

TABLE OF CONTENTS



FINAL REPORT

Executive Summary	2
Context	5
◦ The Promise of Prevention	
◦ The Value of Setting Priorities	
Results	7
Discussion	12
Approach	14
◦ Scope of the Effort	
◦ Criteria for Data Collection and Analysis	
◦ Data Collection	
◦ Profiling the Policies	
◦ Narrowing the List	
◦ Limitations	
Conclusion & Next Steps	19
Appendices	20
◦ APPENDIX A: Increase the Federal Excise Tax on Tobacco Products	
◦ APPENDIX B: Affirm Food and Drug Administration Authority to Regulate the Tobacco Industry	
◦ APPENDIX C: Ban Smoking in Enclosed Public Places and Workplaces	
◦ APPENDIX D: Strengthen Existing Laws to Reduce Alcohol-Related Motor Vehicle Injury and Death	
◦ APPENDIX E: Increase the Federal Tax on Alcoholic Beverages	
◦ APPENDIX F: Enact a National Handgun Licensing and Registration System Operated by the States	
◦ APPENDIX G: Increase Resources for Community Water Fluoridation and Other Tooth Decay Prevention Measures	
◦ APPENDIX H: Increase the Availability of Regular Physical Activity in Schools	
◦ APPENDIX I: Increase Coverage of Clinical Preventive Services	
◦ APPENDIX J: Policy Catalog	
◦ APPENDIX K: Estimated Lives Saved	
◦ APPENDIX L: Advisory Committee Members	
◦ APPENDIX M: Experts Interviewed	

EXECUTIVE SUMMARY

In 1998, the Congressional Prevention Coalition (CPC), a bipartisan group of lawmakers dedicated to educating their colleagues about the importance of disease prevention and health promotion, asked *Partnership for Prevention* a deceptively simple question: which policies have the greatest potential to prevent the most disease and injury?

The answer to this question was not readily available. In fact, public health policy research, although extensive, still leaves substantial gaps in knowledge about which policies are most effective. Comparisons across policies are rarely made, especially comparisons of completely different health problems, such as policies addressing tobacco use compared to policies addressing infectious disease. In addition, disease prevention and health promotion is an extremely broad arena:

- In the 106th Congress, more than 1,000 bills that address health issues have been introduced.
- At least 400 national organizations have prevention and health promotion on their policy agendas.

In response to the CPC's query, *Partnership for Prevention*, a nonprofit and nonpartisan organization, launched an unprecedented effort to seek out impartial and scientifically sound policy recommendations to assist the CPC and ultimately Congress in taking strides toward strengthening national health policy. *Partnership's* goal was to identify a short list of specific actions Congress could take today that have the potential to prevent the most disease, injury, and premature death, now and in future years at a reasonable cost.

This process did not take into consideration the political viability of potential policy recommendations; rather, it focused solely on the expected health impact and costs.

If enacted, the nine policies identified in this report have the potential to prevent a minimum of *160,000 premature deaths each year*, that is, twice the number of people who die each year from breast cancer and motor vehicle injuries combined. These nine policies would have both immediate and long-term health benefits for Americans of all ages. Children would derive the most advantages from these policies as they have more years to benefit from disease prevention and health promotion policies enacted today.

The project's advisory committee, consisting of 18 leading health experts, strictly defined the project's scope as traditional public health policies aimed *solely* at preventing disease and promoting health. Policies that address care for diseases and injuries — such as policies designed to expand health insurance coverage for diagnosis and treatment of mental illnesses — were beyond the project's scope. The advisory committee chose to evaluate the relative priority of potential policies using three criteria:

- Strength of the evidence supporting the policy's impact on health,
- Amount of disease or injury addressed by the policy, and
- The costs of the policy.

Partnership asked more than 80 widely recognized health policy experts to identify the highest impact and lowest cost policy options available, searched the public health literature for evidence of policy effectiveness, and built a catalog of more than 200 policy options. Using available information from experts and published evidence on how well the policies met the three criteria, the advisory committee ultimately chose nine policies having the greatest likelihood to affect the most disease and injury at acceptable costs.

The nine policies do not address all the nation's public health issues, but rather are the result of an effort to identify a feasible set of highest impact policies. Certainly many other policies could have beneficial effects on Americans' health. *Partnership* is pointing to nine high-impact policies that, based on our scope and criteria, deserve to be addressed by lawmakers.

The policies are presented as a set because they were selected using the same criteria; however, each of the nine policies also stands alone. The nine policies are *not* ranked in order of importance.

NINE HIGH-IMPACT ACTIONS CONGRESS CAN TAKE TO PREVENT DISEASE AND PROMOTE HEALTH

The policies described below are high-yield options for Congress to achieve real improvements in Americans' health and quality of life.

Tobacco Addiction

1. **Increase the federal excise tax on tobacco.**
2. **Confirm the authority of the U.S. Food and Drug Administration (FDA) to regulate tobacco, including advertising.**
3. **Ban smoking in enclosed workplaces and public places nationwide.**

Tobacco is the leading preventable cause of death and illness in the United States. Substantial evidence is available demonstrating the effectiveness of actions that reduce tobacco addiction and prevent the hundreds of thousands of premature deaths and illnesses each year that result from it.

Alcohol Use

4. **Provide incentives to states to establish uniform drinking and driving laws that: 1) set the *per se* legal blood alcohol content to .08 percent for adult drivers; 2) establish a strict minimum of one year administrative license revocation for persons who fail or refuse to take a breath test; and 3) provide federal funds to states for enforcement of drinking and driving laws.**
5. **Increase the federal excise tax on alcoholic beverages.**

Most Americans are only too familiar with the problems resulting from alcohol. Alcohol abuse and misuse causes 105,000 deaths and 10 million illnesses and injuries each year in the United States. Common-sense motor vehicle policies with proven effectiveness are available to prevent injuries and deaths caused by drinking and driving. At the same time, raising the price of alcoholic beverages, whose real price has been decreasing for decades, would lower consumption among underage drinkers and many heavy legal-age drinkers, resulting in fewer injuries, homicides, suicides, sexually transmitted diseases, and chronic disease deaths.

Violence

6. **Enact a national handgun licensing and registration system operated by the states.**

Firearms cause about 32,000 deaths and at least 100,000 injuries each year in the United States. Adolescents and young adults comprise over a quarter of these deaths. Eighty percent of all firearm deaths and injuries are the result of handguns. Modeling a state-level licensing and registration system for handguns after the well-accepted and successful state-based system for motor vehicles could help prevent sales for criminal intent, trace the origin of guns used in crimes, and help ensure safe use.

Oral Health

7. **Create financial incentives for communities to develop water fluoridation systems and create programs to increase the use of fluoride rinses and/or dental sealants among children.**

Oral diseases are serious and debilitating and affect more Americans than any other single disease. Cavities — which are entirely preventable — often go untreated and lead to considerable discomfort and oral maladies, including tooth loss. Yet 100 million Americans do not have enough fluoride in their drinking water to prevent cavities. Community and school-based programs to increase parents' knowledge and use of other highly effective cavity prevention approaches — dental sealants and fluoride rinses — also need federal support. Oral health can affect a child's development, nutritional status, and current and future quality of life.



Physical Activity


8. Create financial incentives for states to require daily physical education classes in secondary schools.

More Americans, including children and adolescents, are overweight today than at any other time in our nation's history. The combination of sedentary living and poor nutrition leads to over 300,000 premature deaths and substantial disability each year. Americans need more opportunities to get moving again. A mere quarter of high school students participates in a physical education class on a daily basis; only 14% of girls in the 12th grade participate in any type of physical education class or activity while at school each day. Regular physical activity in adolescence offers immediate health benefits. Exercise habits begun early in life can last a lifetime.

Clinical Preventive Services

9. Require that federal entitlement programs, including Medicare, and the Federal Employee Health Benefit Program (FEHBP) provide insurance coverage for the clinical preventive services recommended by the U.S. Preventive Services Task Force (USPSTF), with ceilings on co-pays and deductibles.

Clinical preventive services — immunizations, screening tests, and counseling delivered by health professionals — save lives. Health insurance coverage for these services is too often lacking and absence of coverage is an important reason why these services are not uniformly sought and delivered. While Medicaid covers most recommended preventive services, Medicare does not, and health plans that participate in FEHBP vary in the preventive services covered. Congress should authorize the Secretary of Health and Human Services to specify coverage policy for all federal entitlement programs and FEHBP based on the recommendations of the USPSTF, but with the flexibility to consider the cost effectiveness of the services, appropriate providers for each type of service, and design of the coverage package. Coverage of clinical preventive services for federally sponsored programs is likely to have an impact on private coverage policies, expanding access to these services for many more Americans.



This project underscores the fact that, for a number of health problems, significant gaps in information exist about which policies work best to prevent disease and promote health. Investment in *prevention policy research* — which translates what we know about good health into effective solutions — is an important policy opportunity and an over-arching recommendation of this report. Numerous health problems, such as the growing epidemic of obesity in the United States — and the related problems of sedentary living and poor nutrition — result in substantial death, disability and costs, but limited evidence tells us which policies are effective in reducing these problems. Answers are needed about the kinds of public education campaigns, economic policies, regulations, incentive programs, community services, and other population-based approaches that would work best to make our nation healthier, more productive, and competitive in a global economy.

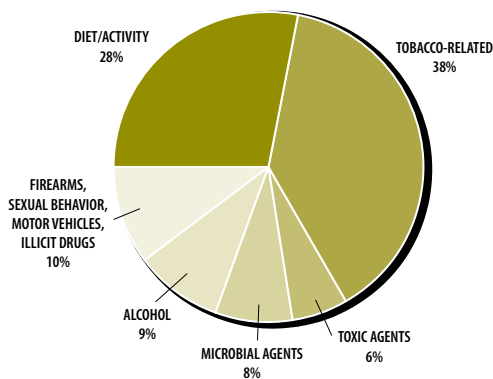
By comparing policy options that cut across a wide range of health problems, *Partnership* is breaking new ground to identify policy priorities. Experts' best assessment of the most important policy opportunities can assist the CPC and other lawmakers in navigating the broad and complex policy arena that is public health. *Partnership* will continue bringing lawmakers' attention to the importance of these nine policies. In the future, *Partnership* will refine methods to compare the benefits of alternative policies, revisit the evidence associated with these and other promising policies, and seek more in-depth information on an even broader range of topics.

THE PROMISE OF PREVENTION

In 1998, the United States spent \$1.1 trillion on medical care.¹ What did we pay for? Death certificates tell us that heart disease, cancer, and stroke are the leading causes of death. However, a study published in the *Journal of the American Medical Association* shows that many of the actual leading causes of death are tobacco, unhealthy diets and sedentary lifestyles, alcohol, infections, firearms, toxic agents, and other preventable factors.² Based on these estimates, fully half of all disease, injury, and premature death is potentially preventable.

The promise of prevention, then, is as many as one million premature deaths avoided each year, not to mention untold suffering. But who has responsibility for ensuring that health problems are not just treated but *prevented*?

ACTUAL CAUSES OF PREMATURE DEATH²



Although prevention is often considered the province of doctors and other clinicians, all parties who have a stake in the outcome of prevention have a role to play. Individuals can adopt and maintain healthy behaviors. Employers can offer more than health insurance coverage, such as providing opportunities for physical activity or adopting policies prohibiting smoking at work. Governments can seek and establish policies and programs that will improve health and prevent disease and injury.

This report is about the role of government — specifically, Congress — in protecting and promoting the health of the U.S. population. In recent decades, Congress has enacted numerous policies whose value has been

demonstrated by improvements in health. The federal law requiring states to pass a minimum legal drinking age of 21 as a condition of receiving federal highway funds has been credited with significantly reducing the number of alcohol-related traffic fatalities. Likewise, a substantial decline in poisoning deaths among children is attributed to the federal law requiring childproof containers for drugs and household chemicals. The removal of lead from gasoline, which began in the United States in 1972, has resulted in dramatic reductions in children's blood lead levels.

Looking to the future, what are the *most promising* policy opportunities for improving the nation's health? How should these policy opportunities be collected and analyzed to find those that would make the greatest difference?

The Value of Setting Priorities

Experts in public health and prevention would agree that many potentially effective prevention policies are available to lawmakers. But the benefits and costs of these policies vary tremendously, and comparative analyses are not readily available. In fact, if one were to ask prevention experts to specify the five or ten policies that would have the greatest impact on preventable disease and injury, substantial disagreement is likely about what those policies would be.

Just a Few of Congress' Victories in Promoting the Nation's Health

Congress has required...

- a minimum drinking age of 21 in all 50 states, preventing thousands of drinking-and-driving and other alcohol-related injuries among youth.
- childproof containers for drugs and household chemicals, significantly reducing poisoning deaths among children.
- removal of lead from gasoline, causing dramatic reductions in children's blood lead levels.

One reason for the lack of consensus is that prevention is an extremely broad-ranging field. Indeed, prevention policy can go beyond traditional health and public health activities: it can also include, for example, environmental, transportation, and education policies. Given the complexity of information about any one of these topics, health experts tend to approach prevention issues one disease or risk factor at a time.

Lawmakers expressing an interest in developing a focused and feasible prevention policy agenda would find that the information to enable them to do so is not nearly as robust and policy-relevant as is necessary. One impediment is that the extensive body of public health policy research leaves substantial gaps in knowledge about which policies are most effective. In some cases, there is no evidence of the potential effectiveness of policy opportunities for many of the health problems that are known to be preventable. New policies, by definition, lack evidence of effectiveness because they have not been implemented and evaluated. In other cases, researchers may examine the impact of specific policies, but few make comparisons across policies, especially those addressing different health problems, such as comparing policies addressing motor vehicle injuries with policies addressing HIV/AIDS-related illness.

Lack of regular physical activity, poor air quality, and unsafe sexual behavior are all examples of factors known to have serious negative health consequences. Given scarce resources, though, are public dollars best spent on constructing walking and jogging paths, enacting stricter air-quality standards, or increasing screening for sexually transmitted diseases?

It was in this context that the recently formed Congressional Prevention Coalition (CPC) asked *Partnership for Prevention* to identify those policies that could most significantly improve the nation's health. The CPC, formed in 1997, consists of more than 60 Members of Congress who are committed to educating their colleagues about the importance of prevention. In 1998, the co-chairs of the CPC — Representatives James Moran and Jim Leach and Senators John Chafee and Bob Graham — were considering how the CPC could best contribute to national prevention policy. They recognized that the CPC's agenda was very broad and that analyses involving comparisons of alternative policies would be valuable.

A prevention policy agenda was needed that could help focus the debate on the greatest opportunities to save lives and improve the health of the American people.

In response to a request from the CPC, *Partnership for Prevention*, a non-profit, non-partisan organization, sought out impartial and scientifically-based policy recommendations to assist the CPC, and ultimately Congress, in taking important strides toward strengthening national prevention policy. This report describes the approach *Partnership* took to achieve this ambitious goal and the results of that effort. In the end, *Partnership* defined nine specific actions Congress could take today that have the potential to prevent the most disease, injury and death, now and in the future at a reasonable economic cost.



NINE HIGH-IMPACT ACTIONS CONGRESS CAN TAKE TO PREVENT DISEASE AND PROMOTE HEALTH

The question *Partnership* set out to answer was this: which public health policies, requiring action by Congress, have the greatest potential to prevent the most disease, injury, and death at a reasonable cost?

Partnership's answer to this question — nine high impact policies — represents the nexus of three criteria: the extent of disease and injury addressed by the policies, the extent of the policies' effectiveness, and the costs of the policies. The nine policies chosen, then, were those with the strongest evidence of potential effectiveness, addressing the largest burden of disease among the U.S. population as a whole, and requiring acceptable economic costs. Policies considered in this project include traditional health and public health policies at the national level aimed solely at *preventing disease and injury and promoting health*.

The nine policies identified for the CPC have the potential, if fully implemented, to prevent a minimum of 160,000 premature deaths each year. That is twice the number of people who die each year from breast cancer and motor vehicle injuries combined and represents approximately 7% of all deaths in one year.

These policies are an investment in our nation's future health and prosperity: some are designed to head off risks that would otherwise result in disease and premature death in future decades; others would have an immediate impact, avoiding unnecessary tragedy and leading to longer and healthier lives.

When reviewing the nine policies, keep in mind several points.

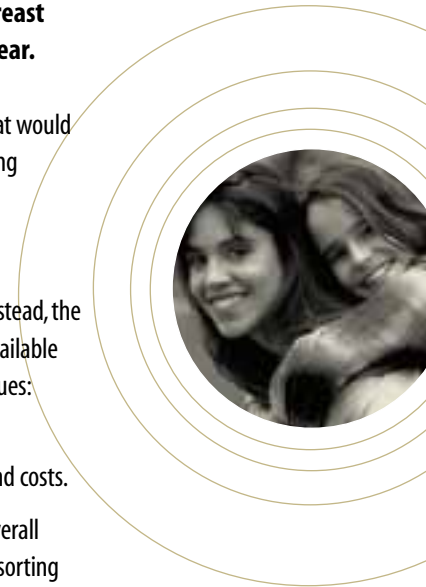
- These disease prevention and health promotion policies do not address all the nation's public health issues. Instead, the list is *Partnership's* conclusions on the highest impact policies, given the project's scope and guiding criteria, available evidence on the likely impact of the policies, and experts' opinions. In fact, the nine policies address just six issues: tobacco, alcohol, violence, oral health, physical activity, and access to clinical preventive services.
- The policies' political viability was not considered; *Partnership* focused solely on the expected health impact and costs.
- Each of the nine policies can stand alone. While implementation of the entire package would maximize the overall impact on health, *Partnership's* intent is to provide a short menu of priority opportunities to aid lawmakers in sorting through a broad and complex policy agenda.
- The policies are *not* ranked in any order.

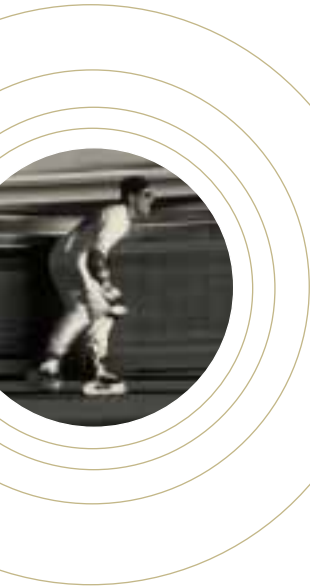
Short descriptions of the policies follow. Detailed descriptions, with references for data presented in these short descriptions, can be found in appendices A-I. *Partnership* strongly encourages using the detailed descriptions in the appendices to learn more about the policies.

➤ Increase the federal excise tax on tobacco.

Tobacco is the leading cause of preventable death in the United States. Approximately 430,000 deaths and substantial pain and suffering each year are attributable to its use. Lung cancer alone kills 150,000 annually; more than 80 percent of these deaths are the result of tobacco use.

An increase in the price of cigarettes and other tobacco products causes many users to reduce or quit. Also, price increases most affect the purchase practices of youth. While smoking is declining among adults, the number of high school students who smoke increased during the 1990s. The human and financial costs of their addiction will be borne by all Americans for decades.





Among all industrialized nations, the United States has one of the lowest average prices, and the lowest levels of taxation, on tobacco products. Although the burden of an increased tax would fall most heavily on low-income Americans (as do all sales taxes), the health benefits to this group of reducing tobacco use would be substantial. To multiply the positive health effects of the policy, the resulting federal tax revenues could be dedicated to reducing major risks for premature death, with special emphasis on tobacco control, including tobacco cessation for low-income Americans.

➤ **Confirm the authority of the U.S. Food and Drug Administration (FDA) to regulate tobacco, including advertising.**

Regulation of tobacco products by the FDA has three key components. One is the regulation of the ingredients of, and additives to, tobacco products, which are currently unregulated. Tobacco products will never be safe, but the level of health risk can be reduced.

Second is rigorous enforcement of laws prohibiting the sale of tobacco products to anyone under the age of 18. Nationwide, enforcement of the legal smoking age is uneven. FDA enforcement will provide federal support for state and community efforts to ensure that retailers check the identification and refuse to sell tobacco products to underage buyers.

Third is FDA regulation of the marketing and labeling of tobacco products. The tobacco industry's marketing practices have long been aimed at increasing youth consumption. It is well known that those who do not begin smoking in childhood or adolescence are highly unlikely to be adult smokers. The Federal Trade Commission currently has jurisdiction over tobacco product marketing, but lacks the scope of jurisdiction and scientific expertise to protect children from the insidious marketing practices of tobacco companies.

➤ **Ban smoking in enclosed workplaces and public places nationwide.**

Approximately 3,000 lung-cancer deaths and 35,000 to 62,000 heart-disease deaths annually among non-smokers are attributable to environmental tobacco smoke (ETS).

While most states prohibit smoking in government worksites, bans in private office buildings, restaurants, bars, and shopping malls vary widely across states and localities. Evidence suggests that a nationwide ban would go a long way toward eliminating ETS-related illness and smoking prevalence in general.

Restaurant and bar employees have higher ETS exposure than most office employees and may have significantly higher risk for lung cancer than the general population. Smoking bans in bars have been shown to decrease the incidence of respiratory problems and sensory irritation among bar employees. Bans on smoking in other types of work environments have been demonstrated to increase the number of employees who quit smoking; and among those who do not quit, their consumption of cigarettes decreases.

➤ **Provide incentives to states to establish uniform drinking and driving laws that:**
1) set the *per se* legal blood alcohol content (BAC) to .08 percent for adult drivers;
2) establish a strict minimum of one year administrative license revocation for persons who fail or refuse to take a breath test; and 3) provide federal funds to states for enforcement of anti-drinking and driving laws.

Alcohol-related motor vehicle fatalities have declined in recent years, but the numbers are still too high: more than 16,000 deaths and 300,000 injuries each year result from drinking and driving, representing 39% of all motor vehicle deaths and 10% of all motor vehicle injuries.

Per se BAC laws make it illegal to drive or be in control of a vehicle with a blood alcohol content of .08 percent or higher. Evidence shows a clear increase in the risk of a driver causing a crash at BACs of .08 percent or greater, and .08 BAC laws in at least 15 states have been shown to save lives. Also beneficial are administrative license revocation (ALR) laws, which immediately suspend the licenses of drivers who fail or refuse to take a breath test. These laws are designed to reduce first offenses and drunk-driving recidivism and have been shown to result in a reduction in alcohol-related motor vehicle deaths of 5% to 9%. Sobriety checkpoint programs, designed to increase enforcement of drunk-driving laws, can also have a measurable impact. A model sobriety checkpoint program in Tennessee reduced alcohol-related crashes by 20%.

While each is effective on its own, the combination of laws (.08 percent BAC, strict ALR, and sobriety checkpoints) can have the greatest effect on alcohol-related motor vehicle injuries.

➤ **Increase the federal excise tax on alcoholic beverages.**

Alcohol abuse and misuse causes approximately 105,000 deaths in the United States each year. Nearly a third of Americans report that alcohol is or has been a cause of trouble in their families.

The real price of alcoholic beverages has been decreasing since 1951, despite periodic tax hikes. Consistent with economic theory and limited research, raising the price of alcoholic beverages through a significant tax increase would cause consumption to decline, particularly among underage drinkers and heavy drinkers. Tax increases in some states have resulted in fewer motor vehicle deaths, cirrhosis deaths, homicides, suicides, and industrial injuries.

A common argument against increasing the tax rate on alcohol is that it unfairly penalizes moderate, legal-age drinkers. However, doubling the federal excise tax on alcohol, which is expected to decrease consumption, would increase the cost of a six-pack of beer by a mere 33 cents and the cost of a bottle of wine by about 21 cents.

➤ **Enact a national handgun licensing and registration system operated by the states.**

Firearms cause about 32,000 deaths in the United States each year. Over fifty percent are suicides, over 40 percent are homicides, and the remaining deaths are unintentional. Firearms also cause 100,000 injuries each year. Of these deaths and injuries, 80 percent are the result of handguns.

Congress should establish tough minimum standards for a nationwide state-based handgun licensing and registration system, which would be similar to licensing and registration for cars and drivers. Individuals who wish to own a handgun would be issued a license upon passing a safety course; each gun would be registered to its licensed owner; and just as with driver's licenses, handgun licenses would be revoked for certain behaviors such as felony convictions. The intent of the policy is to prevent sales of guns for criminal intent, better trace the origin of guns used in crimes, and ensure safe use and storage of handguns by lawful owners.



While the extent to which this policy would reduce handgun injuries in the United States is unknown, experience with the Brady laws and their successors — although much more limited in scope and intent — has shown that a mechanism to control the flow of handguns can prevent unlawful purchases. Furthermore, other countries in which handguns are more closely regulated have substantially lower rates of handgun-related deaths and injuries.

➤ **Create financial incentives for communities to develop water fluoridation systems, and create programs to increase the use of fluoride rinses and/or dental sealants among children.**



Even though we can completely prevent cavities in children, tooth decay is the single most common chronic condition among children in the United States, resulting in more than 50 million missed school hours each year. Unless dental decay is arrested early, damage is irreversible, leading to periodontal disease and early tooth loss. Oral disease can affect a child's development, nutritional status, and both current and future quality of life.

Water fluoridation is the most cost-effective means of preventing and decreasing the severity of cavities, yet more than 100 million Americans do not have access to water with enough fluoride to prevent tooth decay. With state and federal assistance, local governments are largely responsible for water fluoridation programs. In 1999, the Centers for Disease Control and Prevention's entire oral health budget, which includes funds for water fluoridation, was \$6 million. The California

legislature has estimated capital costs of \$45 million to begin fluoridation in the state's communities that lack it. Although initial costs are significant, every \$1 spent on water fluoridation results in savings of up to \$80 in dental treatment costs.

Aside from water fluoridation, fluoride rinses and dental sealants — which are plastic coatings applied to the chewing surfaces of teeth — are highly effective in preventing tooth decay. Yet fewer than 20% of Medicaid children (one of every four children in the United States) receive any preventive dental service, despite comprehensive dental care coverage. Community and school-based programs — such as those led by the CDC and state and local health departments — are needed to ensure that preventive approaches such as dental sealants and fluoride rinses are provided.

➤ **Create financial incentives for states to require daily physical education classes in secondary schools.**

Nearly 13% of youth ages 6 to 17 years are overweight, double the number who were overweight 30 years ago. The cardiovascular disease process can begin in youth, when risk factors such as high blood lipids and elevated blood pressure or elevated insulin begin to appear. The inactive American lifestyle is among the strongest contributing factors to cardiovascular disease: only 20% of high school students report engaging in moderate physical activity for 30 minutes or more on 5 of the previous 7 days. At least 300,000 premature deaths are attributable to physical inactivity and poor nutrition each year.

Schools provide an ideal opportunity for physical activity and physical education, as young people spend most of their day in school. Yet less than half of high school students are enrolled in physical education classes. And participation drops with increasing age: only 14% of girls in the 12th grade have any type of physical education class or activity while at school each day.

Regular physical activity offers young people immediate health benefits, such as weight loss and weight maintenance and academic and behavioral improvements. It can also affect a generation's physical activity habits well into adulthood. Currently, more than 60 percent of adults are not participating in the recommended 30 minutes a day of moderate physical activity most days of the week.

➤ **Require that federal entitlement programs, including Medicare, and the Federal Employee Health Benefit Program (FEHBP) provide insurance coverage for the clinical preventive services recommended by the U.S. Preventive Services Task Force, with ceilings on co-pays and deductibles.**

Many Americans, even those with health insurance, do not receive recommended clinical preventive services — such as immunizations to prevent infections, screening tests for early detection of disease, and counseling for risk reduction — proven to be effective at preventing disease and deaths. Lack of insurance coverage is an important, albeit not the only, barrier to delivery of these services. Incomplete coverage, such as co-pays and deductibles, can significantly reduce use of effective preventive services. The U.S. Preventive Services Task Force (USPSTF), a non-federal panel of experts, conducts extensive evidence reviews and recommends those clinical preventive services for which there is evidence of effectiveness in preventing disease and promoting health.

Coverage for clinical preventive in federal programs is uneven. While the Medicaid program covers most recommended preventive services, Medicare does not, including a comprehensive assessment of behavioral health risks and targeted counseling on tobacco cessation, avoidance of risky drinking and injuries (such as falls), and the importance of exercise and a healthy diet. Also, health plans that participate in the FEHBP vary in the preventive services they cover, and the co-pays and deductibles associated with preventive services also vary.

Congress should authorize the Secretary of Health and Human Services to specify coverage policy for all federal entitlement programs and FEHBP based on the recommendations of the USPSTF, but with consideration given to the cost effectiveness of the services (any services that are high cost and produce small health benefits should be excluded). Also, the Secretary should have the authority to design the coverage package in order to minimize costs, taking into account the recommended periodicity for preventive services and other delivery system issues (e.g., all counseling services could be combined as reimbursement for a comprehensive health risk appraisal and targeted counseling). The Secretary should also have the authority to specify appropriate providers for delivery of preventive services (e.g., nurses or nutritionists) and to modify coverage as USPSTF recommendations change and cost effectiveness information becomes available, to ensure that coverage policy reflects the best and most current scientific evidence.

Improvement in coverage for clinical preventive services in FEHBP may benefit other insured Americans. Coverage in federally sponsored programs is likely to carry over to some private sector and other public sector-sponsored plans.



As these nine policies demonstrate, lawmakers can influence the health choices and practices of individuals and achieve real improvements in the nation's health and quality of life. The policies described in this report are excellent opportunities for Congress to balance existing investments in treating disease with investments in preventing disease and promoting health.

The costs of each policy to the federal government and to others — including state governments, the private sector, and consumers — were considered relative to the health benefit. Each policy chosen had costs associated with it that were among the lowest of the policy options considered, and each policy addresses health problems that are among the most expensive to the U.S. economy and most debilitating for individuals.

As a group, the policies would have both an immediate impact on health — such as reducing alcohol-related crashes — and long-term impacts — such as preventing future cases of tobacco-related cancers and other conditions by reducing tobacco use among children. Although Americans of all ages would benefit from each policy, children would derive the most advantages, as they have more years to benefit from disease prevention and health promotion policies enacted today.

These nine policies could prevent a minimum of 160,000 premature deaths annually, a substantial impact. However, this grossly underestimates the true benefit of the policies. Other important measures of the policies' benefit, such as improvements in productivity and quality of life, are expected to be substantial. The one policy addressing oral health — incentives for community water fluoridation and programs to increase use of fluoride rinses and dental sealants — would have little effect on the number of premature deaths avoided annually, but a significant effect on quality of life for many Americans and on productivity by reducing time away from school and work.

Also, while each individual policy is important, implementation of more than one policy is likely to have synergistic effects. Many Americans have more than one risk factor for disease — such as tobacco use, high cholesterol, and sedentary living — and each additional risk factor multiplies their chances for disability and premature death. Addressing several risk factors through more than one policy, then, multiplies the policies' health benefits.

Depending on perspective, some will think the list excludes policies that address some of the nation's most important — and daunting — public health problems. Promising policies addressing such important issues as arresting the spread of sexually transmitted diseases, protecting human health from environmental hazards, and improving nutrition are all missing. This list of high-impact policy opportunities is not intended to be comprehensive. Rather, it reflects the result of a complex culling process. *Partnership* chose policies with *greater* likelihood, based on the evidence in hand and expert opinion, to affect the *most* disease and injury at an acceptable cost.

While the scope of policies considered in this project was quite broad, certain health-related policies fell outside this scope. Policies addressing economic disparities, for example, were not considered, as the effort was limited to policies in traditional health and public health areas. Poverty is now understood to be one of the single most powerful determinants of health. Also, policies addressing health insurance coverage for the uninsured fell outside the scope since the project was limited to prevention and health promotion policies only, excluding those that address both treating disease and preventing it.

Certainly many other policies could have beneficial effects on Americans' health. *Partnership* is pointing to nine high-impact policies that, based on our scope and criteria, deserve to be addressed by lawmakers.



A HIGH-IMPACT INVESTMENT OPPORTUNITY: PREVENTION POLICY RESEARCH

One of the most important issues that this project highlighted was that, for a number of health problems, significant gaps in information exist about which policies and programs work best to prevent disease and promote health. Investment in *prevention policy research* — which translates what we know about good health into effective solutions — is an important and over-arching policy opportunity and a recommendation of this report.

This report focuses exclusively on federal policies that are expected to be effective in improving health. In some cases, programs implemented at the state and community level are an important component of the policy, where federal policy helps to ensure implementation through regulation or incentives. To identify high impact policies, it is necessary to know what kinds of policies improve health, but also what kinds of programs and other interventions are effective, and where federal, state, or local policy may serve as a lever to ensure that these programs are implemented.

Experience tells us that investments both in biomedical research and prevention policy research are necessary to continue our strides toward healthier lives. For example, we know that older persons suffer significantly from bone fractures and that the underlying medical cause is osteoporosis. What we do not know are the most effective approaches to ensuring that older people have the information they need to avoid slip and fall hazards; how best to design residences, nursing homes, and retirement communities to protect older people from falls; and what policies are needed to ensure implementation of effective fall prevention programs. Prevention policy research identifies health needs of entire populations and effective prevention strategies — including public education, health programs, and public policies — critical to making real improvements in the lives of Americans.

The Centers for Disease Control and Prevention (CDC) supports an important effort — led by a non-federal panel of leading health experts — to assess the quality of currently available prevention policy research and to identify important research gaps. The *Guide to Community Preventive Services*, scheduled for release in 2000, is the first installment in what is expected to be a continuing effort to provide policy makers with information on effective and cost-effective public health strategies and policies at the community level. At present, the *Guide* addresses a limited number of health topics for which there is an available prevention research base, and within these topic areas the *Guide* reviews a select set of policies and programs. The

Guide will be a valuable resource to policy makers; however, its value will be limited without significant growth in the availability of quality evidence.

Ultimately, research for new and improved medical treatments and for genetic, behavioral, and environmental causes of disease will fall short without attention to finding effective policies and programs that put scientific knowledge to use in communities. Especially important are economic analyses that provide policy makers with information on the benefits and costs of policies and programs over time.





To guide the project, *Partnership* established an advisory committee, consisting of 18 of the nation's leaders in public health policy drawn from *Partnership's* Board of Directors (see appendix L for a list of advisory committee members). The role of the advisory committee was to guide the overall approach and to make final recommendations on those policies that would be included on a short list of high-impact policy opportunities.

The following sections describe *Partnership's* approach to identifying high-impact prevention policies including the project's scope, guiding criteria, data collection, and prioritization methods.

Scope of the Effort

To complete the project in a timely manner, the advisory committee narrowed the scope of the project to traditional health and public health policies, choosing the chapter headings of *Healthy People 2010*, which includes 28 health topics, as the framework for generating a list of policy options. As a result, policies that address economic disparities, for example, were outside the scope of this effort, although such policies may in fact contribute to improvements in health. The advisory committee also defined "policy" as a strategy that can best be addressed at the national level through congressional action. Some of these policies may be appropriate for states as well, although state policy was not a focus of the effort.

The advisory committee further limited the scope of policies to those that may be described as prevention and health promotion policies. That is, the effort focused on those policies designed to prevent injury or the onset of disease and to protect and promote good health and quality of life.

Criteria for Data Collection and Analysis

The advisory committee defined the criteria for collecting information about the policies, with the understanding that these same criteria would later be used to set priorities among the policy options. These criteria were:

- Burden of disease (disease, injury, and premature death) addressed by the policy;
- Effectiveness of the policy in reducing burden of disease; and
- Costs of the policy.

Using the criteria to determine the relative value of many policy options presented several challenges. First, evidence is frequently not available on the degree to which a policy would be effective at reducing disease or injury. In fact, many possible policies only have *theoretical* evidence of effectiveness. For example, limited evidence suggests that environmental barriers, such as lack of safe and well-lit sidewalks, contribute to physical inactivity. Theoretically, removing these barriers would encourage sedentary individuals to engage in more physical activity; however, the degree of effectiveness, if any, is unknown.

Also, the cost of policies to individuals, the private sector, and state or local governments are important considerations, but difficult to determine. The advisory committee focused attention on the relative costs of the policies, with particular attention to costs of the policies to the federal government.

Ideally, a measure of *cost effectiveness* would be used to evaluate the relative priority of prevention policies. Cost effectiveness would combine all three criteria described above: burden of disease addressed by the policy, effectiveness of the policy in reducing burden of disease, and costs. That is, the health benefit returned (e.g., lives saved) for the resources used to implement the policy (or the net costs of the policy per life saved). However, good estimates of cost effectiveness are virtually non-existent for public policies, and developing even rough estimates, using the data collected for this project, would have required a resource commitment beyond the scope of this set of activities.



With the limitations of available data in mind, the advisory committee planned to use the three criteria — burden of disease, effectiveness, and costs — to organize the policies into priority groupings. *Priority would be given to those policies with evidence of effectiveness addressing the largest burden of disease at a reasonable cost.* (A more detailed description of the prioritization process is below).

Data Collection

Two data collection activities were conducted simultaneously: literature reviews and interviews with public health experts.

Literature reviews. At the outset of the effort, *Partnership* collected policy ideas and evidence of policy effectiveness from a review of the peer-reviewed literature using the 28 priority areas of *Healthy People 2010* as the framework guiding data collection. Staff searched Medline and other databases for articles on prevention policies and evaluations of policy impact. *Partnership* also reviewed federal agencies' and advocacy organizations' websites for policy ideas and evidence of effectiveness.

Expert input. To supplement published evidence, *Partnership* conducted 85 interviews with health policy experts (the list of experts interviewed may be found at appendix M). The purpose of the interviews was to create a comprehensive (although certainly not exhaustive) catalog of policy ideas based on input from many of the nation's leading public health professionals. The advisory committee and *Partnership's* member organizations helped to identify both generalist experts in public health policy and specialist experts within the topic areas of *Healthy People 2010*.

Partnership conducted telephone interviews with 30 generalists in the field of public health. Experts included former assistant secretaries for health, former surgeon generals, and others widely recognized as having broad expertise in national public health policy. These experts were asked to identify — within the scope of this effort — those national prevention policies that have the greatest potential to prevent the most disease and injury. In addition to adding policy ideas to the catalog, these interviews showed similarities in ideas about the highest-impact prevention policies overall.

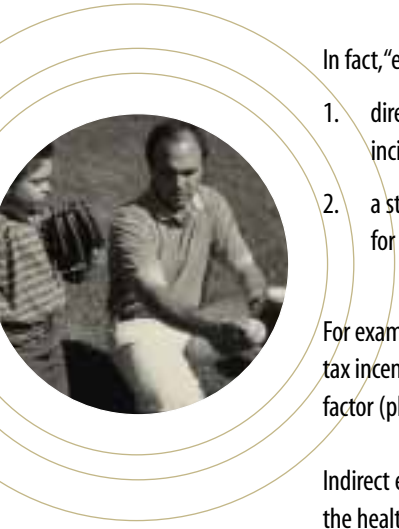
Interviews were also conducted with 55 experts who have specific subject area expertise. These experts were asked to identify the most important national prevention policies within their subject area. For example, experts in nutrition policy were asked to comment on highest-impact nutrition policies only. The purpose of these interviews was to ensure that the most promising policies from a wide range of areas were identified.

Finally, in a mailed survey questionnaire, *Partnership* requested input from its 80 members — including private companies, public health organizations, and state health departments — on the most important national prevention policies overall or within their specific area of expertise and, if possible, data on policy effectiveness. Twenty-three member organizations responded to the survey, including nine state health departments.

Profiling the Policies

Ideally, evidence of policy effectiveness would be based on direct measures of the policy's impact on disease, injury, or death. For example, impact could be based on scientific evaluations of local or state level implementation of the policy. Policy impact could be taken from detailed economic analyses that provide credible estimates of the effect a tax or an incentive program would have on behavior. Unfortunately, direct evidence of policy impact is not available for most policies. As a result, a chain of evidence must be constructed to assess the potential impact of a policy.





In fact, “evidence” in this effort was generally defined as either:

1. direct evidence of a policy’s impact on a risk factor for disease (e.g., rates of smoking) and/or on a health outcome (e.g., incidence of cancer); or
2. a strong “logic chain” of indirect evidence that leads to tentative conclusions about a policy’s impact on either risk factors for disease or health outcomes.

For example, a policy to encourage businesses to provide opportunities for employees to engage in physical activity through tax incentives has a long chain of indirect evidence. However, such policies lack direct measures of impact on the relevant risk factor (physical inactivity) or health outcomes associated with physical inactivity (heart disease, diabetes, mental health, etc.).

Indirect evidence in support of this policy, however, includes: 1) the number of adults who do not engage in physical activity; 2) the health benefits of moderate amounts of physical activity; 3) the barriers adults face when attempting to incorporate physical activity into daily routines; 4) evaluations of employer-sponsored physical activity programs designed to eliminate these barriers and their impact on employee behavior; and 5) the likelihood that a tax incentive would result in the widespread implementation of effective employer-sponsored physical activity programs. Whether such a chain of indirect evidence is relatively strong or weak depends, in part, on comparisons across policies with similar types of evidence.

Other policies may have direct evidence of impact on a risk factor for disease or injury, but limited evidence of impact on the disease or injury itself. For example, a policy aimed at improving healthy eating habits may have evidence of reduced fat intake among adults but no evidence of impact on the incidence of coronary heart disease. Because this prioritization effort is intended to save the most lives and prevent the most disease, the committee ultimately assessed each policy on the likelihood that a change in a risk factor (such as fat intake) would lead to a change in health outcomes (such as coronary heart disease).

The challenge for *Partnership* was identifying those policies likely to prevent the most disease or injury from a pool of policy ideas with a wide range of evidence. As a first step, *Partnership* conducted detailed investigations of a select number of

policies that met the following criteria: 1) the policy received frequent support from the experts interviewed; 2) the policy was found to have relatively strong evidence of effectiveness (either direct evidence or strong logic chain of indirect evidence); and 3) the policy addressed a significantly large health problem for the U.S. population as a whole. For these select policies, *Partnership* developed a detailed profile, including background on the policy, burden of disease or injury the policy is intended to address, evidence of policy effectiveness, and potential costs. In the end, 65 policies from approximately 200 policy ideas were profiled. Appendix J provides the catalog of policy options. The catalog has been simplified to 15 health topics, and policy options are listed only once.



The profiled policies were shared with experts at the CDC and others in the federal government and health policy organizations to ensure that the best available data were used to describe the policies.

Narrowing the List

The advisory committee's most important role was to make the final recommendations on those policies that have the greatest potential to prevent the most disease and injury. Narrowing of the list of policies was a several step process.

First, committee members were provided with the catalog of policy ideas, the 65 policy profiles, and supplementary information, such as the results of the expert interviews. For each profiled policy, staff provided an assessment of the strength of the evidence of effectiveness. Specifically, policies marked with "A" had strong direct evidence, "B" policies were those with a relatively strong chain of indirect evidence, and "C" denoted policies with relatively weak evidence. Staff also rated each profiled policy on a scale of 1 to 5 based on the amount of disease or injury the policy addressed. Finally, staff rated the costs of each profiled policy on a scale of 1 to 3 (general categories of high, medium, or low) based on 1) relative costs to the federal government and 2) relative *total* costs to the federal government, state and local governments, the private sector, and consumers.

The committee was asked to use the information in hand and their expert opinion to place one or more policies into one the following categories: 1) the policy should certainly be on a short list of high impact policies; 2) the policy may be worth including on a short list; and 3) the policy should not be included on a short list. Committee members were not limited to the policies that were profiled or to the catalog of 200 policies. Also, the length of a "short" list was not defined.

At a one-day meeting of the advisory committee, the committee chair presented the committee's responses, including those policies that committee members had broadly agreed should certainly be on a short list of high impact policies. (Committee members had ranked 12 policies in the highest group, and 7 of these were ultimately chosen for the final list.) Next, the advisory committee broke into small groups, each charged with reaching consensus on a short list. The small groups presented their lists, which were of any length that the group defined as "short," to the other committee members. After identifying the policies for which there was broad consensus across the small groups, the committee as a whole then discussed and reached agreement on two lists of policies: eight policies that the committee agreed should be on the final list, and six policies for which the committee wanted additional data and discussion before making a final decision.

The committee then held a follow-up conference call to discuss the second tier policies, which included policies related to environmental health, gun control, motor vehicle safety, and nutrition. After a careful review of additional data sources and discussion, the committee chose to include one additional policy on the final list.

Limitations

Many of the limitations to this effort have been noted above, but are summarized here. The most important limitations result from the broad scope and short timeframe of the project. A broad range of health topics, based on the 28 priority areas of *Healthy People 2010*, comprised the scope of the effort. Within this broad scope, conducting literature searches, interviewing experts on high impact policies, profiling a subset of policies, and seeking expert input on best data sources required tight staging over a one-year time period. As a result, the number of experts interviewed was limited, literature searches on the effectiveness and costs of each possible policy were not comprehensive, and in-depth analyses were conducted on a limited number of policy options.





Among the data gaps in this project are those related to the costs of the policies. The short timeframe, limited resources, and challenges of collecting a large number of policy options and other data contributed to the relative lack of attention given to cost information. *Partnership* was able to determine a relative sense of costs to the federal government and costs of the policies to federal and state governments, the private sector, and consumers in the general categories of high, medium, and low. In the future, more attention needs to be given to a feasible approach for collecting information about costs that would better inform such a broad priority-setting effort.

The number of policy alternatives and the extent of data collection are less than optimal for some specific policy areas, including, for example, environmental health. Limits in the number of experts interviewed and incomplete literature searches may have had a greater effect on this policy topic than more circumscribed areas, such as tobacco, for which there is greater consensus of opinion among experts and more easily accessible research.

The process used to set priorities among the policy options was not exact. Given limited information, a subset of the policies was grouped according to quality of the evidence of effectiveness, size of morbidity and mortality addressed by the policies, and suspected relative costs. A more precise method would have been to group the policies according to the relative impact on disease and injury outcomes. Data on the size of the impact (i.e., percent of lives saved, disease averted, or improved quality of life) of most policies was unavailable. The potential size of the impact was used when those data were available and was considered by the advisory committee for all policies (the committee examined evidence of effectiveness in relation to morbidity and mortality addressed by the policies). However, a ranking of potential policies based on even rough estimates of policy impact was not possible.

The final decision about which policies are most likely to prevent the most disease and injury was made by experts comprising the project's advisory committee. The biases of committee members are unknown, although each made a commitment to be objective and to weigh the evidence in-hand before reaching conclusions. A different group of experts may have reached different conclusions.

Partnership is breaking new ground in our efforts to identify policy priorities. Analytic tools necessary to accomplish this task and the experiences of others were not available at the initiation of this effort. More attention to valid approaches for making comparisons across different policies is needed. The approach described here should be of use in future priority-setting efforts which utilize broad cross-cutting analyses.

Overall, the approach was methodical, reasonably comprehensive, and objective. *Partnership* chose a middle-ground analytic approach that balanced precision and timeliness.



CONCLUSION & NEXT STEPS

One of the essential questions facing lawmakers concerned with public health policy is how to use limited resources in order to benefit the most Americans' health. Yet the extensive body of public health policy research leaves gaps in our knowledge about which policies are most effective. Few, if any, policy analysts have made comparisons across policies, especially policies addressing completely different health problems, in order to give lawmakers an indication of where new policies could make the greatest difference.

Partnership used a systematic, objective, and reasonably comprehensive approach to look across the issues and identify a short list of high-impact policies. The nine policies identified in this report are those for which there is relatively strong evidence that the policy would improve health for the most Americans at acceptable costs.

These nine policies would have important, lasting, and measurable effects, saving a minimum of 160,000 lives annually.

Partnership's intent was to aid the CPC in sorting through a broad and complex policy agenda. Implementation of all nine policies would obviously have the greatest impact on health. However, each policy is a stand-alone opportunity for lawmakers to make a difference.

Prevention and health promotion *policies* are not the only opportunities for Congress to act to improve health. Increased attention to *prevention policy research* is a high-impact investment option and a recommendation of this report. Prevention policy and program research is critical: effective population-wide approaches for addressing some of our most serious public health threats are only beginning to be recognized. Methods for combating the epidemic of obesity and environmental

hazards to human health, for example, are not as clearly defined as the public education, economic policies, regulation, incentives and other approaches that have proven effective in preventing or curbing tobacco use. Support is needed for high-quality scientific study of the policies and programs that will work to make our nation healthier, more productive, and competitive in a global economy.

In the future, *Partnership* will continue bringing lawmakers' attention to these high impact policies. *Partnership* will also extend this work, revisiting the evidence associated with these and other promising policies, examining a broader range of topics, and seeking more in-depth information on specific policy topics such as environmental health. At the same time, *Partnership* plans to refine methods for comparing benefits and costs of alternative disease prevention and health promotion policies.

¹ Levit K, Cowan C, Lazenby H *et al.* Health Spending in 1998: Signals of Change. *Health Affairs* 2000; 19(1):124-132.

² McGinnis JM and Foege WH. Actual Causes of Death in the United States. *JAMA* 1993; 270(18):2207-2212.



APPENDIX A: INCREASE THE FEDERAL EXCISE TAX ON TOBACCO PRODUCTS

POLICY: Enact a substantial increase in the federal excise tax on tobacco products.

INTENDED OUTCOME: The purpose of this policy is to decrease the prevalence of tobacco use, particularly among youth.

BURDEN ADDRESSED: Tobacco use is responsible for over 430,000 deaths,¹ as many as 26 million illnesses,² and 5,700,000 years of potential life lost¹ each year. According to a 1996 study, 5 million persons who were ages 0-17 years in 1995 will die prematurely from a smoking-related illness if current tobacco use patterns persist.³

BACKGROUND: Tobacco use is still a significant problem among the young: the prevalence of smoking increased among high school students during the 1990s, and the current rate of tobacco use among grades 9-12 students overall is approximately 35%.⁴

The United States has one of the lowest average prices, and the lowest levels of taxation, on tobacco products of all industrialized nations.

EVIDENCE / EFFECTIVENESS: Increasing the price of tobacco products is considered the single most effective means of decreasing use.⁵ While price increases decrease consumption among all tobacco users, youth and young adults are most responsive: they are up to three times more sensitive to price than adult smokers.⁶ This is particularly important because nearly all smokers begin as adolescents, and the likelihood of becoming a smoker is very low if tobacco use does not begin in adolescence.⁷

Substantial increases in cigarette prices could lead to substitution with other tobacco products. For this reason, it is important to impose comparable tax increases on chewing tobacco, cigars, pipe tobacco, and snuff.⁸

Canada's experience in raising taxes on tobacco provides a potent illustration of the effects of price on consumption. Between 1979 and 1991, when real prices per pack of cigarettes in Canada increased from U.S. \$2.09 to U.S. \$5.42, youth (ages 15-19) smoking prevalence decreased from 42% to 16%, and adult consumption declined as well.⁹ Later, when the government reduced taxes, tobacco use increased for the first time in nearly 15 years.

In April 1993 the Philip Morris Companies cut the price of a pack of Marlboro cigarettes, one of the most popular brands among teenagers, by 40 cents. Their competitors also dropped the prices of their cigarettes that were favored by the youth market. Between 1993 and 1996 the number of students in the eighth, tenth, and twelfth grades who smoked increased by 19%, while the number of adult smokers remained the same.⁸ Although increases on this scale are caused by a number of factors, including advertising, the effect of price decreases on youth is substantial.

It has been argued that tobacco price increases are regressive and would impose the greatest burden on lower-income groups. A 1990 Congressional Budget Office (CBO) study reports that people in the lowest income groups were most responsive to price increases and would therefore gain the most health benefits from tobacco tax increases.¹⁰

Another concern is that a large increase in the price of tobacco products would lead to increased smuggling and a large black market. Worldwide, cigarette smuggling is widespread, and there is evidence that the tobacco manufacturers are often complicit. Despite their apparent involvement in cigarette smuggling enterprises, the tobacco industry argues that the prevalence of smuggling proves that increases in tobacco taxes and prices 'create' a black market.¹¹

The price of Canadian cigarettes is already higher than in the United States, so smuggling from Canada is unlikely. Experts predict that smuggling from Mexico is also unlikely to pose a serious problem, since the U.S. population is not concentrated along the Mexican border, the U.S.-Mexico border is closely guarded, and Americans generally do not smoke Mexican cigarette brands.¹² Moreover, research has shown that even weak anti-smuggling policies can be effective in quashing smuggling behavior.⁶

LEGISLATIVE CONTEXT: The current federal excise rate on cigarettes was recently increased (as of January 2000) from 24 cents to 34 cents per pack, and is scheduled to increase by 5 cents in 2002.¹³ The tobacco industry raised wholesale prices of cigarettes by 18 cents a pack in August 1999 in anticipation of the cost increases brought about by the increase in the federal excise tax and an increase in settlement expenses. Industry analysts have acknowledged that the price increases will have an effect on demand.¹⁴

State excise taxes range from 2.5 cents to \$1.00 per pack of cigarettes, with an overall average of slightly less than 39 cents per pack as of December 1998.⁵ The Master Settlement Agreement and the individual state settlements did not include an excise tax increase, but at the time of the settlement, the tobacco companies increased the wholesale prices of cigarettes by between 25 and 45 cents per pack to begin to offset the costs of the settlement.⁵ An increase in the federal tax could also reduce the tobacco industry's payments under the Master Settlement Agreement.

COSTS: In fiscal 1997 revenues from federal excise taxes were \$5.7 billion from cigarettes and \$1.3 million from other tobacco products.⁵ By way of comparison, the cost of smoking-related illnesses to the nation is over \$100 billion each year.¹⁵ An increase in the tax would be expected to yield higher rates of income for the federal government in the short term, but in the long run this effect could diminish as the tax caused tobacco product consumption to decline.

Some states, such as California and Massachusetts, have increased their state excise taxes and earmarked the additional revenue for tobacco prevention and control activities.⁵ A strategy of this type enhances the effect of a price increase and has significant benefits for the public health.

REFERENCES:

1. Centers for Disease Control and Prevention. Cigarette smoking-attributable mortality and years of potential life lost—United States, 1984. *MMWR* 1997;46(20):444-451.
2. McGinnis JM, Foege WH. Mortality and morbidity attributable to use of addictive substances in the United States. *Proceedings of the Association of American Physicians* 1999; 111(2): 109-118.
3. Centers for Disease Control and Prevention. Projected smoking-related deaths among youth—United States. *MMWR* 1996; 45(44):971-974.
4. Centers for Disease Control and Prevention. Tobacco use among middle and high school students—United States, 1999. *MMWR* 2000;49(3):49-53.
5. Centers for Disease Control and Prevention. State laws on tobacco control—United States, 1998. *MMWR* 1999;48 (SS-3):21-40.
6. Chaloupka FJ. The Impact of Proposed Cigarette Price Increases. Policy Analysis No. 9. Health Science Analysis Project. The Advocacy Institute, Washington, DC, May 1998.
7. U.S. Department of Health and Human Services. Preventing Tobacco Use Among Young People: A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 1994.
8. Grossman M, Chaloupka FJ. Cigarette Taxes: The straw to break the camel's back. *Public Health Reports*, 1997. 112: 291-297.
9. Statistics Canada, General Social Survey, 1991; and Government of Canada, Labour Force Survey, supplements 1979-1991.
10. Congressional Budget Office. Federal Taxation of Tobacco, Alcoholic Beverages, and Motor Fuels. (Study). Washington, DC: August 1990.
11. Joossens L, Raw M. Cigarette smuggling in Europe: who really benefits? *Tobacco Control* 1998; 7:66-71
12. Sutton CD. A Comment on the Impact of Proposed Cigarette Price Increases. Health Science Analysis Project. The Advocacy Institute, Washington, DC, May 1998.
13. Department of the Treasury, Bureau of Alcohol, Tobacco, and Firearms. Tax and Fee Rates. Washington, D.C., 1999. www.atf.treas.gov/core/alcohol/info/atftaxes.htm
14. The Associated Press. Cigarette Packs to Jump 22 Cents. August 31, 1999.
15. Centers for Disease Control and Prevention. Targeting Tobacco Use: The Nation's Leading Cause of Death. At-a-Glance 1999. Atlanta, GA: 1999.

APPENDIX B: CONFIRM U.S. FOOD AND DRUG ADMINISTRATION AUTHORITY TO REGULATE THE TOBACCO INDUSTRY

POLICY: Confirm the authority of the U.S. Food and Drug Administration (FDA) to regulate tobacco products and tobacco advertising.

INTENDED OUTCOME: The purpose of this policy is to decrease tobacco use and tobacco-attributable mortality and morbidity by ensuring that tobacco products are no more harmful than necessary, preventing the sale of tobacco products to minors and ensuring that consumers are fully informed of the contents of tobacco products.

BURDEN ADDRESSED: Tobacco use is responsible for at least 430,000 deaths,¹ as many as 26 million illnesses,² and 5,700,000 years of potential life lost¹ each year. If current tobacco use patterns persist, an estimated 5 million persons who were ages 0-17 years in 1995 will die prematurely from a smoking-related illness.³

BACKGROUND: Tobacco use by children has increased by 30% over the last decade; approximately 4.5 million children between the ages of 12 and 17 are classified as current smokers.⁴

Regulation of tobacco products by the Food and Drug Administration has three main aims:

- 1.) regulation of the ingredients of tobacco and of additives found in tobacco products;
- 2.) restriction of youth access to tobacco products; and
- 3.) regulation of the marketing and labeling of tobacco products.

The FDA regulates the sale of drugs and medical devices, prohibits the sale of unsafe products, and has the authority to recall items that are found to be unsafe after initial approval. The agency monitors the manufacture, import, transport, storage, and sale of \$1 trillion worth of consumer products annually.⁵

Under the statutory definitions of drugs and medical devices, products regulated by the FDA must either be used in the diagnosis or treatment of a disease, or intended by a manufacturer to affect the structure or function of the body. In accordance with the statutes governing FDA review of drugs and medical devices, the FDA has determined that nicotine is a drug, that tobacco products are designed to introduce measured doses of nicotine into the body, and that they are therefore drug delivery devices.⁶ However, the FDA does not have jurisdiction over tobacco products. Therefore, currently, tobacco products are subject to minimal oversight by the federal government, and their producers are not required to disclose to consumers the ingredients in tobacco products.

EVIDENCE/EFFECTIVENESS: While tobacco products cannot be made to be completely safe, steps can be taken to ensure that they are no more dangerous than those sold in other countries. Tobacco products sold in the United States have been found to be more poisonous than necessary: amounts of nitrosamines, which are carcinogens, are significantly higher in American brands of cigarettes than in comparable brands sold in Germany and Japan.⁷

Another aspect of FDA regulation is restriction of youth access to tobacco products. Communities that have enacted laws requiring retailers to refuse to sell tobacco products to anyone under 18 years of age, and to check the identification of young-looking buyers, have found that these laws can, if rigorously enforced, have a significant impact on youth access to tobacco products and youth tobacco use.⁸ Those charged with enforcing the laws can take steps to maximize the effectiveness of the laws. These include educating the community, elected officials, and the courts on the need for the laws and the fairness and legality of their enforcement.⁹

Addiction to nicotine most often begins in childhood and adolescence, and those who do not begin smoking at this age are unlikely to become smokers as adults.⁴ For this reason, reducing tobacco use among youth will reduce the future prevalence of nicotine-addicted adults.⁶

The marketing practices of the tobacco industry are clearly related to youth consumption. Between 1989 and 1993, when their advertising budget for the new Joe Camel campaign increased from \$27 million to \$43 million, Camel's market share among youth increased by more than 50%, while its adult market share did not change at all.¹⁰ A 1998 study of teenagers found that tobacco industry promotional activities influenced previously non-susceptible non-smokers to experiment with smoking.¹¹

Clear evidence exists that package messages and labeling have the potential to reduce tobacco use.¹² At present, advertisements for tobacco products are overseen by the Federal Trade Commission (FTC), which has jurisdiction to enforce laws protecting consumers from false, deceptive, and unsubstantiated advertising of a variety of products. However, given the limited scope of the FTC's jurisdiction, the FTC's history of allowing the tobacco industry to voluntarily regulate itself, and the agency's lack of broad scientific expertise, regulation of tobacco product marketing and labeling by the FDA is preferable.¹³

LEGISLATIVE CONTEXT: In 1996 the FDA published its final rule concerning the sale, distribution, and promotion of cigarettes and smokeless tobacco to children and adolescents, asserting its jurisdiction over tobacco products for the first time.⁶ These regulations were struck down in 1998 by the 4th U.S. Circuit Court of Appeals, and the case is currently before the Supreme Court, with a decision expected in 2000.¹⁴

The Master Settlement Agreement, the agreement between states' attorneys general and the tobacco companies signed by 46 states in November, 1998, implements some, but not all, of the regulations on marketing and advertising proposed in the 1996 FDA rule. Included in the agreement are provisions to ban tobacco billboards and transit advertisements and a prohibition on the use of cartoon characters to promote tobacco products. Under the terms of the agreement the tobacco companies may not target youth in the advertising of their products; however, enforcement of this provision is left to the states.

COSTS: This policy would require resources for regulation and enforcement. Estimates from the proposed 1998 tobacco legislation indicate that this policy would cost at least \$300 million per year.¹⁵

REFERENCES:

1. Centers for Disease Control and Prevention. Cigarette smoking-attributable mortality and years of potential life lost—United States, 1984. *MMWR* 1997; 46(20):444-451.
2. McGinnis JM, Foege WH. Mortality and morbidity attributable to use of addictive substances in the United States. *Proceedings of the Association of American Physicians* 1999; 111(2): 109-118.
3. Centers for Disease Control and Prevention. Projected smoking-related deaths among youth—United States. *MMWR* 1996; 45(44):971-974.
4. Substance Abuse and Mental Health Services Administration, USDHHS. National Household Survey on Drug Abuse: Population Estimates 1997; and: University of Michigan: Monitoring the Future Study, 1998.
5. Center for Drug Evaluation and Research, Food and Drug Administration. CDER 1997 Report to the Nation. Washington, DC June 1998.
6. U.S. Department of Health and Human Services. Food and Drug Administration. Regulations Restricting the Sale and Distribution of Cigarettes and Smokeless Tobacco to Protect Children and Adolescents: Final Rule. *Federal Register*: August 28, 1996 (Volume 61, Number 168) Rules and Regulations, Page 44395-44445. Docket No. 95N-0253. RIN 0910-AA48.
7. Slade J. The Role of the Food and Drug Administration in Regulating Tobacco Products. Policy Analysis No. 11. Health Science Analysis Project, The Advocacy Institute, Washington, DC, May 1998.
8. Forster JL et al. The effects of community policies to reduce youth access to tobacco. *Am J Public Health* 1998; 88:1193-98.
9. DiFranza JR, Rigotti NA. Impediments to the enforcement of youth access laws. *Tobacco Control* 1999; 8:152-155.
10. Centers for Disease Control and Prevention. Changes in the cigarette brand preference of adolescent smokers, U.S. 1989-1993. *MMWR* 1994; 43(32):577-581.
11. Pierce J, Choi WS, Gilpin EA et al. Tobacco industry promotion of cigarettes and adolescent smoking. *JAMA* 1998; 279(7):511-515.
12. Selin H, Swenor D. Tobacco Product Packaging and Labeling. Policy Analysis No. 12. Health Science Analysis Project. The Advocacy Institute. Washington, DC, April 1998.

13. For a summary of the why the FDA is considered the most suitable agency, see, for example, Campaign for Tobacco-Free Kids. Why FDA? http://www.tobaccofreekids.org/html/why_fda.html

14. Food and Drug Administration v. Brown and Williamson Tobacco Corp., No. 98-1152.

15. Senate 1415. Universal Tobacco Settlement Act. 105th Congress, introduced November 7, 1997.

APPENDIX C: BAN SMOKING IN ENCLOSED PUBLIC PLACES AND WORKPLACES NATIONWIDE

POLICY: Ban smoking in enclosed public places throughout the nation, such as workplaces, shopping malls, and restaurants.

INTENDED OUTCOME: The purpose of this policy is to decrease tobacco-attributable mortality and morbidity, particularly due to passive smoking.

BURDEN ADDRESSED: An estimated 3,000 lung cancer deaths among non-smokers each year in the United States are attributable to environmental tobacco smoke (ETS).¹ Studies have linked between 35,000–62,000 heart disease deaths annually to secondhand smoke as well.^{2,3} Of workers who work indoors, approximately 58 million — 40 million of whom are non-smokers — are not protected by a smoke-free workplace policy.⁴

BACKGROUND: This policy recommends a nationwide ban on smoking in enclosed public spaces, such as workplaces, restaurants, and shopping malls. Enclosed public space is defined as any building regularly entered by ten or more individuals at least one day a week.

ETS contains at least 43 known or suspected carcinogens.³ The U.S. Environmental Protection Agency¹, the National Research Council,⁵ and the Surgeon General⁶ have independently concluded that ETS is a cause of many ailments, including cancer, in non-smokers.

EVIDENCE / EFFECTIVENESS: Employees of restaurants have an ETS exposure level of 1.6 to 2.0 times higher than office employees, and bar employees, 3.9 to 6.1 times higher. A study that calculated the excess lung-cancer risk among food-service workers found it to be approximately 50% greater than that of the general population, even after controlling for active smoking by the food-service workers.⁷

The state of California enacted legislation in 1998 prohibiting smoking in all bars and restaurants. In a study of the health effects of the law, University of California researchers assessed bartenders for respiratory symptoms and pulmonary function at a random selection of bars and taverns in San Francisco before and after passage of the law. Following enactment of the law, ETS exposure among these workers declined from an average of 28 hours a week to 2 hours a week. The study showed that as a result, the prevalence of respiratory symptoms among employees declined from 74% to 32%; the prevalence of sensory irritation — irritated eyes, runny noses, and sore throats — declined sharply; and average pulmonary function increased.⁸

Smoking bans at the workplace can also help tobacco users quit or reduce their consumption. A large study of hospital employees found that one year after a smoking ban was enacted, quit rates among hospital employees who had been tobacco users were almost twice as high as in the general population; and among those who had not quit, consumption had decreased.⁹ Studies of employees of a telephone company¹⁰ and of California residents¹¹ found similar results following the implementation of workplace smoking bans.

Restaurant and bar owners often resist smoking restrictions in public places out of concern for the potential economic impact of these laws on their businesses. However, research examining tax receipts to study the effect of the passage of smoke-free ordinances on restaurant business has found consistent evidence that ordinances restricting smoking in restaurants have no effect on revenues.^{12,13} And while the greatest beneficiaries of such restrictions are restaurant and bar employees, who are otherwise exposed to ETS throughout their working day, patrons also benefit from not being exposed to secondhand smoke.

LEGISLATIVE CONTEXT: As of December 31, 1998, 46 states and Washington, D.C. restrict smoking to some extent. Alabama, Kentucky, Mississippi, and North Carolina are the exceptions. Most states restrict smoking in government work sites. Twenty states restrict smoking in private work sites and 30 states restrict smoking in restaurants. In addition to state restrictions, hundreds of local jurisdictions have their own laws restricting smoking in indoor facilities. These laws vary widely in the extent of the restrictions imposed.

The 1998 multi-state agreement between states' attorneys general and the tobacco companies does not address the issue of secondhand smoke.

COSTS: The costs associated with this policy would be to federal, state, and local governments for enforcement. The Environmental Protection Agency has estimated that a workplace smoking ban would result in a net economic benefit of between \$35 billion and \$72 billion each year;¹⁴ another estimate of cost savings from productivity improvements alone puts that figure at \$15 billion annually.¹⁵

REFERENCES:

1. United States Environmental Protection Agency. Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders. Washington, DC: December 1992. EPA/600/6-90/006F.
2. Wells AJ. Passive smoking as a cause of heart disease. *Journal of the American College of Cardiology* 1994;24(2):546-554.
3. Glantz SA, Parmley WW. Passive smoking and heart disease: epidemiology, physiology, and biochemistry. *Circulation* 1991;83(1):1-12.
4. Gerlach KK, Shopland DR, Hartman AM, Gibson JT, Pechacek TF. Workplace smoking policies in the United States: results of a national survey of more than 100,000 workers. *Tobacco Control* 1997;6:199-206.
5. Environmental Tobacco Smoke: Measuring Exposures and Assessing Health Effects. Washington, DC: National Academy Press, 1986.
6. US Department of Health and Human Services. The Health Consequences of Involuntary Smoking: A Report of the Surgeon General. Washington, DC, 1986.
7. Siegal M. Involuntary smoking in the restaurant workplace: a review of employee exposure and health effects. a review of employee exposure and health effects. *JAMA* 1993;270(4):490-494.
8. Eisner MD, Smith AK, Blanc PD. Bartenders' respiratory health after establishment of smoke-free bars and taverns. *JAMA* 1998;280(22):1909-23.
9. Longo DR et al. Hospital smoking bans and employee smoking behavior: results of a national survey. *JAMA* 1996;275(16):1252-6.
10. Sorsensen G, Rigotti N, Rosen A, Pinney J, Prible R. Effects of a worksite nonsmoking policy: evidence for increased cessation. *AJPH* 1991;81(2):202-3.
11. Woodruff TJ, Rosbrook B, Pierce J, Glantz SA. Lower levels of cigarette consumption found in smoke-free workplaces in California. *Archives of Internal Medicine* 1993;153(12):1485-9.
12. Glantz SA. Smoke-free restaurant ordinances do not affect restaurant business. *Period. Journal of Public Health Management and Practice*, 1999;5(1):vi-ix.
13. Centers for Disease Control and Prevention. Assessment of the Impact of a 100% Smoke-Free Ordinance on Restaurant Sales—West Lake Hills, Texas, 1992-1994. *MMWR* 1995;44(19):370-372.
14. US Environmental Protection Agency. The Costs and Benefits of Smoking Restrictions: An Assessment of the Smoke-Free Environment Act of 1993 (H.R. 3434). Washington, DC: Environmental Protection Agency, Office of Radiation and Indoor Air, 1994.
15. U.S. Department of Labor. Occupational Safety & Health Administration. OSHA Federal Register. Indoor Air Quality-59:15968-16039. Washington, DC: April 1994.

APPENDIX D: STRENGTHEN LAWS TO REDUCE ALCOHOL-RELATED MOTOR VEHICLE INJURY AND DEATH

POLICY: Provide incentives to states to establish uniform nationwide drinking and driving laws by: setting the *per se* legal blood alcohol content (BAC) to .08% for adult drivers, establishing a strict nationwide minimum period of one year for administrative license revocation (ALR), and granting funds to enforce the laws through sobriety checkpoints.

INTENDED OUTCOME: The purpose of this policy is to reduce the incidence of alcohol-related motor vehicle crashes causing death and disability.

BURDEN ADDRESSED: In 1998, 15,935 people died and 305,000 people were injured in alcohol-related motor vehicle crashes.¹ Alcohol contributed to 38.6% of all motor vehicle crash deaths and 9.6% of all motor-vehicle injuries.¹ Estimates of the costs of alcohol-related motor vehicle crashes range from \$28.6 billion² to over \$40 billion³ each year.

BACKGROUND: *Per se* BAC laws make it illegal to drive or be in control of a vehicle with a blood alcohol content at or above a specified level. Drivers are significantly impaired even at .08% BAC: for an average 170 lb. man this translates into four cans of beer on an empty stomach in one hour.⁴

Administrative License Revocation (ALR) laws immediately suspend the licenses of drivers who fail or refuse to take a breath test. For the first offense, licenses are suspended for a period of time ranging from 7 days (in the state of Virginia) to 1 year (in the state of Georgia). The most common period is 90 days.

For BAC and ALR laws to be effective, enforcement is a critical element. Drinking and driving laws work best when drivers believe that the laws will be enforced and that there is a high likelihood that offenders will be caught.⁵ Sobriety checkpoint programs are designed to play this role.⁶

EVIDENCE/EFFECTIVENESS: Currently, drinking and driving laws differ significantly from state to state. While each component (.08% BAC, strict ALR, and sobriety checkpoint programs) can be effective on its own, recent research^{7,8} suggests that maximum effectiveness can be attained with a combination of laws.

Laboratory and test-track research has shown that drivers are significantly impaired at .08% BAC. Braking, steering, lane changing, speed control, and attentiveness are all compromised at this level.⁶ In fact, various driving behaviors and cognitive functions begin to show evidence of impairment at BACs of approximately .04.⁸

Epidemiological evidence also shows a clear increase in the risk of a driver being involved in a crash starting at BACs of .08%.⁸ One study examining the effect of various alcohol safety laws estimated that 275 lives were saved in 1997 by the presence of .08% BAC laws — as compared to .10 BAC laws — in 15 states; the study estimates that if all 50 states had .08 laws, an additional 590 lives could have been saved.⁹ Adding one-year minimum ALR laws and strict enforcement could be expected to increase this number.

ALR laws have resulted in reductions in alcohol-related fatal crashes, reducing the incidence of both first offenses and DWI recidivism among offenders whose licenses have been suspended or revoked.⁵ One review of the literature on ALR laws found a reduction of 5% for alcohol-related fatal crashes attributable to the license revocation laws alone.⁹ Another study comparing a variety of drinking and driving policies found that administrative sanction laws have a significant deterrent effect if they impose relatively severe sanctions, and that imposing a mandatory one-year administrative sanction in all states would have reduced total fatalities by 9.4%.¹⁰

In 1990 the state of California enacted both .08% BAC and ALR laws within six months of each other. An evaluation of the combined effect of these two laws found a 12% reduction in alcohol-related fatal crashes.⁹

Enforcement programs can also have measurable effects on drinking and driving fatalities. In 1994 the state of Tennessee entered into a cooperative agreement with the National Highway Traffic Safety Administration to conduct a model sobriety checkpoint program called *Checkpoint Tennessee*. Evaluation of this program found a 20.4% reduction in alcohol-related crashes as a result of the program.^{6,10}

LEGISLATIVE CONTEXT: As of Sept. 1, 1999, 17 states and the District of Columbia have a BAC limit of 0.08% for adult drivers; 31 states have a BAC limit of 0.10%. Forty-one states and the District of Columbia have ALR laws,¹¹ but they differ widely in the length of license revocation and the severity of fines. All 50 states and the District of Columbia have laws establishing BAC levels of .02% or less for drivers under age 21.

COSTS: Two major aspects of this policy, .08% BAC and ALR laws, would entail minimal costs to the federal government if implementation of these laws were simply a condition of states receiving federal highway funds. Grants could be provided to states for enforcement. The *Checkpoint Tennessee* program, mentioned above, cost under \$1 million each year to operate;⁸ and an analysis of costs and benefits of a model sobriety checkpoint program concluded that every \$1 spent on such programs saves the community more than \$6.¹²

REFERENCES:

1. NHTSA: Traffic Safety Facts, 1998. Washington, DC: National Highway Traffic Safety Administration, 1999.
2. National Safety Council. Accident Facts, 1998. Itasca, IL: National Safety Council, 1998.
3. Miller TR, Blincoe LJ. Incidence and cost of alcohol-involved crashes in the United States. *Accid. Anal. Prev.* 1996; 26:583-591.
4. NHTSA. The Merits of a .08 BAC per se law for adult drivers. Washington, DC: National Highway Traffic Safety Administration, September 1998.
5. H. Laurence Ross. *Detering the Drinking Driver: Legal Policy and Social Control*. Lexington, MA: DC Heath & Co., 1984
6. Lacey JH, Jones RK, Smith RG. *Checkpoint Tennessee: Tennessee's Statewide Sobriety Checkpoint Program*. Washington, DC: US Department of Transportation. January 1999.
7. U.S. General Accounting Office. *Highway Safety: Effectiveness of .08 Blood Alcohol Laws*. GAO/RCED-99-179. Washington, DC, June 1999.
8. Foss RD, Stewart JR, Reinfurt DW. *Evaluation of the Effects of North Carolina's 0.08% BAC Law*. Highway Safety Research Center, University of North Carolina. November, 1998.
9. Voas RB, Tippetts AS. *The Relationship of Alcohol Safety Laws to Drinking Drivers in Fatal Crashes*. NHTSA; Washington, DC, 1999.
10. O'Malley PM, Wagenaar AC. Effects of minimum drinking age laws on alcohol use, related behaviors and traffic crash involvement among American youth: 1976-1987. *Journal of Studies on Alcohol* 52(5):478-491, 1991.
11. Insurance Institute for Highway Safety. *DUI/DWI Laws As of June 1999*. Factsheet. www.hwysafety.org/safety_facts/state_laws/dui.htm
12. Miller TR, Maury GS, Bruce LA. Costs and benefits of a community sobriety checkpoint program. *Journal of Studies on Alcohol*, 59(4):462 July 1998.

APPENDIX E: INCREASE THE FEDERAL TAX ON ALCOHOLIC BEVERAGES

POLICY: Enact a substantial increase in the federal excise tax on alcoholic beverages.

INTENDED OUTCOME: The purpose of this policy is to reduce the incidence of alcohol-attributable illness and death, especially among youth.

BURDEN ADDRESSED: Alcohol abuse causes approximately 105,000 deaths and 10 million illnesses and injuries each year in the United States¹, and nearly a third of Americans report that drinking is or has been a cause of trouble in their families.² Among young people ages 15-24, impaired driving is one of the leading causes of death.³

BACKGROUND: In fiscal 1995, taxes on alcoholic beverages generated \$7.5 billion at the federal level, and about \$9.4 billion at the state level.⁴ If the current federal excise taxes were doubled,⁵ the federal tax on beer would increase by 33 cents a six-pack (or about 5 cents a can), the federal tax on wine would increase by 21 cents a bottle, and the federal tax on spirits would increase by \$2.14 a bottle.^{4,6}

Because there has never been an adjustment for inflation, the real rate of tax, and, as a consequence, the real price, of alcoholic beverages has been decreasing since 1951, despite periodic tax increases. For example, the real price of distilled spirits fell by 32% between 1975 and 1991.⁵

An argument commonly made against a higher federal excise tax on alcohol is that it would be a regressive tax, and would place a higher burden on lower-income consumers. However, for moderate drinkers who consume an average of a six-pack of beer a week, doubling the federal excise tax would represent only \$17.16 a year in increased costs.

EVIDENCE/EFFECTIVENESS: The most recent increase in the federal excise tax on alcohol took place in 1991. Following the increase, overall per capita alcohol consumption dropped by 6.1%,⁷ and has shown a small general decreasing trend since 1991, most likely due to a number of factors.

There is a substantial body of research on the responsiveness of consumption to changes in price — the price elasticity of demand — of alcoholic beverages.⁸ The general consensus is that, overall, alcoholic beverages obey the law of demand: higher prices lead to decreased levels of consumption.⁹

Decreased alcohol consumption leads to decreases in alcohol-related injuries and deaths. One study examining alcohol tax increases at the state level found that with each 10% increase in the tax rate, motor vehicle deaths decreased by 7% and cirrhosis deaths decreased by 9%.¹⁰ Another study using state data found that increasing the price of alcohol resulted in a fall in the homicide and suicide rates,¹¹ and a modeling study predicted that a beer tax increase could lower the number of industrial injuries.⁵

There is a high incidence of alcohol-related problems, particularly motor vehicle crashes, among young people. Increasing the price of alcoholic beverages affects youth consumption in particular.¹² Beer is the alcoholic beverage of choice among the young in the United States, and although beer tax increases decrease drunk driving overall, the effect is larger for young drivers than for older drivers.¹³ An increase in the federal tax on beer to make it equivalent to the tax on spirits — an increase of about 75%, or 25 cents a six-pack — could be expected to reduce fatalities by up to 21%.⁵

LEGISLATIVE CONTEXT: The current structure of federal taxes on alcoholic beverages is based in part on the fact that alcohol is cheaper to produce in the form of spirits than in the form of beer or wine. The differences in the tax rates on beer, wine, and spirits compensate for this by equalizing the purchase price of a unit of alcohol in each of the three beverages, as well as reflecting historic attitudes that beer and wine are beverages of moderation, unlike “hard” liquor. As a result, the tax on a gallon of pure alcohol contained in beer is \$28.31, in wine is \$23.65, and in spirits is \$48.82.⁴

These taxes, which were last increased in the Omnibus Budget Reconciliation Act of 1990 (PL 101-508) are per unit: they are expressed as a sum of money per quantity of beverage, rather than as a percentage of the price. Since January 1, 1991, the taxes have been \$18.00 per 31-gallon barrel of beer, or about 33 cents per six-pack; \$1.07 per gallon of table wine, or about 21 cents a bottle; and \$13.50 per proof gallon of distilled spirits, or about \$2.14 per 750-mL bottle⁶. The 1991 tax increases represented a 100% increase in the tax on beer, a 519% increase in the tax on table wine, and an 8% increase in the tax on spirits.

REFERENCES:

1. McGinnis JM, Foege WH. Mortality and morbidity attributable to use of addictive substances in the United States. *Proceedings of the Association of American Physicians*, 1999; 111(2):109-118.
2. McAneny L. Drinking a cause of family problems for three out of ten Americans. Princeton, NJ: The Gallup Organization. www.gallup.com/poll/news/970927b.html.
3. NHTSA. The Use of Sobriety Checkpoints for Impaired Driving Enforcement. November, 1990. www.nhtsa.dot.gov/people/injury/alcohol/checkpt.html.
4. Center for Science in the Public Interest. *Guide to Alcohol Taxes and Health*. Washington, DC, May 1996.
5. Chaloupka FJ. Effects of price on alcohol-related problems. *Alcohol Health and Research World* 1993; 17(1):46-53. Chaloupka writes that a number of studies show that “alcohol taxes could be more than doubled before the ‘costs’ of the increased taxes would begin to exceed their benefits.”
6. Bottles in this example are assumed to be 750 mL, the standard size for wine and spirits bottles.
7. Williams GD, Stinson FS, Sanchez LL, Dufour MC. Apparent Per Capita Alcohol Consumption: National, State, and Regional Trends, 1977-1996. *National Institute on Alcohol Abuse and Alcoholism Surveillance Report #47*. Washington, DC: December 1998.
8. National Institute on Alcohol Abuse and Alcoholism. *Ninth Special Report to the U.S. Congress on Alcohol and Health*. U.S. Department of Health and Human Services Rockville, MD: June 1997. NIH Publication No. 97-4017.
9. Manning WG, Blumberg L, Moulton LH. The demand for alcohol: the differential response to price. *J Health Econ* 14(2): 123-148, 1995.
10. Cook PJ. The Effect of Liquor Taxes on Drinking, Cirrhosis, and Auto Accidents; in: Mark H. Moore and Dean R. Gerstein, eds. *Alcohol and Public Policy: Beyond the Shadow of Prohibition*. Washington, DC: National Academy Press, 1981.
11. Sloan FA, Reilly BA, Schenzler C. Effects of prices, civil and criminal sanctions, and law enforcement on alcohol-related mortality. *Journal of Studies on Alcohol*, July 1994: 454-465.
12. Coate D, Grossman M. The effects of alcoholic beverage prices and legal drinking ages on youth alcohol use. *Journal of Law and Economics* 1988; 31(1): 145-171.
13. Manning WG et al. The Taxes of Sin. *JAMA* 1989; 261(11): 1604-1609

APPENDIX F: ENACT A NATIONAL HANDGUN LICENSING AND REGISTRATION SYSTEM OPERATED BY THE STATES

POLICY: Enact a national handgun licensing and registration system operated by the states.

INTENDED OUTCOME: The purpose of this policy is to decrease the incidence of injury and death from handguns by preventing unauthorized and illegal access to handguns.

BURDEN: About 30,000 deaths¹ and 100,000² non-fatal injuries are caused by firearms each year in the United States, and about 80% involve handguns. Gun-related deaths are the second leading cause of death from injury in the United States.¹ In 1997 (the most recent year for which data is available), firearms caused 13,522 homicides, 17,566 suicides, and 981 accidental deaths; 27% of these deaths were among youths and young adults.¹

The risk of suicide is nearly five times higher in homes in which a firearm is kept.³

BACKGROUND: Handgun licensing and registration systems are intended to ensure safe use and storage of handguns by lawful owners — those who are not convicted felons, fugitives from justice, or minors — prevent sales to criminals, keep track of the supply of handguns, and promote accountability on the part of legal handgun owners.

Handgun licensing and registration would be designed along the same principles as drivers' licenses and vehicle registration and would be administered at the state level. Minimum standards would be established at the national level.

Individuals who wish to own a handgun are issued a license — entitling them to purchase, receive and possess handguns — upon passing a basic safety course, and each gun is registered to its licensed owner. In addition, just as a driver's license can be revoked for certain behaviors, such as repeated drunk driving, handgun licensing also provides a means for revocation if a licensee, for example, commits a felony or is issued a restraining order. The main components of the licensing process are: 1) background check with fingerprint ID; 2) minimum age of 21; 3) proof of residency; 4) successful completion of a firearms test or course.

Handgun registration involves keeping records of the ownership of a specific handgun. This includes requiring handgun owners to register guns by serial number and description with state or local police, as well as recording the initial purchase from a handgun dealer and all subsequent sales of the handgun to others. In this way, a mechanism is established to prevent handguns from being sold or otherwise transferred to unlicensed users, to hold handgun owners accountable for unlawful transfers, and to trace handguns used in crimes.

Current laws aimed at controlling the flow of firearms, while effective, are limited.

The Brady Law, implemented in 1994, required a five-day waiting period and background check before the sale of a handgun. The five-day waiting period expired in 1998 and was replaced by the current system of instant background checks, in which background checks for some handgun purchases must be completed in three days. Ninety-five percent of these checks are completed within two hours; however, at least three days are necessary since the small percentage of checks that don't clear quickly are the ones that police need time to investigate. Prohibited purchasers under the current law include those convicted of a domestic violence misdemeanor or who are under a restraining order.⁴

EVIDENCE/EFFECTIVENESS: A consistent mechanism to prevent unauthorized users from possessing handguns has the potential to prevent a large number of handguns from being sold. The Brady Laws and their successors, although limited, have had an effect: according to the Justice Department, 312,000 people were denied handgun purchases between 1994 and 1998.⁴ A felony indictment or conviction was the most common reason for denial of purchase.

Laws that attempt to control the flow of illegal handguns have been shown to work. A congressional study using data from the Bureau of Alcohol, Tobacco, and Firearms obtained from dealers' inventory records showed that a few states with weak gun control laws supply a large percentage of the guns used in crimes in other states.⁵ Similarly, research examining the effect of the one-gun-per-month law passed in the state of Virginia in 1993 found that the law is effective in disrupting illegal firearm markets: of guns used in crime purchased prior to the law, 27% were traced to Virginia gun dealers, whereas after the law, 19% were traced to Virginia gun dealers.⁶

Although a comprehensive handgun licensing and registration system has not been tried in this country, since 1977 Canadians have been required to obtain a firearms acquisition certificate, involving a detailed background check and waiting period, prior to acquiring a firearm. This legislation is similar to — but more stringent than — the Brady laws and their successors. Canadian firearms legislation was strengthened in 1995, when the Firearms Act (Bill C-68) was introduced into law. The Firearms Act, which is being phased in between 1998 and 2003, bans most handguns and automatic machine guns; requires firearms to be stored safely; requires gun owners to hold a license and pass a safety test; and requires all firearms to be registered.

While it is too early to assess the impact of Bill C-68, some research has been done to assess the impact of the 1977 legislation. A Canadian Department of Justice study found that the law resulted in a steady decline in firearm homicides, reducing homicides by about 55 each year, to an average of 208 a year over the past decade;⁷ a decreasing trend in firearm suicides (following an increasing trend in the years prior to the law); and a historic low in the involvement of firearms in robberies.⁷ In comparative terms, averaging the data for the years 1987-1996, firearm homicide rates in the United States were 8.1 times higher than in Canada, and handgun homicide rates in the United States were 15.3 times higher than in Canada.⁸

A handgun licensing and registration system cannot reduce the number of handguns already in circulation in the United States, and various other handgun control policies may be important.

LEGISLATIVE CONTEXT: The Gun Control Act of 1968, 18 U.S. Code Section 921 et seq., establishes categories of prohibited purchasers (including convicted felons, fugitives from justice, minors); requires the licensing of firearms dealers; bans mail-order sales of firearms and ammunition; and prohibits the sale of fully automatic machine guns.⁹

In 1986, the Firearms Owner's Protection Act, 18 U.S.C §926 (a)(3), amended the Gun Control Act, specifically restricting the federal government from creating a registration system.

Eleven states have some type of licensing law: Connecticut, Illinois, Iowa, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New York, North Carolina. One state has a registration policy: Louisiana. Hawaii has both licensing and registration.¹⁰

COSTS: The total cost of developing and setting up the Canadian licensing and registration program currently being put in place has been estimated to be approximately \$120 million CAD (about \$78 million USD). It is anticipated that registration and licensing fees (approximately \$20 CAD / \$13 USD to acquire a license and register a firearm) will help offset the costs of registration and licensing once the program is in place. Moreover, the Canadian Firearms Centre (the agency overseeing the implementation of Bill C-68) estimates that once the system is in place, the burden on law enforcement officers will be reduced as a result of the law, due to the streamlining of the licensure and registration process and the enhancement of the police's ability to trace weapons and criminals.¹¹

Studies of the cost of firearms violence in the U.S. estimates that the cost of providing medical care for firearm-related injuries is between \$2.3 and \$4 billion each year, of which approximately half is borne by U.S. taxpayers.¹² A 1993 report estimated that the lifetime total costs for firearm injuries incurred in 1990 was over \$20 billion, including direct health care expenditures, lost productivity from illness and disability, and lost productivity from premature death.¹³

REFERENCES:

1. Hoyert DL, Kochanek KD, Murphy SL. Deaths: Final Data for 1997. National Vital Statistics Reports 1999; Vol. 47, No. 19.
2. Cook PJ, Lawrence BA, Ludwig J, Miller TR. The medical costs of gunshot injuries in the United States. JAMA 1999; 282(5):447-454.
3. Kellermann AL et al., NEJM 1992; 327(7):467-72.
4. Manson DA, Gilliard DK, Lauer G. Presale Handgun Checks, the Brady Interim Period, 1994-98. Bureau of Justice Statistics, U.S. Department of Justice Washington D.C. June 1999.
5. Schumer, Senator Charles E. A Few Bad Apples: Small Number of Gun Dealers the Source of Thousands of Crimes. http://www.senate.gov/~schumer/html/a_few_bad_apples.htm
6. Weil DS, Knox RC. Effects of limiting handgun purchases on interstate transfer of firearms. JAMA 1996; 275:1759-1761.
7. Government of Canada. A Statistical Analysis of the Impacts of the 1977 Firearms Control Legislation. Programme Evaluation Section, Canadian Firearms Centre. July 1996.
8. Canadian Firearms Centre Factsheet: Firearm Crimes, Canada vs. US. http://www.cfc-ccaf.gc.ca/Research/canus_en.html.
9. Bureau of Alcohol, Tobacco and Firearms Firearms Laws - Overview <http://www.atf.treas.gov/core/firearms/information/laws/laws.htm> Updated August 1998.
10. Center to Prevent Handgun Violence. Licensing and Registration Facts. <http://www.handguncontrol.org/gunlaw/b1/b1licreg.htm>
11. Canadian Firearms Centre/ Centre canadien des armes a feu: Myths About the Firearms Program. www.cfc-ccaf.gc.ca/General_public/myth
12. Kizer KW et al. Hospitalization charges, costs, and income for firearm-related injuries at a university trauma center. JAMA 1995; 273:1768-1773.
13. Max W, Rice DP. Shooting in the dark: estimating the cost of firearm injuries. Health Affairs 1993; 12: 171-185

APPENDIX G: INCREASE RESOURCES FOR COMMUNITY WATER FLUORIDATION AND OTHER TOOTH DECAY PREVENTION MEASURES

POLICY: Enact legislation to decrease the incidence of dental caries and associated disease by

- 1.) increasing the number of optimally fluoridated community water systems and
- 2.) creating programs to increase the use of dental sealants and fluoride products through public and professional education and subsidized treatment.

INTENDED OUTCOME: The purpose of this policy is to decrease the incidence of dental decay, especially among children.

BURDEN ADDRESSED: Eighty-four percent of children, 96% of adults, and 99.5% of older adults (age 65+) have experienced tooth decay.¹ Oral diseases and conditions afflict more persons than any other single disease in the United States, and can result in difficulty in speaking, chewing and/or swallowing; costly treatments; loss of self-esteem; and decreased economic productivity through lost work and school days.²

Although research shows that children born today can completely avoid cavities, dental decay is the single most common chronic disease among children in the United States.³ Dental disease and treatment leads to over 50 million missed school hours each year.⁴ Among children, dental caries occurs five to eight times as frequently as asthma, and unless it is arrested early, the damage from dental decay progresses until it is irreversible.²

In addition, significant disparities exist in the treatment of tooth decay. Among children 5 to 17 years old, 80% of cavities occur in a subgroup of fewer than 25% of children.^{4,2} Nearly half of all tooth decay in low-income children remains untreated.³

BACKGROUND: Several means exist to improve oral health and prevent or reduce the incidence of tooth decay including community water fluoridation and school-based programs offering dental sealants and fluoride applications.

Water fluoridation is the most cost-effective means available of preventing cavities.² The benefits of fluoridation include reduced frequency and severity of tooth decay, decreased need for tooth extractions and fillings, and reduced pain and suffering associated with tooth decay.¹ Fluoridation works through direct contact with teeth and benefits people of all ages, but is particularly important during the years teeth enter the mouth. The current level of community water systems providing optimal levels of fluoride is 62%, covering more than 144 million people in the United States.¹ More than 100 million Americans, including 38% of those on public water systems, do not have access to water with enough fluoride to prevent tooth decay.³

Other forms of fluoride delivery include toothpastes, mouthwashes and fluoride applications applied by dental professionals. Children can also be prescribed dietary fluoride supplements if their home water supplies contain a low concentration of fluoride. However, these forms of fluoride delivery are far more expensive than water fluoridation and may be less effective since they require a conscious, continuing decision to use them.¹

Dental sealants are plastic coatings that are applied to the chewing surfaces of molars, where most tooth decay in young people occurs. They are highly effective in the prevention of tooth decay, especially when applied to permanent teeth soon after they erupt. Sealant application is a relatively painless procedure, and sealants last for 5 to 10 years before needing to be re-applied. Dental sealants work best in combination with fluoride: fluoride protects the smooth surfaces of teeth, and sealants protect the pits and fissures on the chewing surfaces of the back teeth.¹

Despite the effectiveness of dental sealants, less than 30% of American children have them.³ This is due to a variety of reasons, including low rates of recommendation by dentists and insufficient knowledge about the safety and efficacy of dental sealants by parents and some dental care providers. Data from the most recent National Health and Nutrition Examination Survey (NHANES-III) indicate that lower-income children are significantly less likely to have seen a dentist within the past year or to have dental sealants.² And while the overall percentage of school-aged children with dental sealants has risen in recent years, (from 11% of 8-year olds in 1986-87 to 23% in 1988-94)² there has been no increase among children at low income levels.²

EVIDENCE/EFFECTIVENESS: Overwhelming evidence documents the effectiveness of water fluoridation in preventing tooth decay.⁵ Grand Rapids, Michigan was the first city in the world to fluoridate its water supply. In a landmark study of the program's effectiveness, children who consumed fluoridated water from birth were found to have 50% to 63% less tooth decay than children examined in the baseline survey.⁶ Review studies of water fluoridation in other communities have found reductions in tooth decay ranging from 35% to 63%.⁷

Dental sealants that are placed using appropriate techniques and that are retained are virtually 100% effective at preventing tooth decay in the areas to which they are applied. A proven strategy for reaching low-income children who are at higher risk for dental disease is through school-based programs supporting linkages with health care professionals and other dental partners in the community.

LEGISLATIVE CONTEXT: Communities are largely responsible for water fluoridation programs in their local drinking water supplies. This is done with state and federal assistance. The only federal regulations on fluoride are the National Primary Drinking Water Regulations, administered by the EPA, that set maximum levels of fluoride allowed in drinking water.⁸

California has required drinking water fluoridation for communities of over 100,000 people since 1996.⁵ The law provides no funds for construction of new systems or their operation. This has substantially diminished the impact of the law. Delaware has very recently begun requiring fluoridation of all community water supplies; however, it is too early to assess any health benefits.

Currently one of every four children in the United States is covered by the Medicaid program that mandates comprehensive dental care; however, one study found that fewer than 20% of eligible children receive any preventive dental service.⁷

COSTS: An estimated \$50.6 billion was spent for dental services in the United States in 1997,² of which public dental expenditures were only \$2.3 billion, mostly to dentists who treat Medicaid patients. Expenditures for dental services represent less than 1% of the total Medicaid budget.²

On average, water fluoridation costs 51 cents per person per year.³ The Centers for Disease Control and Prevention has estimated that every \$1 expenditure for water fluoridation could result in a savings of up to \$80 in dental treatment costs.⁹

A study of Medicaid-eligible preschool children in Louisiana found that for those in communities without fluoridated water, the cost of dental treatment per child was twice as high as for those in communities with fluoridated water.¹⁰ The study concludes that providing fluoridated water to the 39,000 Medicaid-eligible preschoolers in Louisiana would save \$1.4 million each year in the dental treatment costs of these children.¹⁰

The California Legislature estimated that it would cost \$45 million in capital costs to begin fluoridation in communities affected by the 1996 law requiring water fluoridation in all communities of more than 100,000 residents and \$15 million in annual operating costs.¹¹ The CDC's total oral health budget, which includes promotion of water fluoridation, is \$6 million for fiscal year 1999.³

REFERENCES:

1. Centers for Disease Control and Prevention. Surgeon General's Statement on Community Water Fluoridation. Atlanta, GA: 1995. www.cdc.gov/nccddphp/oh/flintro.htm
2. U.S. Department of Health and Human Services. Secretary's Council on National Disease Prevention and Health Promotion: Objectives for 2010. Volume II. Washington, DC: April 23, 1999.
3. Centers for Disease Control and Prevention. Improving Oral Health: Preventing Unnecessary Disease among All Americans. Atlanta, GA: 1999. www.cdc.gov/nccddphp/oh/ataglanc.htm
4. Edelstein BL. Public Financing of Dental Coverage for Children: Medicaid, Medicaid Managed Care, and State Programs. Reforming States Group/Milbank Fund, 1998.
5. Ripa LW. A half-century of community water fluoridation in the United States: review and commentary. *J Public Health Dent* 1993;53(1):17-4.
6. Arnold FA Jr, Likins RC, Russell AL, Scott DB. Fifteenth year of the Grand Rapids fluoridation study. *J Am Dent Assoc* 1962;65:780-5 4.
7. American Dental Association. ADA Report Underscores Importance of Dental Sealant Use. News Release January/February 1997. <http://www.ada.org/newsrel/9701/nr-02.html>
8. Environmental Protection Agency, Office of Ground Water and Drinking Water. National Primary and Secondary Drinking Water Regulations. Washington, DC: 1999. www.epa.gov/OGWDW/wot/appa.html
9. Centers for Disease Control and Prevention. Public Health Focus: Fluoridation of Community Water Systems. *MMWR* 1992;41(21):372-375,381.
10. Center for Disease Control and Prevention. Water fluoridation and costs of medicaid treatment for dental decay – Louisiana, 1995-1996. *MMWR* 1999.48(34):753-757.
11. California Legislature, Senate Rules Committee, Office of Senate Floor Analyses. AB 733 Assembly Bill – Bill Analysis. Sacramento, CA: 1996.

APPENDIX H: INCREASE THE AVAILABILITY OF REGULAR PHYSICAL ACTIVITY IN SCHOOLS

POLICY: Create financial incentives for the states to offer increased physical activity in secondary schools.

INTENDED OUTCOME: The purpose of this policy is to increase participation in physical activity in the population as a whole and especially among children.

BURDEN ADDRESSED: Physical inactivity is associated with an increased risk of heart disease, high blood pressure, colon cancer, and diabetes.¹ At least 300,000 premature deaths each year in the United States are attributable to the combination of an unhealthy diet and a sedentary lifestyle.² The most recent National Health and Nutrition Examination Survey found that of young people aged 6-17 years, about 5.3 million — or 12.5% — are seriously overweight.³ This is double the prevalence of thirty years ago.⁴

Recent research has shown that the cardiovascular disease process can begin in youth, when behaviors such as physical inactivity are adopted and risk factors as high blood lipids and obesity begin to appear.⁵

BACKGROUND: Participation in physical activity and physical education classes declines steadily during adolescence.⁴ Between 1991 and 1997, the percentage of high school students attending a daily physical education class decreased from 41% to 27%.⁶ Only 20% of students in grades 9-12 reported engaging in moderate physical activity — such as walking or bicycling — for at least 30 minutes on 5 of the previous 7 days.⁷ By the twelfth grade, a mere 14% of girls participate in daily physical education class.⁷

EVIDENCE/EFFECTIVENESS: Physical activity among youth offers immediate health benefits — such as improving strength and endurance, helping to build healthy bones and muscles, helping to control weight, and reducing anxiety and stress — and may increase the likelihood that a physically active lifestyle will continue into adulthood. Currently, more than 60% of adults are not participating in the recommended 30 minutes a day of moderate physical activity most days of the week.³

Schools provide an excellent medium for providing opportunities for physical education because they reach most children and adolescents, and they can ensure that students receive a minimum amount of physical activity on a regular basis.

Although there have been few evaluations of school-based programs to increase participation in physical activity and their effect on physical activity patterns in adulthood, one small follow-up study found that childhood physical activity levels were predictors of this behavior in adulthood.⁸

Physical education can also have academic and behavioral benefits. One review study found that physical activity was associated with measurable advantages in cognitive function, specifically in math skills, acuity, and reaction time.^{9,10} In addition, researchers have shown that even when physical education classes takes up time formerly used for academic instruction, achievement in academic subjects does not decrease.⁹

Two evaluations of schools that enacted enhanced physical education classes reported academic benefits among children who participated, despite a 14–26% reduction in instruction time on academic subjects.⁹ An analysis of the 1990 Youth Risk Behavior Survey found low levels of physical activity to be associated with other negative health behaviors such as cigarette smoking, marijuana use, and lower fruit and vegetable consumption.¹¹

To reduce premature deaths and chronic diseases associated with sedentary lifestyles — including, but not limited to, obesity — this policy must have a measurable effect on the physical activity patterns of children into adulthood. Although the impact this policy would have is unknown, some promising early data suggests that the policy may be effective.⁸

LEGISLATIVE CONTEXT: The minimum amount of physical education required for students is usually set by state law, and varies in what is required.⁴ Ninety-four percent of states and 95% of school districts require some physical education in their curricula, but only one state, Illinois, requires daily physical education from kindergarten through the 12th grade.

COSTS: By way of example, the Physical Education for Progress Act, introduced during the 106th Congress, requests a total of \$400 million over a five year period. This bill would provide grants and contracts to local agencies to initiate, expand, and improve physical education programs for all students from kindergarten to the 12th grade.

REFERENCES:

1. Centers for Disease Control and Prevention. Physical Activity and Health: A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, 1996.
2. McGinnis JM, Foege WH. Actual causes of death in the United States. JAMA 1993;270:2207–2212.
3. Centers for Disease Control and Prevention, National Center for Health Statistics, Health, United States, 1999.
4. Centers for Disease Control and Prevention. Guidelines for School Health Programs to Promote Lifelong Healthy Eating. MMWR 1997;45(RR-9), 1–33.
5. Masterson C. Can cardiovascular disease and wellness education, along with a physical education program, lessen children's cardiovascular disease risk factor? JOEPD 70(3):17–18, March 1999.
6. Centers for Disease Control and Prevention. Fact Sheet: Youth Risk Behavior Trends from CDC's 1991, 1993, 1995, and 1997 YRBS Surveys. Atlanta, GA: USDHHS, 1999.
7. Centers for Disease Control and Prevention. Youth Risk Behavior Survey 1997. MMWR 1999;47:SS-3. August 14, 1998.
8. Stone EJ, McKenzie TL, Welk GJ, Booth ML. Effects of physical activity interventions in youth: review and synthesis. Am J Prev Med 1998;15(4):298–315.
9. Sallis JF, McKenzie TL, Kolody B, Lewis M, Marshall S, Rosengard P. Effects of health-related physical education on academic achievement: Project SPARK. Res Q Exerc Sport 1999;70(2):127–34.
10. Thomas, J.R., Landers, D.M., Salazar, W., & Etner, J. (1994). Exercise and cognitive function. In C. Bouchard, R.J. Shephard, & T. Stephens (eds.), Physical activity, fitness, and health: International Proceedings and Consensus Statement. (pp. 521–529) Champaign, IL: Human Kinetics.
11. Pate RR, Heath GW, Dowda M, Trost SG. Associations between physical activity and other health behaviors in a representative sample of US adolescents. American Journal of Public Health 86(11):1577–81. November, 1996.

APPENDIX I: INCREASE COVERAGE OF CLINICAL PREVENTIVE SERVICES

POLICY: Require that federal entitlement programs, including Medicare, and the Federal Employee Health Benefit Program (FEHBP) provide insurance coverage for the clinical preventive services recommended by the U.S. Preventive Services Task Force, with ceilings on co-pays and deductibles.

INTENDED OUTCOME: The purpose of this policy is to expand coverage of clinical preventive services — such as immunizations, screenings, and counseling for risk behaviors — in federal government-sponsored programs. Indirectly, this policy may also benefit other insured Americans. Health plans are likely to develop standard benefit packages, based on coverage requirements for federal programs, which would be offered to private sector and state and local government employer-purchasers.

BURDEN ADDRESSED: Many Americans, even those with health insurance, do not receive recommended clinical preventive services. To cite several examples, more than a third of smokers have not been advised to quit, or aided in their efforts to quit, by a health care provider; most

Americans over age 50 have not been screened for colorectal cancer; and nearly 29% of women over age 50 report not being screened for breast cancer in the past two years.¹ These underutilized services are proven to be effective at preventing thousands of deaths each year and have the potential to prevent many more with improvements in delivery.

BACKGROUND: Clinical preventive services are medical procedures, tests, or counseling that health professionals deliver in a clinical setting to prevent disease and promote health, as opposed to interventions that respond to patient symptoms or complaints. Preventive services generally include immunizations and behavioral counseling to prevent the onset of illness or injury, as well as screening tests, such as mammograms, to detect disease before it is clinically recognizable.

The U.S. Preventive Services Task Force, a non-federal expert panel, has established a recommended set of clinical preventive services for all ages. The recommendations, based on systematic reviews of the scientific literature, are described in the *Guide to Clinical Preventive Services, 2nd Edition*.²

There is a wide range of coverage of clinical preventive services in federal government-sponsored health plans and programs. While Medicaid covers most recommended preventive services, Medicare does not. Medicare does not cover a comprehensive assessment of behavioral health risks and targeted counseling on tobacco cessation, avoidance of risky drinking and injuries (such as falls), and the importance of exercise and a healthy diet. Medicare also does not cover hearing and vision screening. The Federal Employees Health Benefit Program, which covers federal employees, is composed of many different health plans, and varies in the services it covers, co-pays and deductibles.

Health insurance offered by private employers and state and local governments do not provide complete coverage for recommended clinical preventive services. A *Partnership for Prevention/William M. Mercer* survey of employer-sponsored health plans indicates that, in 1997, approximately one out of five does not cover childhood immunizations, and one out of four does not cover adolescent immunizations.³ Chlamydia screening for sexually active young women, a service demonstrated to save money, is covered by only a third of employer-sponsored plans. And counseling to address health risks — including smoking cessation counseling — is least likely to be covered by an employer-sponsored health plan. Only 5% of employer-sponsored health plans cover both tobacco cessation counseling and drugs.³

EVIDENCE/EFFECTIVENESS: Lack of insurance coverage is an important barrier to the receipt of clinical preventive services.⁴ Similarly, incomplete coverage has been shown to act as a significant disincentive to use of preventive services. In an important study by the Rand Corporation,⁵ eliminating patient cost-sharing in a generally healthy population notably increased rates of receipt of these services. This finding has been confirmed in other studies.⁶

Coverage of a clinical preventive service does not in itself guarantee delivery of the service. However, it directly affects both the patient's financial access to care, and the provider's incentive to deliver the service.⁷

Federal government-sponsored health plans cover approximately 60 million beneficiaries in a variety of programs. These programs, due to their size, are in a unique position to drive the health care system to emphasize prevention in coverage packages. Coverage in federally sponsored programs is likely to carry over to some private sector and other public sector sponsored plans.⁸

To maximize the policy's effectiveness and cost effectiveness, it is important that coverage of recommended services be flexible. Congress should authorize the Secretary of Health and Human Services to specify coverage policy for FEHBP and federal entitlement programs based on the recommendations of the USPSTF, but with consideration given to the cost effectiveness of the services (any services that are high cost and produce small health benefits should be excluded). Also, the Secretary should have the authority to design the coverage package in order to minimize costs, taking into account the recommended periodicity for preventive services and other delivery system issues (e.g., all counseling services could be combined as reimbursement for a comprehensive health risk appraisal and targeted counseling). The Secretary should also have the authority to specify appropriate providers for delivery of preventive services (e.g., nurses or nutritionists) and to modify coverage as USPSTF recommendations change and cost effectiveness information becomes available, to ensure that coverage policy reflects current scientific evidence.

LEGISLATIVE CONTEXT: All facilities of the U.S. Department of Veterans' Affairs are required to offer preventive services based on the Task Force's recommendations. Medicare currently covers 80% of the after-deductible costs for mammogram screening, Pap smear and pelvic examinations, colorectal cancer screening, diabetes monitoring, bone mass measurements, and flu, pneumococcal and hepatitis B vaccinations. Medicaid programs vary from state to state, with individual states making coverage decisions, resulting in a mixture of services being covered. Reimbursement for services provided by the Indian Health Service comes in a large part from third parties, especially Medicaid.

COSTS: In 1994, the U.S. Public Health Service estimated that adding a core set of clinical preventive services recommended by the U.S. Preventive Services Task Force to private health insurance programs would cost on average \$84 per year for adult women and \$52 for adult men.⁹ Based on analyses conducted for this project, the costs of covering a comprehensive health risk assessment and counseling, hearing

screening, and vision screening in the Medicare program would range from \$499 million to \$833 million in one year. This represents 0.2% to 0.5% of the total Medicare budget in one year.

Assumptions used for this estimate are as follows: the periodicity for a comprehensive health risk assessment and counseling is annual; the periodicity for hearing and vision screening is every five years; in one year, the services would be delivered to 30% to 50% of the entire Medicare population; the cost of the comprehensive health risk assessment was assumed to be \$36.98 (based on the CPT code for a level one preventive visit); the cost of hearing screening was assumed to be \$30; and the costs of vision screening was assumed to be \$30.

REFERENCES:

1. Centers for Disease Control and Prevention. Trends in Self-Reported Use of Mammograms (1989–1997) and Papanicolaou Tests (1991–1997). Behavioral Risk Factor Surveillance System. MMWR 1999;48(SS-6)
2. US Preventive Services Task Force. Guide to Clinical Preventive Services, Second Edition. Baltimore: Williams & Wilkins, 1996.
3. Partnership for Prevention. Why Invest in Disease Prevention? Results from the Partnership for Prevention/William M. Mercer Survey of Employer-Sponsored Health Plans. Washington, DC: 1998.
4. Schauffler HH, Rodriguez R. Exercising purchasing power for preventive care. Health Affairs 1996; 15:73–85.
5. Lurie N, Manning WG, Peterson C et al. Preventive care: do we practice what we preach? AJPH 1987; 77:801–804.
6. Rice T, Morrison KR. Patient cost sharing for medical services: a review of the literature and implications for health care reform. Medical Care Review 1994; 51:235–287.
7. Faulkner LA, Schauffler HH. The effect of health insurance coverage on the appropriate use of recommended clinical preventive services. AJPM 1997; 13:453–458.
8. There is evidence that prevalent modes of health care delivery have “spillover effects,” influencing the care offered to patients who are outside the prevalent mode: for example, health care for individuals not covered by managed care organizations can be influenced by the presence of managed care. See: Baker LC. Association of managed care market share and health expenditures for fee-for-service Medicare patients. JAMA 1999; 281:432–437.
9. US Public Health Service. Preventive Services in the Clinical Setting: What Works and What it Costs. Washington, DC: DHHS, 1993.

APPENDIX J: POLICY CATALOG

INJURY AND VIOLENCE PREVENTION

Motor Vehicle Safety

- Require all states to upgrade seat belt laws to primary level of enforcement as a condition of receiving federal highway funds.
- Require all states to set the legal blood alcohol content (BAC) limit to 0.08% as a condition of receiving federal highway funds.
- Provide states with incentive grants to reduce alcohol-related crashes with regular sobriety checkpoint use and increased police enforcement.
- Require all states to reduce speed limits on highways as a condition of receiving federal highway funds.
- Require all states to implement motorcycle and bicycle helmet laws as a condition of receiving federal highway funds.
- Require all states to have a graduated licensing system for new drivers in place as a condition of receiving federal highway funds.
- Require states to issue specific age-size guidelines for appropriate booster-seat use in motor vehicles; and institute standardized seatbelt law covering youth up to age 16.
- Offer grants to local communities to perform analysis and risk reduction on motor vehicle crashes related to excessive speed, intersections, and roadside hazards.
- Establish a minimum national fine for non-use of seatbelts at a sufficiently high level to change behavior.
- Require re-examination of drivers' licenses at age 70.
- Create a nationwide policy of immediately revoking drivers' licenses upon failure of, or refusal to take, a chemical test for alcohol.
- Institute nationwide “Dram Shop” laws, in which bar/store owners are held responsible for injuries that result from over-serving customers.
- Impose fines on states or the alcohol industry for failing to meet a reduction in alcohol-related motor vehicle fatalities.
- Fund a uniform child restraint system, which would standardize all child safety seats so that all seats fit in all cars.
- Fund the establishment of permanent fitting stations in cars for child safety seats.

Domestic and Workplace Violence

- Provide tax incentives to employers for implementing programs to prevent workplace violence.
- Grant additional funding to domestic violence safe houses.
- Fund the development of a national (rather than state-by-state) database of restraining orders.
- Fund the development of specialized domestic violence units in the courts.

Firearms

- Institute a national law limiting handgun purchases to one gun per month.
- Institute a national Safe Storage/Child Access Prevention law requiring firearms to be stored so that they are inaccessible to children; hold gun owners criminally liable if a child causes harm with an improperly stored firearm.

- Direct the Federal Trade Commission to regulate advertising for guns.
- Grant the Consumer Products Safety Commission authority to regulate firearms through development and implementation of minimum safety standards.
- Create a national firearm injury reporting system.
- Create a tax deduction for those who purchase gun safes.
- Ban the manufacture of “Saturday Night Specials,” easily concealed, inexpensive handguns popular with criminals and not suited for sporting purposes.
- Eliminate concealed firearms permits.
- Fund gun buy-back programs.
- Increase the federal tax on ammunition, especially on the types of bullets most often used in crimes.
- Increase the federal tax on guns.
- Enforce aggressive investigation and license revocation of scofflaw gun dealers.

Fire & Burn Prevention

- Provide grants to states for distribution of smoke detectors to low-income residents.

Fall Prevention

- Provide funding to the Centers for Disease Control and Prevention for research on environmental interventions to prevent falls among the elderly.
- Fund a national osteoporosis and fall prevention campaign targeting two audiences: teenagers/young adults, on maintaining adequate calcium intake, and older adults, on retaining strength and flexibility and avoiding falls.

Other/General

- Create a handbook for state and local injury prevention programs which provides all known data on injuries: epidemiology, prevention, treatment.
- Fund expanded surveillance of violence and injuries.
- Increase funding to the Consumer Product Safety Commission to improve the effectiveness of product recall programs.

SUBSTANCE ABUSE PREVENTION

- Increase the federal tax on alcoholic beverages.
- Direct the Federal Communications Commission to restrict alcohol advertising during the hours when children are most likely to be watching television.
- Launch a public awareness campaign to highlight the risks of heavy alcohol consumption.
- Offer tax incentives for alcohol service/sales businesses to train employees to recognize when customers have had too much to drink and how to deal with it.
- Require beer-keg registration to track when underage drinkers are served.
- Eliminate the tax deduction for the advertising costs of alcohol.
- Require all states to eliminate alcohol advertising billboards as a condition of receiving federal highway funds.
- Ban alcohol advertisements on television.
- Ban alcohol advertising within a specified distance of educational institutions, including college campuses.
- Require stronger notices on alcohol products and advertisements, *e.g.* alcohol impairs judgment for driving.
- Fund a national awareness campaign to educate children and teenagers not to ride with a driver who is intoxicated, no matter who it is.
- Establish a federal minimum age of 21 for retailers of alcohol.
- Establish federal standards for fines to merchants who sell alcohol to minors.
- Allocate funding for incentive grants to communities to prosecute people who purchase alcohol for minors.
- Allocate more resources for public education to reduce the social acceptability of substance abuse.

SEXUALLY TRANSMITTED DISEASES (STDs)

- Create a tax incentive to encourage health insurance plans to provide coverage for screening and treatment of STDs.
- Eliminate the co-pay on STD-related visits for Medicaid patients.
- Fund a national awareness campaign, targeting both the general public and health care providers, about prevention of and screening for sexually transmitted diseases.
- Direct the Federal Employees Health Benefit Program to require participating health plans to cover counseling on STD risk reduction, screening for gonorrhea and chlamydia among high-risk groups, and testing and treatment of partners of beneficiaries who test positive for a STD.
- Implement a screening and treatment program at federal prisons and juvenile detention facilities.
- Require any clinic that receives federal funds to screen and treat STDs.
- Fund research to spur the development of vaccines, microbicides, female-controlled STD prevention tools, and non-invasive diagnostic tools.
- Require medical training programs that provide care to Medicaid patients to include a comprehensive segment on sexuality and STD prevention, including role-play practice interacting with patients.
- Create a companion program to Title X (federal family planning programs) which would provide low-income men STD prevention and treatment services.
- Expand funding for school health programs to include screening and treatment for STDs.
- Offer tax incentives to the television and film industries to depict safe-sex and delayed initiation behaviors.

- Fund a campaign to eliminate syphilis.
- Fund STD screening and treatment programs on college campuses.
- Fund public service announcements on television about using condoms.

PHYSICAL ACTIVITY PROMOTION

- Earmark a portion of federal funds for senior centers to provide strength and flexibility classes to older adults.
- Offer tax incentives to employers who enact physical activity and good nutrition policies and programs, such as flexible work schedules for exercise, healthy snacks, organized walking groups.
- Tie increases in highway funds to the creation of “greenways”: open-space areas linking parks, nature preserves, cultural/historic sites with each other and with populated areas.
- Provide funding for sidewalks, bicycle paths, swimming pools, parks, and other recreation resources for communities.
- Create incentives for the states to offer comprehensive physical education classes in K-12 schools.
- Expand funding to the National Center for Health Statistics to collect data on (such things as) the long-term effects of weight gain, effectiveness of mandatory physical education in schools, and community-level data on available facilities and patterns of use.
- Provide incentives, either through a federal tax benefit, or reductions in health insurance premiums, to those who engage in regular leisure-time physical activity.
- Provide incentive funds for communities to create safe recreational opportunities, such as expanding parks and recreational programs or community recreation centers; require as a condition of receiving funds that these sites maximize injury prevention potential (barriers separating bicycle paths from traffic, pedestrian bridges, etc.).
- Direct the U.S. Department of Transportation to include sidewalks and bike lanes in their major development projects.
- Centralize authority for physical activity promotion within the federal government to address fragmentation and inadequacy of current programs.
- Tax tickets to spectator sports events and use the income generated to fund physical activity programs in communities.
- Significantly revamp the nation’s transportation systems to become more pedestrian friendly.
- Request a report from the General Accounting Office assessing the scope of federal government support for physical activity.

TOBACCO

- Increase the federal tax on tobacco products.
- Affirm the authority of the Food and Drug Administration (FDA) to regulate tobacco products.
- Provide significant funding to implement and enforce youth tobacco laws.
- Fund initiatives by community health centers and state public health agencies to promote smoking cessation.
- Increase funding for research on smoking cessation among important subpopulations: children & adolescents, pregnant women.
- Impose penalties on the tobacco industry if they fail to meet target rates for decreasing youth smoking.
- Increase the legal age of tobacco purchase from 18 to 21.
- Fund a sustained public awareness campaign to prevent smoking initiation and encourage cessation, modeled on the state of California’s program.
- Ban smoking in enclosed public places and worksites throughout the nation.
- Mandate smoking cessation counseling, drugs, and devices as a covered benefit in the Federal Employee Benefit Program, Medicare, and Medicaid.

NUTRITION

- Require that all meals and snacks offered by schools participating in National School Lunch Program (not just meals and snacks provided directly under the program) meet nutrition guidelines for fat, saturated fat, cholesterol, sugar, and sodium content.
- Expand funding for the School Breakfast Program and the Summer Meal Program, including funding start-up costs and raising reimbursement rates for the Summer Meal Program.
- Provide federal funding to state health departments for mass-media campaigns on consumption of healthy food and physical activity patterns.
- Implement a national initiative on childhood obesity, including education and research on behaviors and metabolic determinants of weight gain.
- Provide tax incentives for employers to provide nutritional food in cafeterias and vending machines, and weight management/nutrition classes on site.
- Create a financial incentive for grocery stores to operate in financially depressed areas to expand access to a broader range of healthy foods.
- Require day-care facilities and after-school programs to follow federal nutrition guidelines.
- Require or provide incentives for health care coverage of nutritional counseling in federally funded health insurance programs (Medicaid, Medicare, and Federal Employees Health Benefit Program).
- Require medical and nursing schools to teach a segment on nutrition and nutritional counseling.
- Revamp the Food Stamp program: evaluate food covered to determine if they provide adequate nutritional value, limit a portion of stamps to nutritional foods and restore food stamps to legal immigrants.
- Tax fast food products high in fat and saturated fat.
- Tax snack food products that are high in calories and/or fat and low in nutrients.
- Subsidize healthy snacks in schools, community centers, and federal agencies.
- Provide additional WIC funding to expand nutrition and physical activity education and counseling.

- Fund community-based educational efforts targeting healthier eating (cooking/shopping demonstrations, pairing local chefs with dietitians to promote healthy eating, recruit local celebrities to encourage increased physical activity, etc.).
- Provide incentive grants to school districts to implement a nutrition component into the curriculum.
- Ban soda machines from elementary, middle, and high schools.
- Ban advertisements for “junk” foods on television during times when children are likely to be watching.
- Require fast food restaurants to report nutritional information on menus – e.g. hamburger: 26g fat.
- Establish new standards for clear labeling on foods, such as a symbol on the front of the product to designate its being high in fat or greater than x% fat.
- Mandate that federal procurement policies for prisons, military, and federal government cafeterias include requirements for healthy food purchases.
- Charge a task force with coordinating nutrition research being conducted at the National Institutes of Health.

MATERNAL AND CHILD HEALTH

- Expand Medicaid to include home visitation programs by nurses in homes at risk for abuse, neglect, unintentional injuries, etc.
- Strengthen the oversight of child care settings by establishing more rigorous guidelines for the quality of child care facilities and funding enforcement of these guidelines.
- Fund a national public awareness campaign on preconception health, addressing such issues as adequate folic acid intake, infections, optimal birth spacing, body weight, etc.
- Provide funding for the CDC to improve states’ birth defects surveillance systems.
- Add a parenting skills component that includes fathers to the WIC program.
- Require the state Children’s Health Insurance Programs to cover breastfeeding education during pregnancy.
- Fund an initiative to encourage breastfeeding, including educating the public and health care providers, and targeting employers to implement breastfeeding-friendly policies.
- Require child care centers to be capable of supporting breastfeeding: i.e. train staff in safe storage of breast milk.

FOOD SAFETY

- Create a single food safety agency with the authority to enforce recalls and levy fines, replacing the current multi-agency, voluntary system. Responsibility for food safety currently shared by the Departments of Commerce, Treasury, Agriculture, and the Food and Drug Administration would be streamlined under one agency.
- Ban the use of antibiotics used in humans in animal feed and veterinary medicine.
- Launch an awareness campaign regarding safe food handling, targeting both consumers and retail food establishments.
- Conduct a special initiative to evaluate the vulnerability of the nation’s food system to bioterrorism and develop a plan to protect the country in the event of an attack.
- Increase funding to the Food and Drug Administration to: enhance relationships with states, educate consumers, strengthen science, and engage industry in joint research.
- Enforce Hazard Analysis Critical Control Point System (HACCP) for industry to assess all potential hazards of production.

ENVIRONMENTAL HEALTH

- Create a nationwide asthma surveillance system to enhance understanding of contributing factors.
- Provide funding for grants to local education agencies for asthma prevention and control programs in elementary and secondary schools serving low-income communities.
- Provide funding for state health departments to work with low-income communities to reduce cockroach infestation and other pest problems through integrated pest management and building maintenance and rehabilitation, thereby reducing children’s exposure to asthma-related allergens.
- Provide funding for states to conduct educational activities in low-income communities on the prevention and control of asthma in children.
- Screen all high-risk children for lead poisoning in blood.
- Require lead testing of all homes built before 1978.
- Require the Environmental Protection Agency (EPA) to create and distribute a family right-to-know information kit that includes helpful guidance on the potential health effects of environmental pollutants and practical suggestions on how parents can reduce their children’s exposure.
- Provide federal funding for large-scale epidemiological studies on the environmental causes of disease, particularly among infants and children.
- Provide funding for basic and applied research initiatives to examine the health effects and toxicity of pesticides to children and the exposure of children to pesticides.
- Require that each school and child care center receiving federal funding takes steps to reduce pesticide use indoors and on school grounds, and provides parents with advance notification of any pesticide application.
- Require prior notification of any pesticide use in all federal buildings and facilities, and use of least toxic pest control strategies.
- Require medical school curricula to include training on environmental causes of disease and their prevention and treatment.
- Expand the role of the Centers for Disease Control and Prevention in drinking water safety.
- Require states, as a condition of receiving federal highway funds, to create and enforce programs of inspection and maintenance of vehicle emission control systems.

- Require the Environmental Protection Agency to issue regulations to replace conventional gasoline with reformulate gasoline (RFG) nationwide in order to reduce automobile emissions pollution.
- Increase funding for mass transit systems.
- Increase the federal gasoline excise tax to fund efforts to decrease air pollution.
- Fund the use of remote sensing to detect vehicle pollution patterns.
- Provide tax incentives to shift transport from trucks to trains, to decrease air pollution.

HIV/AIDS

- Allow use of federal money to fund needle-exchange programs.
- Fund an awareness and screening campaign targeting high-risk groups.
- Fund an initiative on pregnancy and HIV so that all pregnant women are offered HIV testing and HIV-positive women have their pregnancy care coordinated with a HIV/AIDS specialist to minimize the risk of vertical transmission.
- Allocate funds to the Institute of Medicine to study the cycle of incarceration and HIV transmission in the community and determine policy responses to reduce infection rates.
- Fund a public awareness campaign to promote the use of the female condom.

OCCUPATIONAL HEALTH

- Direct the Occupational Safety and Health Administration (OSHA) to implement ergonomics standards.
- Allow OSHA to regulate environmental tobacco smoke as a workplace hazard.
- Increase surveillance of occupational injuries by requiring states to code the work-relatedness of injuries in cancer registries, trauma registries, risk factor surveys, and medical encounter data.
- Increase funding for inspection and enforcement programs of OSHA.
- Expand OSHA standards to include government workers.

MEDICAL PRODUCT SAFETY

- Grant the Food and Drug Administration (FDA) oversight of the herbal remedies and supplement industry.
- Invest in building the technology at the FDA to give physicians and health professionals on-line access to safety data on drugs.
- Require medical students to be taught clinical pharmacology, with an emphasis on the potential for adverse drug reactions, as a prerequisite for accreditation/graduation.
- Fund the National Institutes of Health (NIH) to perform clinical research on drugs and products that have the potential to react adversely with other drugs being prescribed.

ORAL HEALTH

- Create strong financial incentives for communities to develop water fluoridation systems.
- Create a program to increase the use of sealants on children's teeth, through outreach and subsidized treatment of children in need.
- Mandate that basic health coverage includes access to oral health care.
- Increase funding for pediatric dentistry and general practice dentistry residency slots to alleviate the shortage of dentists serving the pediatric population.
- Make funds available to establish oral health programs in school health centers.
- Label baby bottles to warn about the risk of dental cavities that could result from their use.
- Require bottled water to be labeled with fluoride content.
- Add a dental care benefit to Medicare.
- Direct the CDC to integrate oral injury-prevention with all other injury prevention efforts.
- Require states to cover dental care in the Children's Health Insurance Program.
- Increase funds for loan-repayment programs for dentists who work in underserved areas or with underserved populations.
- Increase the federal share of Medicaid funding for oral health.
- Provide funds for outreach programs to Medicaid-eligible children to seek preventive dental care.

IMMUNIZATIONS AND INFECTIOUS DISEASES

- Create a nationwide system of compatible state-based immunization registries tracking individuals' immunization status over a lifetime.
- Require pneumococcal and influenza vaccine before admittance to nursing homes and long-term care facilities that receive federal funding.
- Require all health plans to cover immunizations.
- Offer grants to communities that institute school health programs (and/or middle school entrance requirements) to increase the delivery of Hepatitis B vaccine.
- Offer tax incentives to restaurants, food processing centers, and retail food establishments to vaccinate staff against Hepatitis B.
- Create a universal vaccine purchase program for childhood vaccines.
- Offer incentive funding for states to develop an infrastructure for the delivery of adult vaccinations.

- Increase funding for Hepatitis B vaccinations in STD clinics.
- Offer tax incentives to employers that offer first-dollar coverage of child and adult vaccinations.
- Mandate the creation of a vaccine stockpile as a defense against bioterrorism.
- Provide funding for a mass-media campaign on the safety and efficacy of immunizations.

CLINICAL PREVENTIVE SERVICES/OTHER

- Require health plans participating in the Federal Employees Health Benefit Program to cover the clinical preventive services endorsed by the US Preventive Services Task Force.
- Provide tax incentives to employers and/or health plans to expand access to appropriate preventive health care.
- Require federal entitlement programs to cover the clinical preventive services endorsed by the U.S. Preventive Services Task Force.
- Increase funding for the CDC's comprehensive school health education activities to ensure participation by all fifty states.

APPENDIX K: ESTIMATES OF LIVES SAVED IN ONE YEAR BY THE POLICIES

Using current death rates, current estimates of the prevalence of risk factors (such as smoking), and other data, the sum of deaths averted is a very conservative estimate of the mortality that could be prevented by these policies in one year in the future. Fuller descriptions of the data are provided in the policy profiles found in appendices A-I.

Policy: Increase the federal tax on tobacco products.

Estimate of Lives Saved: The Statistical Abstract reports that there are approximately 14.6 million high school students in the United States.¹ Of these, 28.4% or 4,146,400 are current smokers.² A study³ of the effect of price on tobacco consumption by youth estimates that a 10% increase in the price of cigarettes would result in a decrease of 7% in the number of youth smokers (7% of 4,146,400 is 290,248). Since as many as 75% of youth smokers go on to be adult smokers,⁴ the policy could prevent 217,686 [(290,248)(.75)] young people from becoming adult smokers. Approximately 50% of continuing smokers die prematurely as a result of tobacco use,⁵ so 108,843 [(217,686)(.5)] premature deaths would be averted by a 10% increase in the price of cigarettes. This is a conservative estimate: it addresses only youth smoking (adult smoking would also be affected by the tax but to a lesser degree); and the excise tax on tobacco could certainly be raised by more than 10% and thereby result in a greater decrease in youth smokers. We round down to 100,000 premature deaths averted.

Policy: Affirm authority of the FDA to regulate tobacco products and tobacco advertising.

Estimate of Lives Saved: FDA regulation of tobacco products and tobacco advertising has numerous components. We estimate lives saved based on only one component: regulation of tobacco advertising and marketing to youth. A study of the effect of tobacco promotional campaigns to youth⁶ found that advertising campaigns influenced 17% of persons ages 12-17 years to experiment with cigarettes, or about 3.9 million young people [(.17)(22,859,000)]; we reduce this estimate by 75%, since some restrictions on marketing to children were imposed in the 1998 Multistate Settlement Agreement, to yield 971,508. Approximately 30% of experimenters become established smokers 7 [(.30)(971,508)=291,452]. Given that an estimated 50% of premature deaths among continuing smokers are due to smoking,⁵ 145,726 young people ages 12-17 will begin smoking and eventually die prematurely as a result of tobacco advertising. We round to 140,000 deaths averted.

Policy: Ban smoking in enclosed public places and worksites.

Estimate of Lives Saved: A significant amount of exposure to secondhand smoke occurs in the workplace. OSHA estimates that there are between 144 and 722 lung cancer deaths per year and between 2,094 and 13,000 deaths from heart disease per year among nonsmoking workers exposed to ETS in the workplace.¹⁰ These estimates yield a total of between 2,238 and 13,722 preventable deaths each year among American workers. We chose the lower estimate of 2,238 and round to 2,200.

Policy: Establish strict uniform drunk driving laws throughout the country.

Estimate of Lives Saved: In 1990 the state of California enacted both .08 BAC and ALR laws. Evaluations of the combined effect of these two laws found a 12% reduction in alcohol-related fatal crashes.⁹ A study of a large-scale sobriety checkpoint program in Tennessee found a 20.4% reduction in alcohol-related crashes as a result of the program.¹⁰ In 1998, there were 15,935 alcohol-related traffic fatalities in the U.S.¹¹ Using a range of 12% to 20% reduction in alcohol-related fatal crashes, between 1,912 and 3,187 deaths could be prevented each year as a result of these laws. We choose the lower estimate of 1,912 and round to 1,900 premature deaths averted. Because the recommended policy proposes combining .08 BAC laws, ALR laws, and funding for checkpoint programs, this is a very conservative estimate.

Policy: Enact a substantial increase in the federal excise tax on alcoholic beverages.

Estimate of Lives Saved: A study examining the effect of alcohol tax increases found that with each 10% increase in the tax rate, motor vehicle deaths decreased by 7% and cirrhosis deaths decreased by 9%.¹² A 10% tax increase could result in 1,115 fewer traffic deaths [(.07)(15,935)¹¹] and 2,244 fewer deaths from cirrhosis annually [(.09)(24,936)¹³]. Total premature deaths averted annually are 3,359. We round to 3,300. A more

substantial increase in the tax rate than 10% is recommended and many other fatal diseases are associated with alcohol abuse and misuse, making this a very conservative estimate.

Policy: Enact handgun registration and licensing laws nationwide.

Estimate of Lives Saved: Of the 32,436 firearm deaths in the United States in 1997, about 80% or 25,949 involved a handgun. A Canadian law enacted in 1977 requires prospective gun purchasers to undergo an extensive background check and waiting period, and this law is estimated to have reduced firearm deaths by about 15%.¹⁴ If the licensing and registration policy reduced the number of handgun deaths in the U.S. by as little as 3% to 5%, 778 to 1,297 deaths would be averted annually. We chose the lower estimate and round to 775.

Policy: Create incentives for the states to offer daily physical education in secondary schools.

Estimate of Lives Saved: Physical inactivity and poor dietary habits cause at least 300,000 deaths¹⁵ in the U.S. each year. We assume that half of these deaths are attributable to physical inactivity and half are attributable to poor diet. An estimate of the deaths prevented by this policy is unavailable. We chose a conservative estimate of 0.25%. That is, one in 400 sedentary adolescents would, as a result of a greater emphasis on physical activity in secondary schools, engage in regular physical activity into adulthood, thereby avoiding premature death attributable to physical inactivity. Therefore, 3,750 premature deaths annually may be averted by this policy [(150,000)(.25%)].

Policy: Require that those health plans participating in FEHBP and federal entitlement programs provide insurance coverage for the clinical preventive services recommended by the U.S. Preventive Services Task Force.

Estimate of Lives Saved: In order to derive an estimate of deaths averted due to increased coverage of clinical preventive services, we calculated estimates for five clinical preventive services that are highly effective but not fully covered by employer-sponsored health plans or Medicare: colorectal cancer screening, breast cancer screening, tobacco cessation counseling, cholesterol screening, and cervical cancer screening. Using these five services alone results in a conservative estimate of total deaths averted due to increased coverage of all recommended clinical preventive services. To derive these estimates, we took the following steps for each of the five services:

- 1) Multiply the number of deaths due to the disease(s) targeted by the service (in the most recent year data are available) by the service's effectiveness in preventing death. Because burden of disease in the most recent year is used, the resulting estimate of deaths averted reflects the fact that some portion of the population eligible for the service is already receiving it. In other words, the number of deaths averted is lower than it would be if no one were receiving the service, and therefore reflects the fact that some individuals already receive the service (and probably have coverage for it).
- 2) Multiply by the percent of people who do not have coverage for the clinical preventive service. All estimates of coverage are from the 1997 *Partnership for Prevention/William M. Mercer Survey of Employer-Sponsored Health Plans*.¹⁶
- 3) Multiply by the percent of deaths that would be averted as a result of insurance coverage. We assume that 25% of persons who do not currently have coverage for the service would not take advantage of the service even if it were covered (75% would take advantage of it).
- 4) Add the total number of deaths averted and make adjustments.

Colorectal cancer screening: 13,129 deaths among persons under age 65 in 1997.¹³ Deaths among persons over age 65 are not considered because Medicare covers this service. Screening is 33% effective at reducing deaths.¹⁷ An estimated 28% of persons who receive coverage from their employers do not have coverage for this service. $(13,129)(.33)(.28)(.75) = 910$ deaths averted.

Breast cancer screening: 17,479 deaths among persons under age 65 in 1997.¹³ Deaths among persons over age 65 are not considered because Medicare covers this service. Screening is 26% effective at reducing deaths.¹⁸ An estimated 10% of persons who receive coverage from their employers do not have coverage for this service. $(17,479)(.26)(.10)(.75) = 340$ deaths averted.

Tobacco cessation counseling: Approximately 430,000 premature deaths are attributable to tobacco use each year. Providing advice to quit and nicotine replacement therapy is 6% effective in getting smokers to quit. Smokers who quit reduce their risk of death by approximately 50%.¹⁹ An estimated 95% of persons who receive coverage from their employers do not have coverage for tobacco cessation counseling and drugs. $(430,000)(.06)(.50)(.95)(.75) = 9,191$ deaths averted.

Cholesterol screening: An estimate of lives saved in one year as a result of cholesterol screening among men 35 to 69 years and women 45 to 69 years is available (23,177).¹⁹ An estimated 40% of persons who receive coverage from their employers do not have coverage for cholesterol screening. $(23,177)(.40)(.75) = 6,953$ deaths averted.

Pap smears: 4,499 deaths among persons under age 65 in 1997. Deaths among persons over age 65 are not considered because Medicare covers this service. Cervical cancer screening is 90% effective at reducing deaths due to cervical cancer.²⁰ An estimated 11% of persons who receive coverage from their employers do not have coverage for this service. $(4,499)(.90)(.11)(.75) = 334$ deaths averted.

Total deaths averted from clinical preventive services. Total deaths averted from these services is 17,728. Given that the policy will not result in coverage for all persons (i.e., the uninsured), we further reduce this estimate by 25% (13,296 premature deaths averted annually; we round to 13,000). This represents a very conservative estimate given that only five clinical preventive services, of the dozens recommended from childhood through adulthood, were used to derive the estimate.

Total deaths averted (all policies): To reduce any possible double-counting across the youth tobacco policies (excise tax and FDA regulation) and to be very conservative, we remove 100% of the lower estimate of the two (100,000) from the total number of deaths averted for all policies. To reduce any double-counting across the two alcohol policies (excise tax and uniform drunk driving laws), we remove 100% of the lower estimate of the two (1,900) from the total number of deaths averted for all policies. We also reduce the sum of the deaths averted for the indoor smoking, handgun, physical activity, and clinical preventive services policies by 20% to account for any additional double-counting (sum of deaths averted for these 4 policies = 24,925 x 80% = 19,940). Therefore, the total number of deaths averted for all policies is 159,940. We round to 160,000.

REFERENCES:

1. U.S. Census Bureau. United States Statistical Abstract 1999. Washington, D.C., 1999.
2. CDC/OSH. Tobacco Use Among Middle and High School Students-National Youth Tobacco Survey 1999
3. Chaloupka FJ, Grossman M. Price, Tobacco Control Policies, and Youth Smoking. National Bureau of Economic Research Working Paper Series, #5740. Cambridge, Mass., 1996.
4. CDC. Guidelines for school health programs to prevent tobacco use and addiction. MMWR 1994;43(RR-2):1-18.
5. Peto R, Lopez AD, Boreham J, et al. Mortality from Smoking in Developed Countries, 1950-2000: Indirect Estimates From National Vital Statistics. New York: Oxford University Press, 1994. Quoted in: CDC. Projected Smoking-Related Deaths Among Youth-United States. MMWR 1996;45(44):971-974.
6. Pierce JP, Choi WS, Gilpin EA, Farkas AJ, Berry CC. Tobacco industry promotion of cigarettes and adolescent smoking. JAMA 1998;279(7):511-515.
7. Choi WS, Pierce JP, Gilpin EA, Farkas AJ, Berry CC. Which adolescent experimenters progress to established smoking in the United States? Am J Prev Med. 1997; 13:385-391.
8. U.S. Department of Labor. OSHA Federal Register. Indoor Air Quality-59:15968-16039. Washington, D.C.: Occupational Safety & Health Administration, 1994. http://www.osha-slc.gov/FedReg_oseha_data/FED19940405.html
9. Voas RB, Tippetts AS. The Relationship of Alcohol Safety Laws to Drinking Drivers in Fatal Crashes. NHTSA; Washington, DC, 1999.
10. Lacey JH, Jones RK, Smith RG. Checkpoint Tennessee: Tennessee's Statewide Sobriety Checkpoint Program. Washington, DC: US Department of Transportation. January 1999.
11. U.S. Department of Transportation. National Highway Traffic Safety Administration. Traffic Safety Facts 1998: Alcohol. Washington, DC: 1999.
12. Cook PJ. The Effect of Liquor Taxes on Drinking, Cirrhosis, and Auto Accidents; in: Mark H. Moore and Dean R. Gerstein, eds. Alcohol and Public Policy: Beyond the Shadow of Prohibition. Washington, DC: National Academy Press, 1981.
13. Centers for Disease Control and Prevention. National Vital Statistics Reports, Vol. 47, No. 25. Hyattsville, MD: National Center for Health Statistics, 1999.
14. Department of Justice (Canada). Firearm Statistics (Updated Tables). Research and Statistics Division, Department of Justice. Ottawa, ON: January 1999.
15. McGinnis JM, Foege W. Actual Causes of Death in the United States. JAMA 1993;270:2207-2212.
16. Partnership for Prevention. Why Invest in Disease Prevention? Results from the Partnership for Prevention/William M. Mercer Survey of Employer-Sponsored Health Plans. Washington, DC: 1998.
17. Mandel JS, Bond JH, Church TR, Snover DC, Bradley GM, Schuman LM, Ederer F. Reducing mortality from colorectal cancer by screening for fecal occult blood. Minnesota Colon Cancer Control Study. NEJM 1993;328(19):1365-71.
18. Kerlikowske K. et al. Efficacy of screening mammography: a meta-analysis. JAMA 1995;273:149-154.
19. Partnership for Prevention. Setting Priorities Among Clinical Preventive Services. Unpublished.
20. International Agency for Research on Cancer Working Group on Evaluation of Cervical Cancer Screening Programmes. Screening for squamous cervical cancer: duration of low risk after negative results of cervical cytology and its implications for screening policies. BMJ 1986;293:659-664.

APPENDIX L: ADVISORY COMMITTEE MEMBERS*

CHAIR, ADVISORY COMMITTEE

Jonathan E. Fielding, MD, MPH, MBA
 Director of Public Health and Health Officer
 Los Angeles County Dept. of Health Services
 Professor of Health Services and Pediatrics
 UCLA Schools of Public Health & Medicine
 Los Angeles, CA

COMMITTEE MEMBERS

Karen A. Bodenhorn, RN, MPH
 President and CEO
 California Center for Health Improvement
 Sacramento, CA

Glenna Crooks, PhD

President
 Strategic Health Policy International, Inc.
 Fort Washington, PA

Gordon H. DeFriese, PhD

Director, Cecil G. Sheps Center for Health Services Research
 The University of North Carolina at Chapel Hill
 Chapel Hill, NC

Robert Harmon, MD, MPH

National Medical Director
 OPTUM Division/UnitedHealth Group
 McLean, VA

James Kotsanos, MD, MS

Director, Division of Global Health Outcomes Research
 Eli Lilly & Company
 Indianapolis, IN

Philip R. Lee, MD

Senior Advisor to the Dean
 Institute for Health Policy Studies
 University of California at San Francisco
 San Francisco, CA

J. Michael McGinnis MD

Scholar-in-Residence
National Academy of Sciences
Washington, DC
(resigned March 1999)

Gary R. Noble, MD, MPH

Vice President
Johnson & Johnson
Medical and Public Health Affairs
New Brunswick, NJ

Lois Michaels, MSHy

President Emeritus
Health Education Center
Highmark Blue Cross Blue Shield
Pittsburgh, PA

Mary Pittman, DrPH

President
Health Research and Educational Trust
Chicago, IL

Jordan H. Richland, MPH, MPA

Executive Director
American College of Preventive Medicine
Washington, DC

William Roper, MD, MPH

Dean, School of Public Health
The University of North Carolina at Chapel Hill
Chapel Hill, NC

John R. Seffrin, PhD

Chief Executive Officer
American Cancer Society, Inc.
Atlanta, GA

Thomas Vernon, MD

Vice President, Policy, Public Health, and Medical Affairs
Merck Vaccine Division
Merck & Co., Inc.
West Point, PA

Donald M. Vickery, MD

President
Center for Consumer Health Education
Golden, CO

Martin P. Wasserman, MD, JD

Visiting Professor
Johns Hopkins University School of Public Health
Baltimore, MD

M. Cass Wheeler

Chief Executive Officer
American Heart Association
Dallas, TX

** Organizations listed do not necessarily endorse or support the policies discussed in this report.*

APPENDIX M: EXPERTS INTERVIEWED *

Nancy Adler, PhD

Professor and Vice Chair
Health Psychology Program
University of California, San Francisco

Mohammed Akhter, MD

Executive Director
American Public Health Association

Linda Alexander

President
American Social Health Association

David Altman, PhD

Professor of Public Health Sciences & Pediatrics
Department of Public Health Sciences
Wake Forest University School of Public Health

Nancy Berger, MPH

Director
Health Education and Intervention Division
Connecticut Department of Public Health

Steven Blair, PED

Director of Epidemiology & Clinical Applications
The Cooper Institute for Aerobics Research

Karen Bodenhorn, RN, MPH

President and CEO
California Center for Health Improvement

John Bogert, DDS

Executive Director
American Academy of Pediatric Dentistry

Edward N. Brandt, Jr., MD, PhD

Professor and Director
Center for Health Policy
University of Oklahoma Health Sciences Center

Eddy Bresnitz, MD

State Epidemiologist
New Jersey Department of Health

Robert Buchanan, PhD

Science Advisor
Food and Drug Administration

Kathy Cahill

Associate Director
Office of Program Planning and Evaluation
Centers for Disease Control and Prevention

Lew Cantolino, MD

Director
Division of Clinical Pharmacology & Medical Toxicology
Uniform Armed Services University

Noreen Clark, PhD

Dean
School of Public Health
University of Michigan

Bente Coone

Director of Public Policy
National Osteoporosis Foundation

Marvin Cox

Director of Community Services
Tennessee Department of Health

Glenna Crooks, PhD

President
Strategic Policy & Politics International

Mike Davis

Executive Director
American Alliance for Health, Physical Education, Recreation and Dance

Ron Davis, MD

Director
Henry Ford Health System
Center for Health Promotion and Disease Prevention

Gordon Defriese, PhD

Director
Cecil G. Sheps Center for Health Services Research
The University of North Carolina at Chapel Hill

Mary desVignes-Kendrick, MD, MPH

Director
Houston Department of Health and Human Services

James Dimas, MPA

President and CEO
Springfield/Sagamon County Public Health Initiative

Andrea Dunn, PhD

Associate Director
Division of Epidemiology and Clinical Applications
The Cooper Institute for Aerobics Research

Burt Edelstein, DDS, MPH

Director
Children's Dental Health Project
American Academy of Pediatrics

Theodore Eickhoff, MD

Professor
Division of Infectious Diseases
University of Colorado Health Sciences Center

Joycelyn Elders, MD

Former Surgeon General of the United States

Caswell Evans Jr., DDS, MPH

Executive Editor & Project Director
Surgeon General's Report on Oral Health
Institute of Dental Cranial and Facial Research
National Institutes of Health

Chris Freeman

Director of STDs
Tennessee Department of Public Health

Ann Marie Gebhart, PhD

Executive Officer
American Society for Clinical Nutrition

Asha George, DrPH

Director
National Coalition for Adult Immunization

Meghan Girgus

Director
Division of American Stroke Association
American Heart Association

Ginger Gist, PhD

President
National Environmental Health Association

Bernard Goldstein, MD

Director
Environmental and Occupational Health Sciences Institute
Robert Wood Johnson School of Public Health and Medicine

Eric Goosby, MD

Director
Office of HIV/AIDS Policy
U.S. Department of Health and Human Services

John Graham

CEO
American Diabetes Association

Christine Grant, JD, MBA

Commissioner of Health and Senior Services
New Jersey Department of Health and Senior Services

Bernard Guyer, MD

Professor and Chair
School of Hygiene and Public Health
Johns Hopkins University

Cathy Hess, MSW

Executive Director
Association of Maternal & Child Health Programs

Tricia Hollis

Executive Director
American Dietetic Association

Tom Houston, MD

Director of Preventive Health
American Medical Association

Robert Hughes, PhD

Vice President
The Robert Wood Johnson Foundation

Michael Jacobson, PhD

Executive Director
Center for Science in the Public Interest

Lisa Kaeser

Senior Public Policy Associate
The Alan Guttmacher Institute

Robert Klaus, PhD

President and CEO
Oral Health America

Deborah Klein Walker, EDD

Assistant Commissioner
Bureau of Family and Community Health
Massachusetts Department of Public Health

C. Everett Koop, MD, ScD

Former Surgeon General of the United States

Alan Korn

Director
Public Policy Department
National SAFEKIDS Campaign

Chris Korsmo

Director of Government Affairs
Planned Parenthood

James Kotsanos, MD, MS

Director
Global Health Outcomes Research
Eli Lilly & Company

Philip Landrigan, MD, MSc

Chair
Department of Community and Preventive Medicine
Mount Sinai School of Medicine

Lester Lave, PhD

Director, Green Design Initiative
Graduate School of Industrial Administration
Carnegie Mellon University

Philip R. Lee, MD

Senior Advisor to the Dean and Senior Faculty, School of Medicine
Institute for Health Policy Studies
University of California at San Francisco

Jack Lewin, MD

Executive Vice President
California Medical Association

Miguelina Maldonado

Director of Government Relations
National Minority AIDS Council

J. Michael McGinnis, MD

Scholar-in-Residence
National Academy of Sciences

Lois Michaels, MSHy

President Emeritus
Health Education Center
Highmark, Blue Cross Blue Shield

Barbara J. Moore, PhD

President
Shape Up America!

Ralph D. Morris, MD, MPH

Executive Director
Galveston County Health District

Bill Novelli

President
National Center for Tobacco-Free Kids

Walter Orenstein, MD

Director
National Immunization Program

Michael Osterholm, PhD, MPH

President
ICAN Inc.

Robert Pestronk

Health Officer
Genesee County Health Department

Mary Pittman, DrPH

President
Health Research and Educational Trust

Jordan H. Richland, MPH, MPA

Executive Director
American College of Preventive Medicine

William Roper, MD, MPH

Dean
School of Public Health
The University of North Carolina at Chapel Hill

Mark Rosenberg, MD, MPP

Director
National Center for Injury Prevention and Control

Allan Rosenfield, MD

Dean
School of Public Health
Columbia University

Steven A. Schroeder, MD
President and CEO
The Robert Wood Johnson Foundation

Susan C. Scrimshaw, PhD
Dean
School of Public Health
University of Chicago

Alfred Sommer, MD, MHS
Dean
School of Hygiene and Public Health
The Johns Hopkins University

Christine Spain
Director of Research, Planning & Special Projects
President's Council on Physical Fitness and Sport

Carl Spurlock, PhD
Director of Injury Prevention
Kentucky Department of Health Services

Felicia Stewart, MD
Co-Director
Center for Reproductive Health & Policy
University of California, San Francisco

Louis Sullivan, MD
President
Morehouse School of Medicine

Nancy Van Devanter, PhD
Assistant Professor
School of Public Health
Columbia University

Thomas Vernon, MD
Executive Director
Medical, Scientific and Public Health Affairs
Merck Vaccine Division
Merck & Co., Inc.

Donald Vickery, MD
President
Center for Consumer Health Education

Frank Vinicor, MD, MPH
Director, Division of Diabetes Translation
National Center for Chronic Disease Prevention and Health Promotion
Centers for Disease Control and Prevention

Kaye Wachsmuth, PhD
Deputy Administrator
Office of Public Health and Science
Safety and Inspection Service - USDA

Ken Warner, PhD
Professor
University of Michigan School of Public Health

Shirley Watkins
Under Secretary
Food and Nutrition Service
United States Department of Agriculture

David Weber, MD
Associate Professor
School of Medicine
The University of North Carolina at Chapel Hill

James Weill
President
Food Research & Action Center

Donald E. Williamson, MD
State Health Officer
Alabama Department of Public Health

Robert E. Windom, MD
Former Assistant Secretary for Health
Past President, Florida Medical Association

** Position at the time of interview. Neither the individuals listed here nor their organizations necessarily endorse or support the policies discussed in this report.*