 23 OECD member countries that submitted data to OECD on the category of prevention and public health services.

U.S. spending per capita on prevention and public health services was \$286.11, second highest, behind Canada (see fig. 4). U.S. rankings in OECD’s international comparisons of spending on prevention and public health services per capita have also been fairly constant since 2001.

**Figure 4: Spending for Prevention and Public Health Services per Capita, by OECD Member Country, 2010**



Source: GAO summary of data from the Organization for Economic Co-operation and Development (OECD).

Note: This figure presents a summary of 2010 data on health care spending, including spending for the 23 OECD member countries that submitted data to OECD on the category of prevention and public health services. OECD adjusted spending per capita for purchasing power parity.

While OECD’s data are frequently used to make international comparisons, there are limitations in using OECD’s data to make international comparisons on spending included in the prevention and public health services category. For this category, OECD requested that countries submit data that include spending on certain types of preventive health and public health activities, such as maternal and child health activities and school health services. However, member countries do not always consistently report spending for this category. For example, the data submitted by the United States reflect federal, state, and local government spending for maternal and child health activities, school health services, and certain other preventive health and public health activities, but do not include government or private sector spending on

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clinical preventive services provided in physicians' offices or hospitals.<sup>40</sup> In contrast, the data submitted by other OECD countries may include amounts spent on preventive health activities by the private sector in physicians' offices or hospitals. While there are known limitations to using OECD data, experts we interviewed reported that the OECD data are the best available data for comparing U.S. spending on prevention and public health services with that of other countries, and the data have been frequently used to make international comparisons.<sup>41</sup> An OECD official told us that OECD is taking steps to improve the comparability of the data in the future by, for example, providing clarity about the criteria that should be used by member countries to report prevention-related data. The official noted that it will be a couple of years before these data are available.

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## Concluding Observations

Preventive health activities have received attention over the past several years for their potential impact on health care spending or health outcomes. However, HHS, VA, and DOD do not track department-wide spending on preventive health activities, and identifying spending on such activities is challenging because they are often integrated with other activities. Further, estimating cost savings and cost-effectiveness of preventive health activities is difficult because of the multiple factors that can affect these estimates, including the need to make assumptions and a lack of key data. These methodological challenges, as well as a lack of widespread agreement on what constitutes a preventive health activity, are important considerations that affect the completeness and precision of available information on preventive health activities.

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<sup>40</sup>U.S. spending for health care services provided in physicians' offices and hospitals, including both treatment services and preventive health activities, are included in a different OECD spending category. Private sector spending in OECD's prevention and public health services category includes privately funded occupational health care and prevention and public health services provided by charities, other nongovernmental organizations, and voluntary organizations.

<sup>41</sup>For example, the Institute of Medicine used OECD data to compare the United States to other nations in per capita health expenditures and health outcomes, such as infant mortality, for a recent report on public health financing. See Institute of Medicine, *For the Public's Health: Investing in a Healthier Future* (Washington, D.C.: The National Academies Press, 2012).

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## Agency Comments

HHS, VA, and DOD reviewed a draft of this report. DOD concurred with the draft report. HHS and VA provided technical comments, which we incorporated as appropriate.

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As agreed with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the report date. At that time, we will send copies of this report to the Secretary of Health and Human Services, Secretary of Veterans Affairs, Secretary of Defense, and interested congressional committees. In addition, the report will be available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions regarding this report, please contact me at (202) 512-7114 or [iritanik@gao.gov](mailto:iritanik@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix V.



Katherine Iritani  
Director, Health Care

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# Appendix I: Requirements Related to Preventive Health Activities in the Duncan Hunter National Defense Authorization Act

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The Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 requires DOD to reduce beneficiary cost sharing for preventive health activities and undertake certain preventive health activities,<sup>1</sup> as follows:

- *Section 711: Waiver of Copayments for Preventive Services for Certain TRICARE Beneficiaries.* Requires the Secretary of Defense to promulgate rules eliminating beneficiary cost-sharing previously associated with certain preventive services (such as colorectal cancer screening, breast cancer screening, cervical cancer screening, prostate cancer screening, annual physical exams, and vaccinations) for beneficiaries enrolled in TRICARE's fee-for-service program who are not eligible for Medicare. Beneficiaries enrolled in TRICARE's managed care option already received these services with a zero cost share. In December 2011, DOD issued a final rule implementing this provision by eliminating beneficiary cost sharing for certain preventive services provided on or after October 14, 2008.<sup>2</sup>
- *Section 712: Military Health Risk Management Demonstration Project.* Requires the Secretary of Defense to conduct a demonstration project designed to evaluate the efficacy of providing incentives to encourage healthy behaviors on the part of non-Medicare-eligible retired beneficiaries, including their dependents, enrolled in TRICARE's managed care option. Authorizes the Secretary to offer incentives to encourage participation in the demonstration project; accordingly, beneficiaries were offered a monetary incentive award for full compliance with the demonstration's requirements. Single participants would receive \$115, and participants with family members would receive \$230. In its interim report submitted to Congress in August 2011, DOD reported that it began implementing the demonstration project in October 2010, and that it was monitoring patients for compliance from January 2011 through December 2011. According to DOD, incentive payments were disbursed in June 2012. DOD also reported that the department had been collecting data to estimate costs avoided as a result of decreased health risk conditions and that results would be included in a final report to Congress, which DOD anticipates submitting by December 2012.

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<sup>1</sup>Pub. L. No. 110-417, §§ 711-714, 122 Stat. 4356, 4500-04 (2008).

<sup>2</sup>76 Fed. Reg. 81368 (Dec. 28, 2011) (to be codified at 32 C.F.R. §§ 199.4 and 199.17).

- *Section 713: Smoking Cessation Program under TRICARE.* Requires the Secretary of Defense to establish a smoking cessation program to be available to TRICARE beneficiaries who are not eligible for Medicare. Requirements for the program include providing no-cost, smoking cessation pharmaceuticals; counseling; access to a toll-free 24/7 quit line with counseling; and access to printed and Internet-based tobacco cessation material. According to DOD, program implementation planning has been ongoing. DOD issued a proposed rule in September 2011.<sup>3</sup> As of July 2012, a final rule had not been published. DOD also reported that access to printed materials and web-based information on smoking cessation has been available to TRICARE beneficiaries, and that a final status report to Congress will be submitted following full implementation of the Smoking Cessation Program under TRICARE.
- *Section 714: Preventive Health Allowance.* Requires the Secretary of Defense to conduct a demonstration project to evaluate whether providing an annual allowance (called a preventive health services allowance) would increase the use of preventive health services by members of the Armed Forces and their family members. Preventive services under this section included colorectal, breast, cervical, and prostate cancer screening; an annual physical exam; an annual dental exam; weight and body mass screening, and vaccinations. The demonstration, which began on December 1, 2009, was limited to 1,500 members from each of the Army, Navy, Air Force, and Marine Corps. The amount of the allowance for compliance with the required preventive health services was set at \$500 for single participants, and \$1,000 for those enrolled with dependents, and the demonstration ended December 31, 2011. Although the final report was due no later than March 31, 2012, the department anticipates submitting the final report to Congress by December 2012 to allow for complete collection, review, and analysis of the data.

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<sup>3</sup>76 Fed. Reg. 58199 (Sept. 20, 2011) (to be codified at 32 C.F.R. §§ 199.4 and 199.21).



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# Appendix II: Department of Health and Human Services Estimates of Spending and Funding for Preventive Health Activities

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The Department of Health and Human Services (HHS) does not track department-wide spending on preventive health activities, but the department provided us with a mix of information related to spending for preventive health activities and noted limitations associated with the information. For nine HHS agencies, HHS provided agency-level estimates of funding for prevention-related activities, which include but are not limited to preventive health activities (clinical preventive services or community-oriented preventive health activities).<sup>1</sup> For the National Institutes of Health (NIH), HHS provided estimated spending on prevention-related activities.

HHS's estimates of funding for most of its agencies and estimates of spending for NIH were prepared by the department as part of its annual crosscut briefing document on prevention.<sup>2</sup> HHS's Office of the Secretary uses this document to make budget-related decisions and answer questions from Congress and others related to the President's annual budget request.<sup>3</sup> In its fiscal year 2012 crosscut briefing document (related to the President's budget request for fiscal year 2012), HHS

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<sup>1</sup>Funding means budget authority, which is the authority provided by federal law to enter into financial obligations that will result in immediate or future outlays involving federal government funds. See GAO, *A Glossary of Terms Used in the Federal Budget Process*, [GAO-05-734SP](#) (Washington, D.C.: September 2005). Funding represents an amount available at a particular time for spending (obligation and expenditure) for what may potentially be a range of activities including but not limited to preventive health activities. Funding amounts may not actually have been spent for the activities expected at the time the amounts were made available (for example, within applicable authority, amounts may have been subsequently transferred to other accounts or reprogrammed within an existing account in the department's budget) and, even if spent for those activities, it may not be certain that they were preventive in nature. In some instances, HHS agencies reported budget authority, transfers, and user fees available for obligation separately. We report information as provided to us by HHS agencies.

<sup>2</sup>HHS does not define prevention for the purposes of its annual crosscut briefing documents on prevention. In addition to preventive health activities (clinical preventive services and community-oriented preventive health activities), HHS may include in prevention activities such as emergency preparedness, environmental health, and occupational safety activities. HHS, VA, and DOD participate in the National Prevention Council, which consists of 17 departments, agencies, and offices across the federal government—representing sectors such as housing, transportation, education, environment, and defense—that promote prevention and wellness. Information about the council is available at <http://www.healthcare.gov/prevention/nphpphc> (accessed Aug. 30, 2012).

<sup>3</sup>HHS also prepares crosscut briefing documents that estimate department-wide funding for other health-related topics, such as behavioral health, patient safety, and tobacco.

combined its fiscal year 2011 funding estimates for prevention for nine HHS agencies with NIH's spending (specifically, obligations) estimate for prevention and reported a total of about \$24 billion. However, this 2011 estimate excluded the Centers for Medicare & Medicaid Service's (CMS) Medicare and Medicaid programs and the Children's Health Insurance Program.<sup>4</sup> The fiscal year 2011 estimate that included funding for programs administered by nine HHS agencies and spending for programs administered by NIH included clinical preventive services and community-oriented preventive health activities, as well as other prevention-related activities that HHS agencies did not identify as clinical preventive services or community-oriented preventive health activities. For example, HHS included in its prevention estimates funding for Food and Drug Administration (FDA) oversight of drugs and medical devices.

The HHS annual crosscut briefing documents on prevention are limited in multiple ways. First, HHS officials told us that each HHS agency used its own criteria to identify prevention funding—that is, HHS agencies did not use a uniform definition of prevention. As a result, activities that are similar in nature may have been included in one but not in another agency's estimate. Second, the agency estimates do not always represent the same kind of information. For example, funding estimates for most agencies represent budget authority, but estimates as reported for CDC represent budget authority, transfers, and user fees that the agency had authority to obligate as separate categories. Third, criteria used by an agency to identify the activities to include in its prevention estimate may not have always been consistently applied by that agency. The annual crosscut briefing document included the following estimates for fiscal year 2011 for 10 HHS agencies:

- Administration for Children and Families (ACF). The document included estimated funding of \$330 million for prevention.
- Agency for Healthcare Research and Quality (AHRQ). The document included estimated funding of \$28 million for prevention.

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<sup>4</sup>The most recent estimate for CMS that was included in an HHS annual crosscut briefing document on prevention we reviewed was for fiscal year 2008. CMS's estimated spending for prevention reported for that year was about \$39 billion, but CMS noted that this estimate did not include preventive services covered by Medicare or Medicaid through managed care and included substantial amounts for treatment, rather than prevention.

- Administration on Aging (AOA).<sup>5</sup> The document included estimated funding of \$24 million for prevention.
- Centers for Disease Control and Prevention (CDC). The document included estimated funding of \$11.4 billion for prevention. The \$11.4 billion estimate includes budget authority, transfers, and user fees that the agency had authority to obligate as separate categories.<sup>6</sup>
- FDA. The document included estimated funding of \$3 billion for prevention. The estimate represents user fees that the agency had authority to obligate and other budget authority as separate categories and, according to FDA officials, excludes infrastructure funding such as funding for facilities and rent-related activities. According to FDA, the agency's activities included in its estimate do not include clinical preventive services or community-oriented preventive health activities.
- Health Resources and Services Administration (HRSA). The document included estimated funding of \$1.3 billion for prevention. Although HRSA's estimate included multiple programs administered by the agency, the estimate did not include all of the agency's funding for prevention. According to HRSA officials, HRSA's estimate included funding for a program (the National Health Service Corps) that places primary care providers in underserved areas, but did not include any of the funding for its Health Center Program, which also provides primary care services in underserved areas. According to HRSA officials, the Health Center Program will be included in the prevention estimates in the future.
- Indian Health Service (IHS). The document included estimated funding of \$953 million for prevention.

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<sup>5</sup>In April 2012, HHS created the Administration for Community Living (ACL) by combining AOA, the Office on Disability, and the Administration on Intellectual and Developmental Disabilities.

<sup>6</sup>This estimate consisted of all of CDC's available funding for fiscal year 2011. However, at the time the estimate was compiled, the agency was operating under a series of continuing resolutions. CDC indicated that subsequent enactment of the fiscal year 2011 full-year continuing resolution resulted in a downward adjustment for CDC's funding for fiscal year 2011, to about \$11.0 billion.

- NIH. Instead of estimated funding, the document included estimated spending—specifically, obligations—for prevention of \$6 billion.<sup>7</sup>
- Office of the Assistant Secretary for Health (OASH). The document included estimated funding of \$255 million for prevention.
- Substance Abuse and Mental Health Services Administration (SAMHSA). The document included estimated funding of \$719 million for prevention.

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<sup>7</sup>NIH publishes information on spending for prevention on its website ([http://report.nih.gov/categorical\\_spending.aspx](http://report.nih.gov/categorical_spending.aspx)).

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# Appendix III: Department of Veterans Affairs Estimates of Spending and Funding for Preventive Health Activities

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The Department of Veterans Affairs (VA) does not specifically track department-wide spending on preventive health activities, but it provided estimates of spending and funding. VA estimated its spending on certain clinical preventive services for VA beneficiaries, and estimated its funding for certain community-oriented preventive health activities.

VA estimated that its spending—specifically, its obligations—for providing certain clinical preventive services to eligible veterans and nonveterans in an outpatient setting in fiscal year 2011 totaled about \$576 million.<sup>1</sup> VA's fiscal year 2011 estimate includes estimated obligations for providing clinical preventive services in all VA medical facilities, including VA medical centers, outpatient clinics, and other facilities.<sup>2</sup> Examples of the clinical preventive services included in the estimate are dental cleaning; depression screening; post-traumatic stress screening; immunizations; diabetes screening; hypertension screening; tobacco use screening and counseling; and screenings for breast cancer, cervical cancer, and colorectal cancer. The Veterans Health Administration's (VHA) Allocation Resource Center<sup>3</sup> reported that the clinical preventive services included in the analysis were identified by VA's National Center for Health Promotion and Disease Prevention. The services included (but were not limited to) those recommended by the U.S. Preventive Services Task Force (USPSTF).

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<sup>1</sup>According to VA, the estimates it provided are the department's estimated obligations, and the estimated amount is about 2.2 percent of the total obligations (about \$26 billion) of providing outpatient clinical services through VA facilities in fiscal year 2011.

<sup>2</sup>VA included in its estimate the estimated obligations associated with clinical preventive services provided in outpatient settings in VA facilities, including estimated obligations for salaries and benefits for providers, administrative activities, and maintenance of facilities. VA did not include estimated obligations for pharmaceutical drugs, services provided for purchased care (provided to eligible veterans outside of VA when a VA facility is not available) or services provided in an inpatient setting. To estimate obligations, VA used the Decision Support System, which is an activity-based cost accounting system that generates estimates of the cost of individual VA hospital stays and health care encounters. If the first procedure or diagnosis in a VA beneficiary's encounter was a clinical preventive service, then VA estimated that 90 percent of the cost of the encounter was for preventive health activities. If the procedure or diagnosis was not listed first, then VA estimated that 25 percent of the cost of the encounter was for preventive health activities. According to VA, nearly two-thirds of the encounters used for the estimate had preventive services listed first.

<sup>3</sup>VHA administers VA's health care system, and VHA's Allocation Resource Center is responsible for developing, implementing, and maintaining management information systems that provide data for VHA's budget process.

VA reported limitations associated with its estimated obligations for providing clinical preventive services in its facilities. VA reported that it cannot determine when certain services included in the estimate, such as colonoscopies, were provided for preventive purposes or for treatment purposes. In addition, VA could not identify the provision of certain clinical preventive services, such as sexually transmitted infections counseling for adults at increased risk, and therefore these services were not included in the estimates.

VA also reported that fiscal year 2011 funding for its National Center for Health Promotion and Disease Prevention—which is responsible for developing the resources that support VA medical centers in providing community-oriented preventive health activities—totaled about \$4 million (out of its fiscal year 2011 total budget authority for health care of about \$50.7 billion). The funding amount includes all of the center’s activities, such as the MOVE! Weight Management Program. VA also reported that funding for its Clinical Public Health Group’s community-oriented preventive health activities in fiscal year 2011 totaled about \$1.4 million. Examples of the Clinical Public Health Group’s activities include the HIV Prevention Handbook, the VA Flu Manual, VA’s Infection: Don’t Pass It On campaign, and developing and printing tobacco cessation educational materials. VA officials told us that individual VA medical facilities may have conducted additional community-oriented preventive health activities, such as measures to increase testing for HIV, that are not included in VA’s estimates.

# Appendix IV: Department of Defense Estimates of Spending for Preventive Health Activities

The Department of Defense (DOD) does not specifically track department-wide spending on preventive health activities, but it estimated its spending for providing certain clinical preventive services through its direct care and purchased care systems. In addition, DOD estimated its spending on some of the community-oriented preventive health activities and other activities such as epidemiology provided in its direct care system.

DOD estimated that its spending for providing selected clinical preventive services, including but not limited to services recommended by the U.S. Preventive Services Task Force (USPSTF), through its direct care and purchased care systems totaled about \$1 billion in fiscal year 2011 and about \$969 million in fiscal year 2010.<sup>1</sup> Examples of clinical preventive services included in the estimates are vision and dental screenings; immunizations; hypertension screening; cardiovascular disease screening; and screenings for breast cancer, cervical cancer, and colorectal cancers. In each year, more than three-fourths of DOD's estimated spending for clinical preventive services was spent in its direct care system. (See table 4.)

**Table 4: DOD Estimates of Spending for Providing Clinical Preventive Services in DOD's Direct Care and Purchased Care Systems, Fiscal Years 2010 and 2011**

DOD system	2010	2011	Total
Direct care	\$751,943,686	\$816,160,851	<b>\$1,568,104,537</b>
Purchased care	217,512,837	266,147,691	<b>\$483,660,527</b>
<b>Total</b>	<b>\$969,456,522</b>	<b>\$1,082,308,542</b>	<b>\$2,051,765,064</b>

Source: GAO summary of DOD estimates.

Note: Pharmacy costs, laboratory costs, and facility costs are not included in the purchased care estimates of spending. Rows and columns may not total due to rounding.

<sup>1</sup>DOD estimated spending for providing selected clinical preventive services in its direct care system using encounter data from the Comprehensive Ambulatory/Professional Record dataset and in its purchased care system using encounter data from the TRICARE Encounter Data Non-Institutional Data dataset. Both datasets are contained in DOD's Military Health System Data Repository. DOD's spending estimates are based on estimated costs using a relative value unit that adjusted for quantity and provider specialties.

DOD reported limitations associated with its estimated spending for providing clinical preventive services through its direct care and purchased care systems.<sup>2</sup> Because its estimates were limited to a review of purchased care claims and direct care data records, the costs for some clinical preventive services are not included in the spending estimates. For example, a patient who receives services for hypertension may also receive counseling about smoking cessation from the provider during a visit. The counseling would not be captured in the data used for DOD's estimates. Also, pharmacy costs, laboratory costs, and facility costs in the military treatment facilities are included in the direct care spending estimates but not in the purchased care spending estimates.

DOD also estimated its spending—specifically, obligations—on some of its community-oriented preventive health activities and other activities such as epidemiology provided in its direct care system. DOD's estimated obligations for these activities totaled about \$326 million in fiscal year 2009, about \$379 million in fiscal year 2010, and about \$407 million in fiscal year 2011. DOD included some community-oriented preventive health activities coordinated by DOD's TRICARE Management Activity in these estimates. Specifically, the estimates included DOD's "That Guy" alcohol education campaign and the Quit Tobacco—Make Everyone Proud program (a tobacco cessation marketing and education campaign), as well as other activities such as drinking water safety, and food and facility sanitation. DOD noted that it cannot separately identify spending specifically for the community-oriented preventive health activities.

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<sup>2</sup>According to DOD, the total costs of providing clinical services to beneficiaries through its purchased care system in fiscal year 2011 represented 48 percent of its total costs for providing clinical services.



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# Appendix V: GAO Contact and Staff Acknowledgments

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## GAO Contact

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## Staff Acknowledgments

In addition to the contact named above, Kim Yamane, Assistant Director; George Bogart; Hernan Bozzolo; Cathy Hamann; and Toni Harrison made key contributions to this report.

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