Collision Course:

America's Baby Boomers and Cardiovascular Disease

Forecasting the Future of Cardiovascular Disease in the United States

American Heart Association | American Stroke Association

APPENDIX U

CVD Prevalence and Costs Heading in the Wrong Direction

According to a new study by the American Heart Association, America's Baby Boomers and Cardiovascular Disease (CVD) are on a collision course of alarming proportions. By 2030, it is projected that 40.5% of Americans—116 million people—will have some form of CVD.

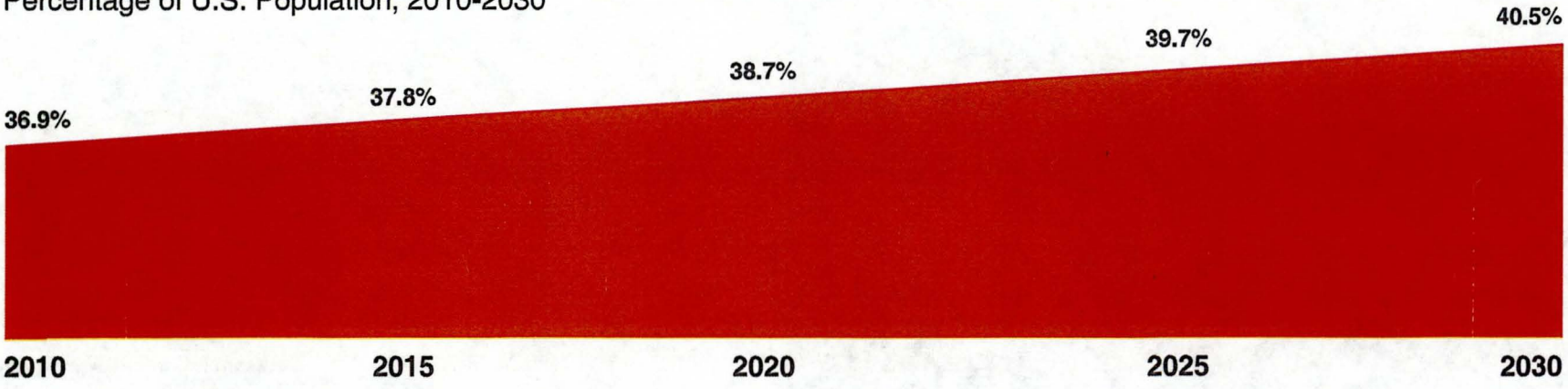
In spite of enormous advances in prevention and treatment, and a decline in mortality rates, heart disease and stroke remain respectively the number one and four killers of Americans. But can an already bad situation get even worse? The answer is a frightening "yes."

Treating cardiovascular disease is already an enormous drain on resources. In fact, CVD not only ranks as the leading killer in America, but as the most costly disease in the nation. The share of overall medical costs for CVD is seventeen percent.

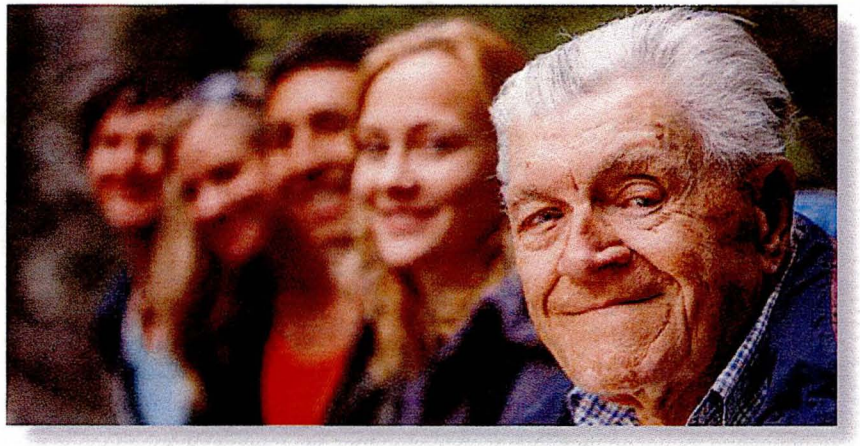
The projected toll in death, human suffering and health care costs to the Nation are as staggering and crippling as the disease itself. And CVD is blind with respect to gender and ethnicity. In 2030, 39% of men and 42% of women will have some form of CVD, and blacks suffer at higher rates than whites and Hispanics.

Projections of Cardiovascular Disease Prevalence

Percentage of U.S. Population, 2010-2030



Between 2010 and 2030, total direct medical costs of CVD are projected to triple, from $273 billion to $818 billion. Real indirect costs—due to lost productivity—for all forms of CVD are estimated to increase from $172 billion in 2010 to $276 billion in 2030, an increase of more than 60 percent. The combined costs are projected to exceed $1 trillion by 2030.

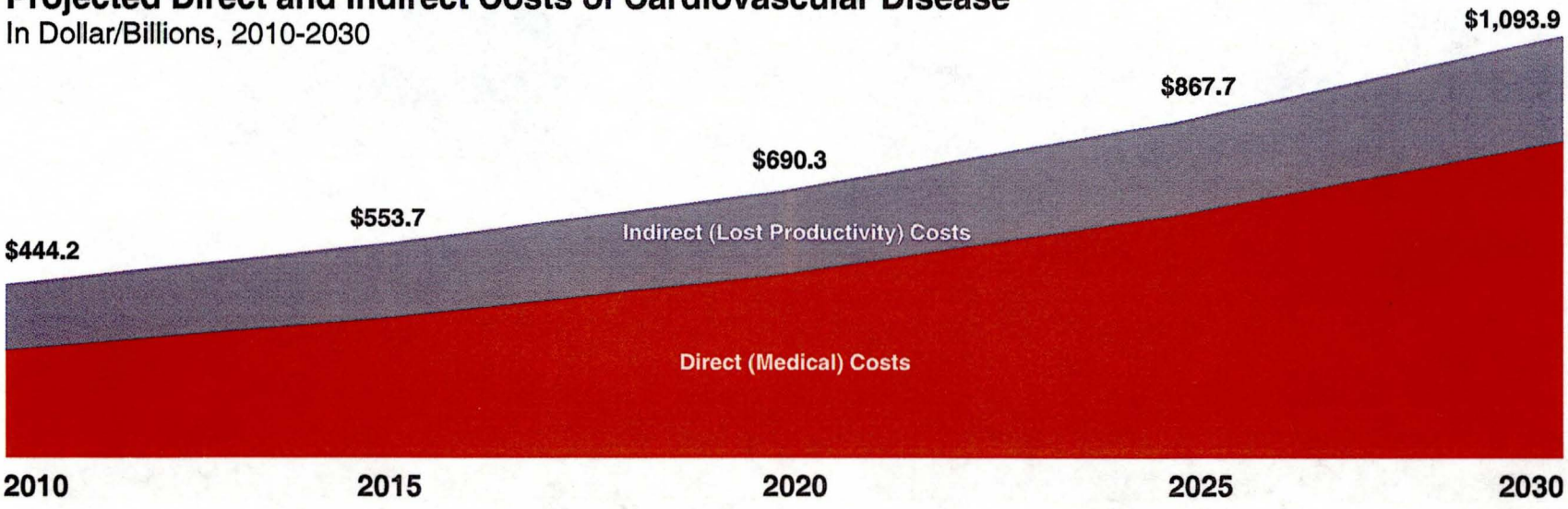


What's Driving the Cost Increase?

America's 78 million Baby Boomers are babies no more. The advance guard has already reached retirement age and will be eligible for Medicare when they turn 65 in 2011. The graying of the population combined with the explosive growth in medical spending are the primary drivers of increased CVD costs, which are expected to grow the fastest for ages 65 and over. Annual CVD costs for persons age 65 to 79 are projected to increase by a whopping 238 percent, from $135 billion to $457 billion per year.

Projected Direct and Indirect Costs of Cardiovascular Disease

In Dollar/Billions, 2010-2030

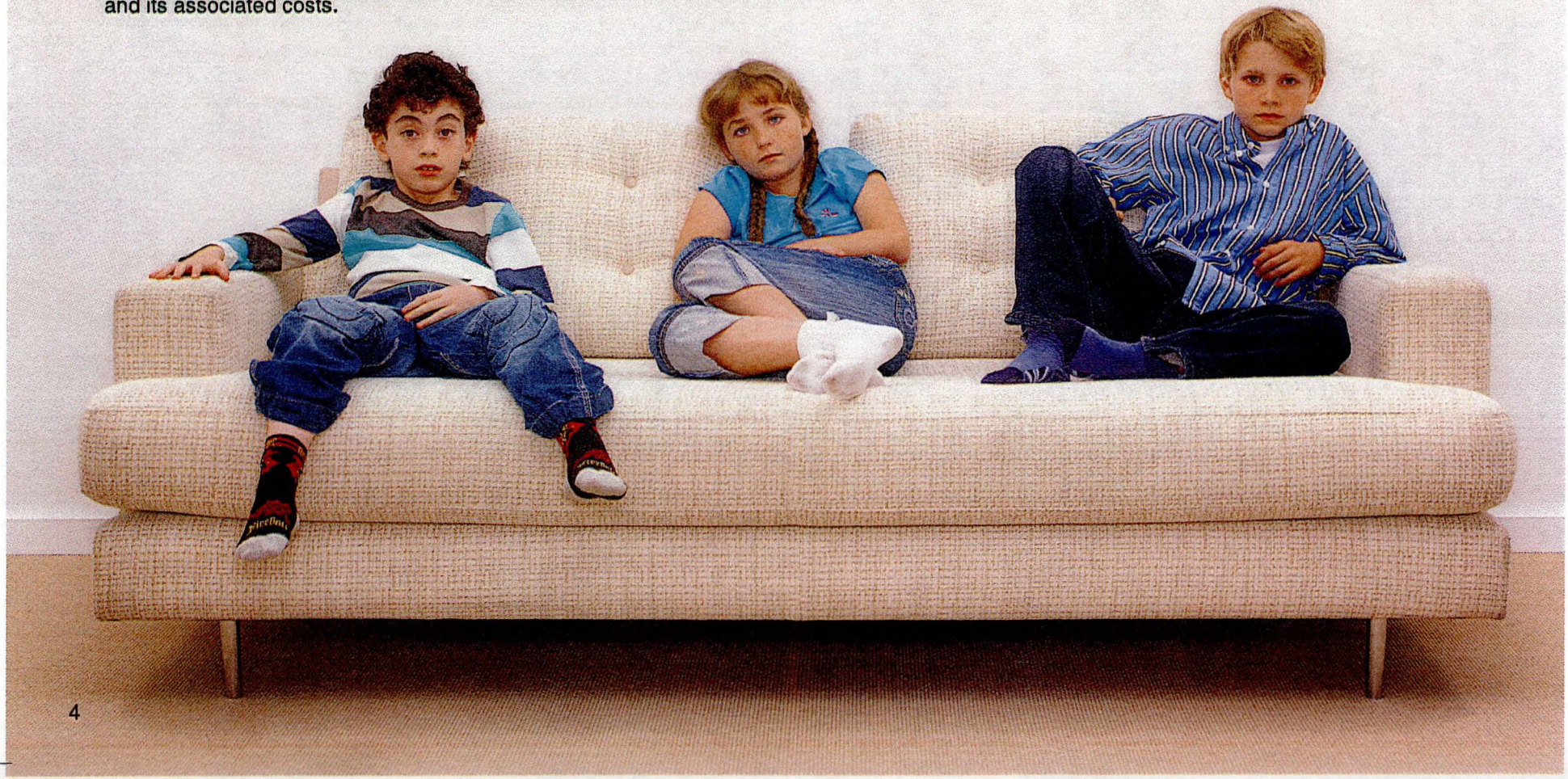


The Status Quo is a Killer

Under current prevention and treatment trends, CVD will grow by nearly 10 percent over the next 20 years, while direct costs will increase almost threefold. Direct costs of CVD will continue to account for a relatively stable and large share of the nation's overall medical expenditures.

However, if some risk factors, such as diabetes and obesity continue to increase rapidly, we may see a greater increase in CVD prevalence and its associated costs.

Recent studies project that current overweight adolescents will bump up future adult obesity rates by 5 percent to 15 percent by 2035, resulting in more than 100,000 cases of coronary heart disease, while associated costs will increase by $254 billion.



Is Prevention the Silver Lining in a Very Dark Cloud?

Using a different kind of model, researchers evaluated the impact of 11 widely-recognized prevention services for reducing cardiovascular disease, such as smoking cessation, preventive aspirin therapy, cholesterol-lowering medications and weight reduction.

They found that if everyone received the 11 prevention services, myocardial infarctions (MI) and strokes would be reduced by 63 percent and 31 percent respectively in the next 30 years. At more feasible success levels—those that have been actually achieved in clinical practice—MIs and strokes would be reduced by 36 percent and 20 percent.

Researchers found that using these CVD clinical prevention measures to their fullest potential could add about 220 million life-years over the next 30 years, or an average of 1.3 years of life expectancy for each adult in the United States. About 78 percent of U.S. adults ages 20 to 80 are candidates for at least one of these clinical prevention activities.

That's the good news. The bad news is that the current use of these prevention activities is way below where it should be, contributing to the projected upsurge in CVD and stroke.

Prevention: A Chance to Change Course

Cardiovascular disease is largely preventable. We must never forget that fact because it could drive a whole new way that we as a nation look at CVD. Rather than treating the illness when it is far advanced, we should promote heart healthy habits and wellness at an early age.

Several studies show that individuals with fewer atherosclerosis (hardening and narrowing of the arteries) risk factors have a marked reduction in the onset of coronary heart disease and heart failure. Similarly, persons who follow a healthy lifestyle of regular exercise and a heart healthy diet reduce their risk of coronary heart disease and stroke. Therefore, a greater focus on prevention may help us avoid the projected CVD explosion. And history may be on our side.

Eliminating risk factors on a population-wide scale has contributed significantly to reducing CVD death rates in the U.S. For example, smoking has declined dramatically since the Surgeon General first issued his report on smoking's health risks in 1964. This was followed by nationwide awareness efforts to reduce dietary fat intake, detect and treat high blood pressure and improve cholesterol levels. All of these programs to reduce risk factors helped slash CVD death rates. They are literally life savers.

The Sooner the Better

Emerging evidence suggests that CVD prevention should begin early in life—the sooner the better. Modest improvements in risk factors earlier in life have a far greater impact than more substantial reductions later on in life. The payoffs can be huge. For example, a modest 28 percent reduction in LDL (bad) cholesterol from birth resulted in an 88 percent reduction in the risk of coronary heart disease. Contrast that to the 20-30 percent reduction in CVD seen with a 30 percent reduction in LDL with statin medications initiated in middle and older ages.

Getting a Grip on High Blood Pressure

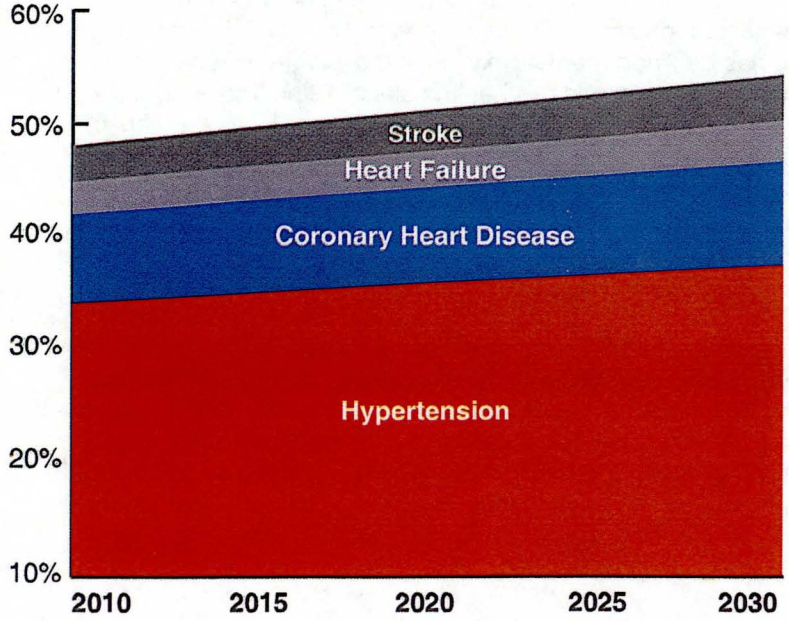
One out of three Americans currently have hypertension—a silent killer that accounts for 18 percent of CVD deaths in Western countries. It is also a major risk factor for stroke, coronary heart disease, and heart failure.

Hypertension is the most costly form of CVD. The total medical cost for hypertension makes it a particularly valuable target to reign in CVD's future costs.

Annual medical costs directly attributable to hypertension are projected to increase by $130 billion over the next 20 years for a total projected annual cost of $200 billion by 2030. And that is just scratching the surface. If the cost is expanded to include how much the presence of hypertension contributes to the treatment of related diseases, such as coronary heart disease and stroke, the increase of annual spending for 2010 to 2030 almost doubles.

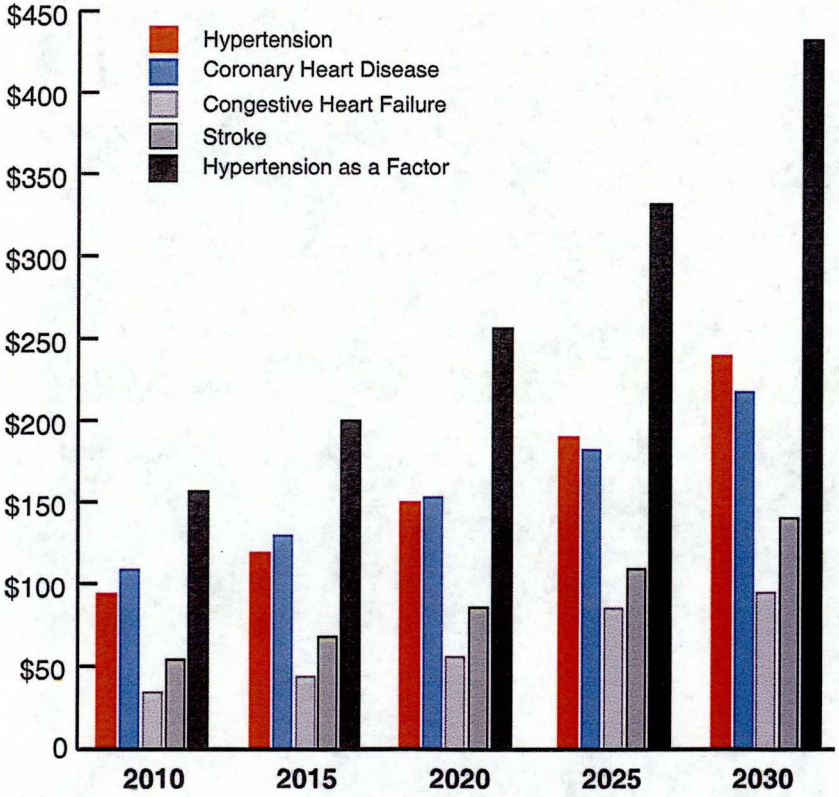
Projections of Cardiovascular Prevalence

Percentage of U.S. Population, 2010-2030

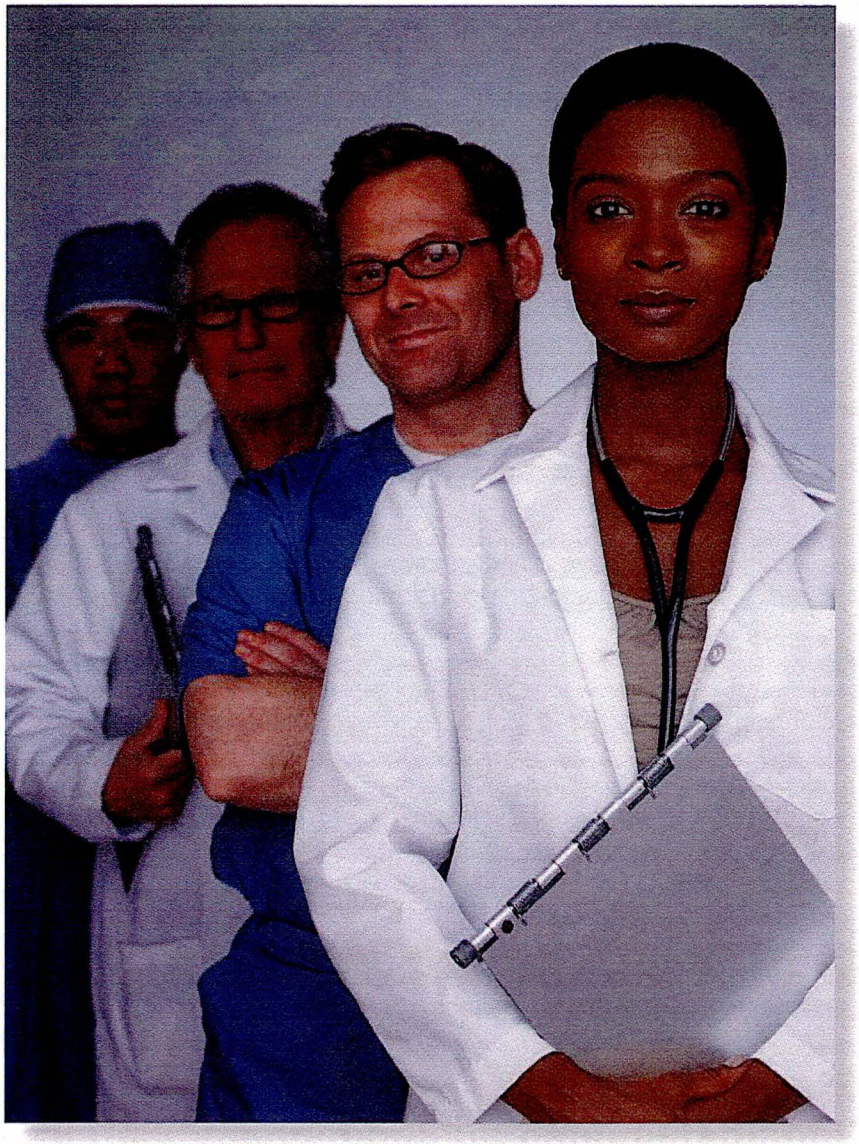


Projected Direct and Indirect Costs of CVD

In Dollar/Billions, 2010-2030



Hypertension as a risk factor includes a portion of the costs and prevalence of complications associated with hypertension, including heart failure, coronary heart disease, stroke, and other CVD.



Will the Provider Workforce be Adequate?

Primary and secondary prevention of CVD requires a team approach with professionals in medicine, nursing, pharmacy, nutrition, social work, and other disciplines. But will they be there? Not if current trends continue.

The projected lack of U.S. health professionals in the fields of nursing, pharmacy, and medicine is well documented and alarming. For example, in less than 15 years, we could experience a shortage of 260,000 registered nurses. Currently, over 8,000 vacancies exist in retail pharmacies, hospitals, clinics, and other industry sectors, and these figures are expected to worsen over time. And a looming shortage of physicians most recently prompted the president of the Association of American Medical Colleges to recommend that U.S. medical schools increase the annual number of graduates by 30 percent.

While primary care physicians are already in short supply, there is a growing and significant shortage in cardiac specialty care—currently, there is a projected shortfall of 1,600 general cardiologists and 2,000 interventional cardiologists.

If the trend continues, we would need to double by 2050 the current number of cardiologists to erase the expected shortage of 16,000 cardiologists. The looming shortfall for cardiac surgeons is even worse. Only 100 new cardiothoracic residents are being certified each year. At this rate and taking into account death, retirement, and attrition, it is estimated that only 3,000 practicing cardiothoracic surgeons will be in practice by the year 2030.

Game Changer

The prevalence and costs of CVD are projected to increase substantially in the future. Fortunately, CVD is largely preventable and our health-care system should promote prevention and early intervention. In the public health arena, more evidence-based effective policy, combined with systems and environmental approaches should be applied to the prevention, early detection and management of CVD risk factors. Through a combination of improved prevention and treatment of established risk factors, the dire projected health and economic impact of CVD can be diminished.

The U.S. health system often rewards practices that treat disease and injury rather than those that prevent them and promote wellness. The result: Americans' health has remained relatively unchanged this decade despite huge and unprecedented increases in health care spending.

As our nation implements and refines new health reform policies, we must realize that a variety of policy and practice-related measures will be necessary to effect meaningful and lasting change in the health care system.

Expanding access to affordable health care coverage may provide important benefits for individuals with CVD. However, we must also reorient our health care system toward implementing effective health promotion and disease prevention. This game-changing strategy is not unrealistic, and provides an exciting opportunity and call to action.

For example, prevention at the community level is one such avenue for reducing the projected burden of CVD. Community prevention efforts may include greater tobacco control, elimination of trans fat, reducing sodium intake, cutting air pollution, reducing obesity and increasing physical activity with a focus on children.

It should be recognized that while prevention will delay or even prevent the onset of CVD and the cost of treatment, patients will need medical care longer and life-time cost of care may not be reduced. Thus, prevention strategies should not be evaluated solely on their ability to reduce cost of care, but should instead be based on a combination of cost and impact on patient well-being, including length and quality of life.

All content in this paper and the research studies upon which it is based can be found in Heidenreich, PA. Trogdon JG. Khavjou OA. Butler J. Dracup K. Ezekowitz MD. Finkelstein EA. Hong Y. Johnston SC. Khera A. Lloyd-Jones DM. Nelson SA. Nichol G. Orenstein D. Wilson PWF. Woo J. Forecasting the future of cardiovascular disease in the United States: A policy statement from the American Heart Association. **Circulation.** Published online ahead of print January 24, 2011.

For More Information, Contact:
The American Heart Association Office of Federal Advocacy
1150 Connecticut Ave., NW, Suite 300, Washington, DC 20036
Ph: 202-785-7900/www.heart.org