Despite advances in life-saving medical interventions and pharmacotherapies, cardiovascular disease (CVD) continues to be a leading killer in the United States. The spectrum of CVD consists of hypertension, chronic heart disease (CHD; including myocardial infarction [MI] and angina), heart failure, and stroke. Based on 2009 data from the American Heart Association (AHA), 76.4 million Americans have been diagnosed with hypertension, 16.3 million have CHD, 5.7 million have heart failure, and 7 million have stroke. Beginning in adolescence, CVD can stay dormant for many years before emerging in adulthood. Among each of the components of CVD, CHD accounts for 1 in every 6 American deaths, heart failure for 1 in every 9 deaths, and stroke for 1 in every 18 deaths.

Despite these dramatic statistics, CVD mortality rates have begun to decline over the past decade (Figure 1). These reductions are primarily a result of advances in medical and interventional therapies, as well as to increased acceptance and application of evidence-based guidelines. In addition, over the past decade the AHA and the American College of Cardiology (ACC) have launched nationwide campaigns that incentivize health systems to improve the overall quality of hospital care through the implementation of CVD quality core measures. Recently, a large population-based study suggested that the age- and sex-adjusted incidence of acute MI exhibited a 24% relative decrease between 1999 and 2008 and that the age- and sex-adjusted 30-day mortality rate after acute MI decreased from 10.5% in 1999 to 7.8% in 2008 (P < .001).
**Forecasting the Future of CVD: The AHA Policy Statement**

As patients are living longer and potentially using more healthcare resources, it comes as no surprise that US medical costs for treating CVD have grown at an average annual rate of 6% and now account for about 15% of the increase in overall medical spending.\(^5\) To address this problem, the AHA has recently issued a health policy statement to forecast the prevalence and medical costs of CVD and its component diseases through 2030.\(^4\)

In this statement, data were generated from the 1999-2006 National Health and Nutrition Examination Survey (NHANES) to project the prevalence of hypertension, CHD, heart failure, and stroke; and data from the US Census Bureau were used to estimate projected population counts from 2010 to 2030. Based on their analysis, the AHA investigators projected that the prevalence of CVD and its component diseases will be increasing over the next 20 years (Figure 2).\(^4\)

Specifically, they calculated a 9.9% increase from 2010 to 2030 in the prevalence of CVD, along with a 16.6% increase in CHD and a 25% increase in heart failure and stroke.\(^4\) This overall increase was primarily driven by an increase in hypertension. These findings correlate to an additional 27 million Americans expected to be diagnosed with hypertension, 8 million with CHD, 4 million with stroke, and 3 million with heart failure—meaning that by 2030, 40.5% of all Americans will suffer from some form of CVD.\(^4\)

**KEY POINTS**

- The American Heart Association (AHA) estimates that >75 million Americans have some form of cardiovascular disease (CVD), and almost half of the US population will have it by 2030.
- The AHA projects a 9.9% increase in the prevalence of CVD by 2030, a 16.6% increase in chronic heart disease, and a 25% increase in heart failure and stroke.
- Direct medical costs for CVD are expected to rise from $272.5 billion in 2010 to $818.1 billion in 2030, representing a 3-fold increase.
- Young adults aged 20 to 45 years are developing CVD at an alarmingly high rate that was until recently only seen in older adults.
- The CVD risk factors once documented in older adults have shifted to young adults aged 20 to 45 years who are developing CVD at an alarmingly high rate.
- Because CVD is increasing in younger adults who are in the workforce, employers and payers need to focus their attention on a younger population of adults.
- Risk factor modification earlier in life has a greater impact than more significant risk reductions later in life; prevention efforts at a younger age may therefore have a lasting impact later in life.
- Instituting preventive measures in young adults may also result in significant cost-savings to payers.

**Figure 1** US Deaths from Diseases of the Heart, 1900-2007

![Figure 1](image-url)

**NOTE:** The vertical line marks the beginning in the decline of deaths from heart disease. Adapted with permission from Roger VL, et al. Circulation. 2011;123:e18-e209.
Subsequently, as seen in Table 1, total direct medical costs for CVD are expected to rise from $272.5 billion in 2010 to $818.1 billion in 2030, representing a 3-fold increase. Because heart failure, CHD, and stroke are debilitating diseases, it is not surprising that indirect costs are also expected to increase from 53% to 80%. Indirect costs associated with CHD are estimated to account for about 40% of all CVD costs.

To provide logic behind these drastic projections, the AHA suggests that rapid growth in the aging US population, combined with the growth in per-capita medical expenditures, may be the primary drivers of increased CVD-related costs. The population with the highest costs for CVD will be those aged \( \geq 65 \) years, with the greatest increase in those aged \( \geq 85 \) years. Heart failure remains the leading discharge diagnosis for patients aged \( \geq 65 \) years and has been estimated to account for more than 37% of Medicare spending.

Unlike heart failure, acute coronary syndrome (ACS), an umbrella term encompassing MI and unstable angina, is common among the working-age population: about 47% of all patients with ACS are younger than age 65 years. Results from the Worcester Heart Attack Study show that between 1975 and 2005, the overall incidence of MI was 66 per 100,000 among adults aged 25 to 54 years.

For employers and payers, patients with ACS impose a substantial direct cost burden, as well as a dramatic indirect cost burden on employers. In a retrospective analysis of 30,200 patients with ACS, Johnston and colleagues estimated that compared with patients

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**Table 1** Projected Direct Medical Costs of CVD in the United States, in Billions (2008 dollars)

<table>
<thead>
<tr>
<th>Year</th>
<th>All CVD*</th>
<th>HTN</th>
<th>CHD</th>
<th>HF</th>
<th>Stroke</th>
<th>HTN as risk factor b</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>$272.5</td>
<td>$69.9</td>
<td>$35.7</td>
<td>$24.7</td>
<td>$28.3</td>
<td>$130.7</td>
</tr>
<tr>
<td>2015</td>
<td>$358.0</td>
<td>$91.4</td>
<td>$46.8</td>
<td>$32.4</td>
<td>$38.0</td>
<td>$170.4</td>
</tr>
<tr>
<td>2020</td>
<td>$470.3</td>
<td>$119.1</td>
<td>$61.4</td>
<td>$42.9</td>
<td>$51.3</td>
<td>$222.5</td>
</tr>
<tr>
<td>2025</td>
<td>$621.6</td>
<td>$155.0</td>
<td>$81.1</td>
<td>$57.5</td>
<td>$70.0</td>
<td>$293.6</td>
</tr>
<tr>
<td>2030</td>
<td>$818.1</td>
<td>$200.3</td>
<td>$106.4</td>
<td>$77.7</td>
<td>$95.6</td>
<td>$389.0</td>
</tr>
<tr>
<td>Change, %</td>
<td>200</td>
<td>186</td>
<td>198</td>
<td>215</td>
<td>238</td>
<td>198</td>
</tr>
</tbody>
</table>

*Includes HTN, CHD, HF, stroke, as well as cardiac dysrhythmias, rheumatic heart disease, cardiomyopathy, pulmonary heart disease, and other or ill-defined “heart” diseases; does not include HTN as a risk factor.

bIncludes a portion of the costs of complications associated with HTN, including CHF, CHD, stroke, and other CVDs. The cost of HTN as a risk factor should not be included to calculate the costs of all CVD.

CHD indicates coronary heart disease; CVD, cardiovascular disease; HF, heart failure; HTN, hypertension.

without CHD, the incremental annual direct cost of ACS to employers was $40,671 between 2002 and 2007 ($P < .001), and the estimated incremental short-term disability cost was $999 ($P < .001).  

Based on these statistics and the potential impact of healthcare reform, it will likely be payers who will bear the brunt of the economic burden associated with CVD. When approaching this potential costly epidemic, in what population should interventional strategies be targeted to manage these increasing costs?

Addressing an Older Disease in a Newer Generation

CVD in Young Adults

Data from the Framingham Heart Study and the National Center for Health Statistics have suggested a decline in mortality associated with CHD, particularly in older adults, but the evidence regarding the incidence and case-fatality rates of CHD among young adults has been limited. Recently, Ford and Capewell have demonstrated that the annual estimated percentage change in CHD mortality slowed markedly between 1980 and 2002 in adult men and women aged 35 to 44 years compared with other age-groups (Figure 3).

The CVDs once documented in older adults have shifted to a younger generation. This unfavorable trend appears to coincide with an increase in several risk factors associated with CVD, such as smoking, elevated total cholesterol levels, diabetes, hypertension, and obesity. Current data suggest that the traditional risk factors for CVD that include serum cholesterol, blood pressure, and cigarette smoking in older adults (aged 40-59 years) are also significantly associated with death from CVD in younger adults (18-39 years).

With this in mind, payers need to focus their attention not only on the older population (ie, >65 years) but also on a younger population of adults who are now developing CVD much earlier in their lives and carry a much greater risk factor burden than past generations. The question remains, of the many risk factors for CVD, which should be targeted?

Selected Risk Factors in Young Adults

Smoking. The devastation and healthcare costs associated with smoking have been well documented. Between 2000 and 2004, in young adults aged ≥35 years, 32.7% of smoking deaths were tied to CVD. Despite 4 decades of progress in reducing the prevalence of smoking in the United States, among Americans aged ≥18 years, 23.1% of men and 18.3% of women continued to smoke in 2008. In addition, the percentage of US adults

Figure 3 Trends in Age-Specific Mortality Rates from Coronary Heart Disease for Men (Triangles) and Women (Squares)

aged ≥18 years who were current smokers did not change significantly from 2005 to 2009.2

**Hypertension.** Data from the 2007-2008 NHANES suggest that the prevalence of hypertension has increased among US adults aged ≥20 years from approximately 50 million between 1988 and 1994 to approximately 76 million in the period between 2005 and 2008:2 However, this estimate in younger adults is controversial. The 2007-2008 NHANES reports hypertension among 4% of young adults (aged 24-32 years); but the Add Health study now suggests a much higher prevalence of at least 19%.14 Although the health benefits in controlling hypertension through pharmacotherapy are well documented (eg, 35%-40% reduction in stroke, 20%-25% in CHD, and 50% in heart failure), more than 65% of patients with hypertension remain uncontrolled.15

**Obesity.** Obesity has been correlated with a marked mortality increase in the US population. Even more notable is the excess morbidity associated with being overweight (body mass index [BMI], 25.0-29.9 kg/m²) and with the risk for developing diabetes mellitus and CVD (including CHD, stroke, and heart failure).2 Using NHANES data, Bibbins-Domingo and colleagues estimated that the current number of overweight adolescents will increase the prevalence of obesity among those aged 35 years in 2020 to between 30% and 37% in men and 34% and 44% in women.16 Based on these estimates, the prevalence of CHD will increase to between 5% and 16% by 2035, with more than 100,000 excess cases of CHD attributable to increased obesity.16

**Diabetes.** The complications of diabetes can be devastating, particularly in terms of CHD and stroke risk. Longitudinal analyses from the Framingham Heart Study suggest that the risk factor–adjusted relative risk for CHD was 1.38 (95% confidence interval [CI], 0.99-1.92) times higher and the risk for CHD death was 1.86 (95% CI, 1.17-2.93) times higher for each 10-year increase in the duration of diabetes.17 In addition, the presence of diabetes increases the risk for stroke 2- to 6-fold compared with patients without diabetes.18

**Dyslipidemia.** An estimated 33.6 million adults aged ≥20 years have total serum cholesterol levels exceeding 240 mg/dL.2 In addition, 8% of Americans aged ≥20 years have undiagnosed dyslipidemia.2 Night epidemiologic data have linked elevated total cholesterol concentrations, particularly the low-density lipoprotein subfractation, to the initial development of CHD.20 During the teenage years, elevated total cholesterol levels can result in predisposition to CHD, cerebrovascular disease, and peripheral vascular disease and eventually lead to CVD.

### The Costs of CVD in Young Adults: An Incremental Analysis of Risk Factors

The impact of these individual factors on CVD has been described, but the individual impact of these risk factors on total healthcare costs remains unknown. To determine this impact, we used data from the Agency for Healthcare Research and Quality’s Medical Expenditure Panel Survey (MEPS) from 2000 to 2008 to estimate the total costs per person per year for individuals (aged 20-45 years) who have one of the risk factors previously described. We then compared those costs with the expenditures for those without these risk factors (Figure 4).

As shown in Figure 4, the overall costs for patients with diabetes, dyslipidemia, or hypertension are substantially higher than for those without one of these diseases. Therefore, the impact of risk factors for CVD on total healthcare costs for a younger population is clearly a burden for payers.

The risk factors we specify do not necessarily occur alone in individual patients—21 of these 5 risk factors may occur simultaneously. We also used the MEPS data to examine the incremental impact of multiple risk factors (1-5) on the probability of incurring 3 components of CVD—stroke, heart failure, or MI—for individuals aged 20 to 45 years (Table 2). The results show that the odds of developing, in particular, heart failure or MI increase significantly the greater the number of risk factors.

### Striking at the Heart of the Problem

#### Models of Prevention

Although the statistics are sobering, these projections need not become a reality. As discussed, risk factor iden-
Identification and modification can significantly impact the development of CVD. So far, we have highlighted the need to address CVD in younger adult populations. For example, in the Framingham Heart Study, participants with an optimal level of major risk factors for CVD before age 50 years had a lifetime risk of only 5.2% to 8% for actually developing CVD. The absence of major established risk factors by age 50 is associated with a very low lifetime risk for CVD and a longer longevity. This study suggests that risk factor modification earlier in life may have a greater impact than more substantial reductions later in life. Prevention efforts that are targeted at one point during the life course may have a lasting impact later in life or even on future generations.

What if preventive efforts addressing CVD were enforced? Would such policy impact the overall incidence of CVD? The answer appears to be an overwhelming yes. Using data from NHANES for patients aged 20 to 80 years who were potential candidates for CVD preventive efforts, Kahn and colleagues applied the Archimedes model to determine the effect of 11 nationally recommended prevention activities on CVD-related morbidity, mortality, and costs (Table 3). They found that if everyone participated in these recommended preventive activities, MI and stroke would be reduced by 63% and 31%, respectively, over the next 3 decades.

Assuming more feasible levels of performance, MI and stroke would be reduced 36% and 20%, respectively. As seen in Table 3, however, many of these preventive activities appear to be unachievable, especially smoking cessation and reducing BMI below the threshold for obesity.

Grabbing “Low-Hanging Fruit” in Prevention Models

Third-party providers have the ability to overcome these barriers for their clients and, in the process, address the problem of rising CVD costs. So where do third-party providers begin to address the prevention of CVD? We recommend first tackling 2 of the major risk factors (ie, the low-hanging fruit) that the large national cardiovascular and preventive health organizations and federal and state governments are also addressing—tobacco use and obesity.

Smoking cessation. As of 2011, 48 states and 2960 cities and counties in the United States currently enforce 1 or more forms of no-smoking ordinances; 20 states currently have a statewide 100% smoke-free workplace, restaurant, and bar law. With an increase in the implementation of state and county smoking bans, many smokers may be contemplating quitting but need further resources.

Smoking-cessation treatments still remain highly cost-effective; however, a strong relationship exists between the length of behavior counseling sessions, provider-to-person contact, and successful treatment. With this in mind, smoking-cessation programs must include comprehensive approaches to quitting rather than just mere coverage of smoking-cessation medications.

One particular example involves the successful implementation of a population-based smoking-cessation program. In 2006, based on the Massachusetts healthcare reform law, MassHealth subscribers were allowed two 90-day courses of US Food and Drug Administration–approved medications for smoking cessation as well as up to 16 individual or group counseling sessions. From July 1, 2006, to December 31, 2008, 37% (ie, >75,000) of MassHealth members were smokers enrolled in the program. At 2.5 years after implementation of the program, 26% of MassHealth smokers quit smoking, which resulted in a 38% decrease in hospitalizations for MI, a 17% drop in emergency department and clinic visits for asthma, and a 17% drop in claims for adverse

### Table 2: Odds Ratio for Having a Stroke, Myocardial Infarction, or Heart Failure, Based on the Number of Risk Factors

<table>
<thead>
<tr>
<th>Number of risk factors</th>
<th>Odds ratio</th>
<th>95% Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1.401574</td>
<td>0.9757192-2.013295</td>
</tr>
<tr>
<td>2</td>
<td>2.279393</td>
<td>1.554257-3.342839</td>
</tr>
<tr>
<td>3</td>
<td>2.992878</td>
<td>1.714301-5.225057</td>
</tr>
<tr>
<td>4</td>
<td>3.402792</td>
<td>1.363972-8.489173</td>
</tr>
<tr>
<td>5</td>
<td>2.687789</td>
<td>0.5203646-13.88298</td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2.982881</td>
<td>1.778964-5.001553</td>
</tr>
<tr>
<td>2</td>
<td>5.426217</td>
<td>3.146884-9.356505</td>
</tr>
<tr>
<td>3</td>
<td>14.61261</td>
<td>8.609861-24.80043</td>
</tr>
<tr>
<td>4</td>
<td>20.00585</td>
<td>10.30856-38.82542</td>
</tr>
<tr>
<td>5</td>
<td>25.74491</td>
<td>7.052921-93.97528</td>
</tr>
<tr>
<td>Heart failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1.285253</td>
<td>0.8941822-1.84736</td>
</tr>
<tr>
<td>2</td>
<td>3.953156</td>
<td>2.66242-5.869638</td>
</tr>
<tr>
<td>3</td>
<td>5.436472</td>
<td>3.30008-8.87523</td>
</tr>
<tr>
<td>4</td>
<td>8.499752</td>
<td>4.112478-17.56746</td>
</tr>
<tr>
<td>5</td>
<td>13.10736</td>
<td>2.514389-68.32784</td>
</tr>
</tbody>
</table>

*Controlling for total age, sex, race, region, highest education, income, and total number of comorbidities.*
Table 3  Summary of Preventive Health Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Feasible performance, % achieved*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin therapy if 10-year risk of MI ≥10%</td>
<td>50</td>
</tr>
<tr>
<td>Lower LDL-C to &lt;160 mg/dL in low-riskb patients</td>
<td>75</td>
</tr>
<tr>
<td>Lower LDL-C to &lt;130 mg/dL in high-riskc patients</td>
<td>70</td>
</tr>
<tr>
<td>Lower LDL-C to &lt;100 mg/dL in patients with CAD</td>
<td>70</td>
</tr>
<tr>
<td>Lower BP to 140/90 mm Hg in patients with DM</td>
<td>65</td>
</tr>
<tr>
<td>Lower HbA1c &lt;7.0% in patients with DM</td>
<td>60</td>
</tr>
<tr>
<td>Reduce FPG to &lt;110 mg/dL</td>
<td>60</td>
</tr>
<tr>
<td>Smoking cessation</td>
<td>30</td>
</tr>
<tr>
<td>Reduce weight to BMI &lt;30 kg/m²</td>
<td>20</td>
</tr>
</tbody>
</table>

*Derived from performance measures from large epidemiologic studies, the Veterans Administration, health plans, and large health systems.

bDefined as having 0 or 1 of the following risk factors: blood pressure >140/90 mm Hg; high-density lipoprotein cholesterol <40 mg/dL; family history of MI before age 55 years; male >45 or female >55 years.

cDefined as having ≥2 of the risk factors defined for low risk.

BMI indicates body mass index; BP, blood pressure; CAD, coronary artery disease; DM, diabetes mellitus; FPG, fasting plasma glucose; HbA1c, glycated hemoglobin; LDL-C, low-density lipoprotein cholesterol; MI, myocardial infarction.


maternal birth complications.25 For MIs alone, the program resulted in a net savings of $10.5 million, or a $3.07 return on investment for every dollar spent.24-26

Weight-loss programs. Although funding weight-loss and physical activity interventions may not seem conventional to third-party payers, these types of interventions are the centerpiece for the evidence-based recommendations of the AHA, ACC, American Diabetes Association, and the US Preventive Health Services Task Force.27

Between 2005 and 2007, the Partnership for Prevention evaluated the relevant evidence to support the ranking of the health impact and cost-effectiveness of 25 clinical preventive services. Included at the top of the list of services were dietary counseling, which encompassed obesity screening with high-intensity lifestyle counseling for obese patients, and intensive behavioral counseling for patients with hyperlipidemia and other risk factors for CVD.27

Recently, Rock and colleagues found that a commercial weight-loss program that included free prepared meals and weight-loss incentives produced weight loss and prevented weight regain.28 To address this issue, third-party payers may need to “think outside of the box,” potentially covering personalized, coordinated multidisciplinary weight-loss programs that address patient education and pharmacologic therapies as well as nutrition, diet, and exercise counseling for insured individuals who meet the definition of obesity.

Engaging the Younger Population

One of the main barriers to tackling this population-based problem will be identifying creative and insightful methods to engage the younger population at risk for CVD. In 2011, the American Stroke Association (ASA) questioned 1248 Americans aged 18 to 44 years about their attitudes to health, behavior, and risks of stroke.29 Unfortunately, 43% of those aged 18 to 24 years and 36% of those aged 25 to 34 years were not concerned about CVD compared with only 22% of those aged 35 to 44 years.29 Within the 18- to 34-year-old population, 21% of the women and 31% of the men were “likely to eat fast food,” only one third stated that they were “likely to eat recommended servings of fruits and vegetables,” and about 40% engaged in regular physical activity.29

To overcome this “invincibility” complex, third-party payers will need to collaborate with national partners, such as the Centers for Disease Control and Prevention, the AHA, the ACC, and the ASA, to develop health communications campaigns promoting heart-healthy behaviors. These communication campaigns should be conducted through nontraditional portals, such as social media (eg, Facebook or Twitter), promote incentives, and avoid the use of “scare or judgmental tactics” that may turn away the Generation Y or Generation X audiences. More important, the campaigns should directly engage the population at risk within their own environments (eg, at school).

Conclusions

The increasing prevalence of CVD in younger adults aged 20 to 45 years has not been examined in the past. According to the 2011 AHA Policy Statement focused on the increasing prevalence and costs associated with CVD, 5 primary risk factors—smoking, obesity, hypertension, diabetes, and dyslipidemia—contribute to the development of CVD in young adults. Our analysis of 2000-2008 MEPS data from that population clearly demonstrates the substantial impact of having 1 or more of these risk factors on the likelihood of developing the components of CVD. The examples provided in this
article highlight prevention efforts that may be targeted by using the Archimedes model of prevention. Smoking cessation and obesity, in particular, may provide opportunities for payers and providers to direct their efforts toward the prevention of CVD in the population of young adults.

Author Disclosure Statement
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References

STAKEHOLDER PERSPECTIVE

Prevention Efforts before Disease Strikes the Key to a Healthy Population of Young Adults

PHYSICIANS: A foundation of the traditional health maintenance organization was to focus on the prevention of disease and maintaining good health. Improved access to primary care—including routine physicals, screenings, and vaccinations—would provide for a healthier population, with a reduced risk for acute and chronic diseases. The ability to identify a patient in an earlier stage of disease or a patient on the verge of becoming another “disease statistic” could be avoided with the implementations of basic interventions by the primary care physician as a gatekeeper for our health system.

As the managed care population has aged, the model has evolved to focus on patients with active disease and efforts to reduce the expense of treating the symptoms and complications associated with chronic disease progression. The availability of a significant number of interventions, including many...
medications to treat such patients, has demanded significant resource allocation to manage multiple chronic diseases, such as hypercholesterolemia, hypertension, and diabetes. The increased stress on the body from smoking and obesity significantly contributes to this problem.

**PAYERS:** The use of tools to identify the high users of healthcare services and patients who are likely to be in need of care management services as a result of significant claims activity provides targets for interventions after the fact. A focus on earlier detection and treatment of disease is a new challenge that health plans face while trying to balance the finances of increased up-front costs and long-term savings.

The need to engage patients in their own well-being and encourage them to lead healthier lifestyles is a common theme in managed care today. Employers actively participate in health and wellness programs offered by insurers, with an emphasis on lifestyle changes and the benefits to good health.

In their Call for Action article in this issue of *American Health & Drug Benefits*, Page and colleagues focus on the need for prevention by targeting cardiovascular disease (CVD) risk factors and a better emphasis on health and wellness for a younger population as critical areas of attention. Smoking, obesity, diabetes, hypertension, and elevated cholesterol levels offer clear targets for health plans to identify these younger, at-risk individuals. The rise in CVD prevalence in the younger population is indeed a concern for health plans as they focus their resources on smoking-cessation programs, the importance of diet and nutrition, and the benefits of regular exercise.

**PATIENTS:** Although the rates of CVD have declined over the past decade in the older population, the cost of treating CVD continues to rise; the reduction of CVD risk factors before the onset of disease offers an essential alternative to costly medical interventions targeting active disease. If individuals, especially younger adults, can decrease their risk factors and improve their health, then the rate of CVD and subsequent events can be significantly reduced.

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