



**An Unhealthy America:
The Economic Burden of Chronic Disease**

*Charting a New Course to Save Lives
and Increase Productivity and Economic Growth*

February 2008

Today's Presentation

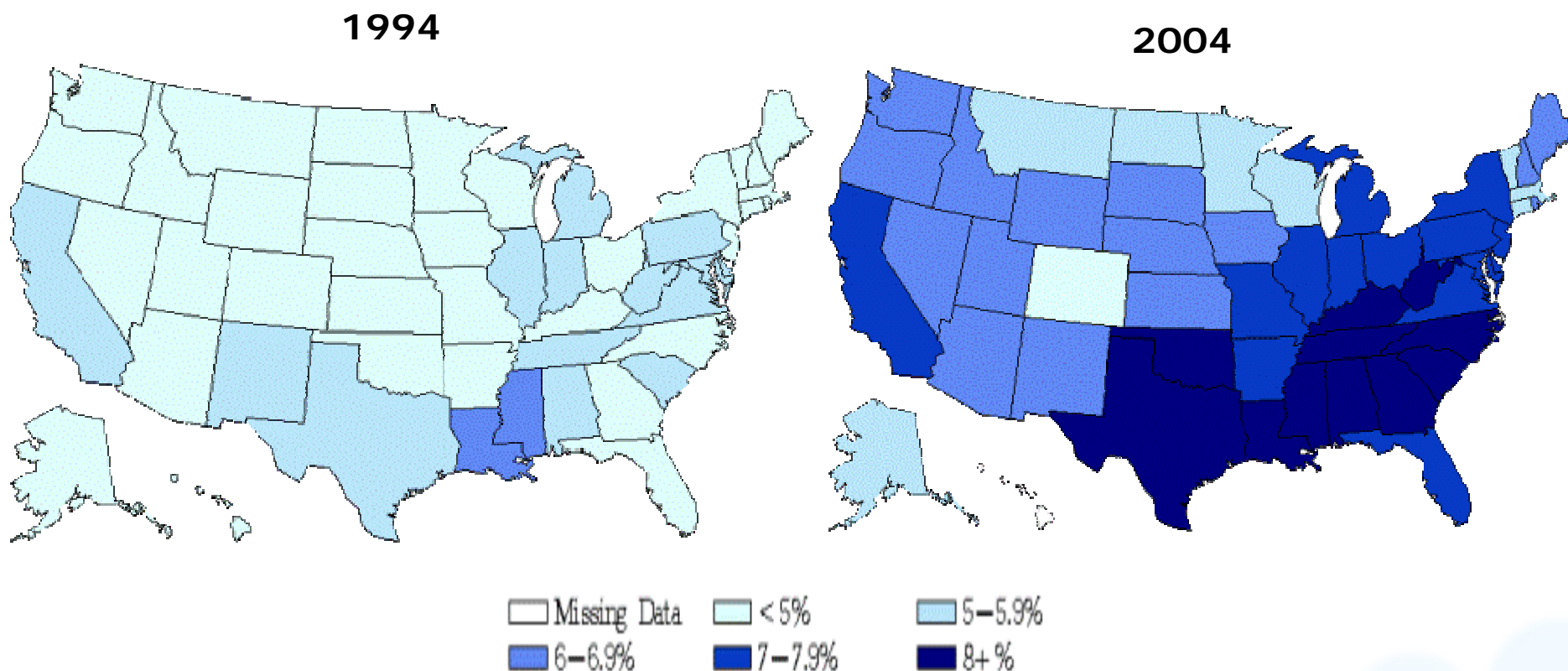


- **General trends in chronic disease in the U.S.**
- **Findings from the Milken study**

Example of Rising Prevalence of Disease: Diabetes, 1994 and 2004



The prevalence of diabetes increased in nearly every state between 1994 and 2004



Source: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Adult and Community Health, data from the Behavioral Risk Factor Surveillance System. Data computed by the Division of Diabetes Translation. Available at <http://www.cdc.gov/diabetes/statistics/prev/state/fPrev1994and2004.htm>

Disease Prevalence and Health Care Costs

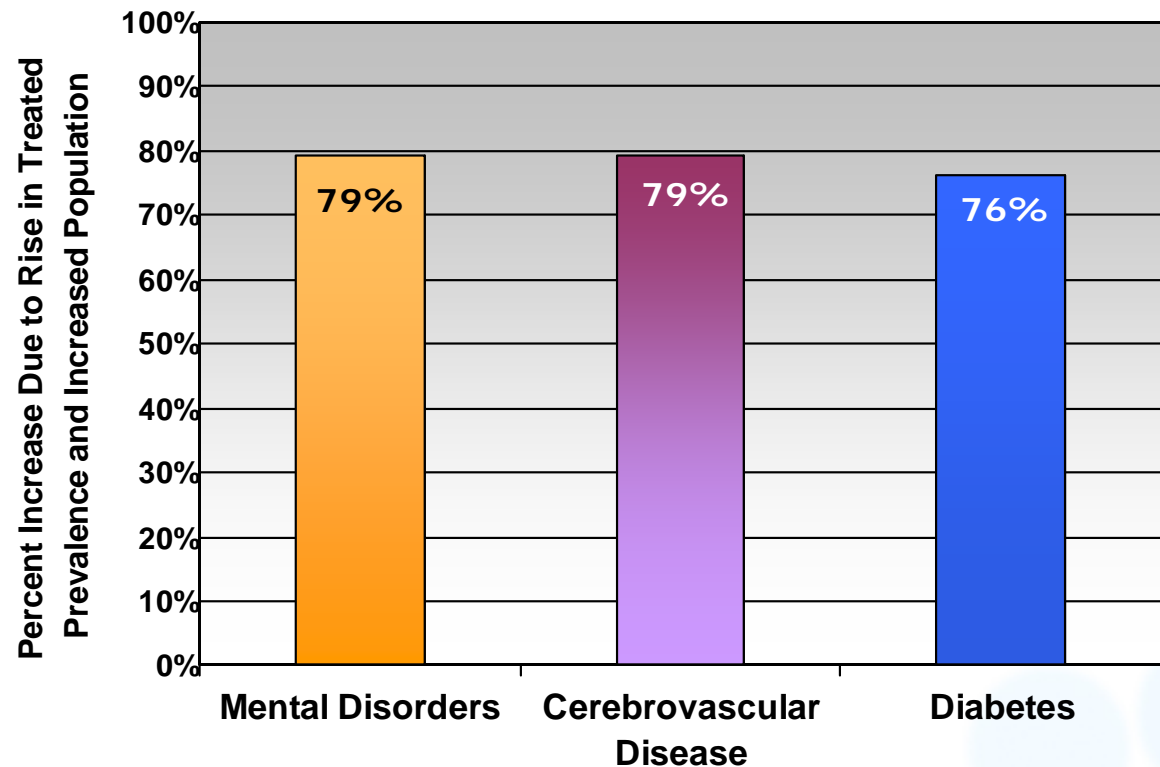


More than 75 percent of the rise in costs for three common conditions can be explained by increases in treated prevalence and population growth

Discussion of the magnitude of health care spending growth usually does not take into account changes in disease prevalence and demographic factors behind spending growth.

-- Kenneth Thorpe,
Emory University

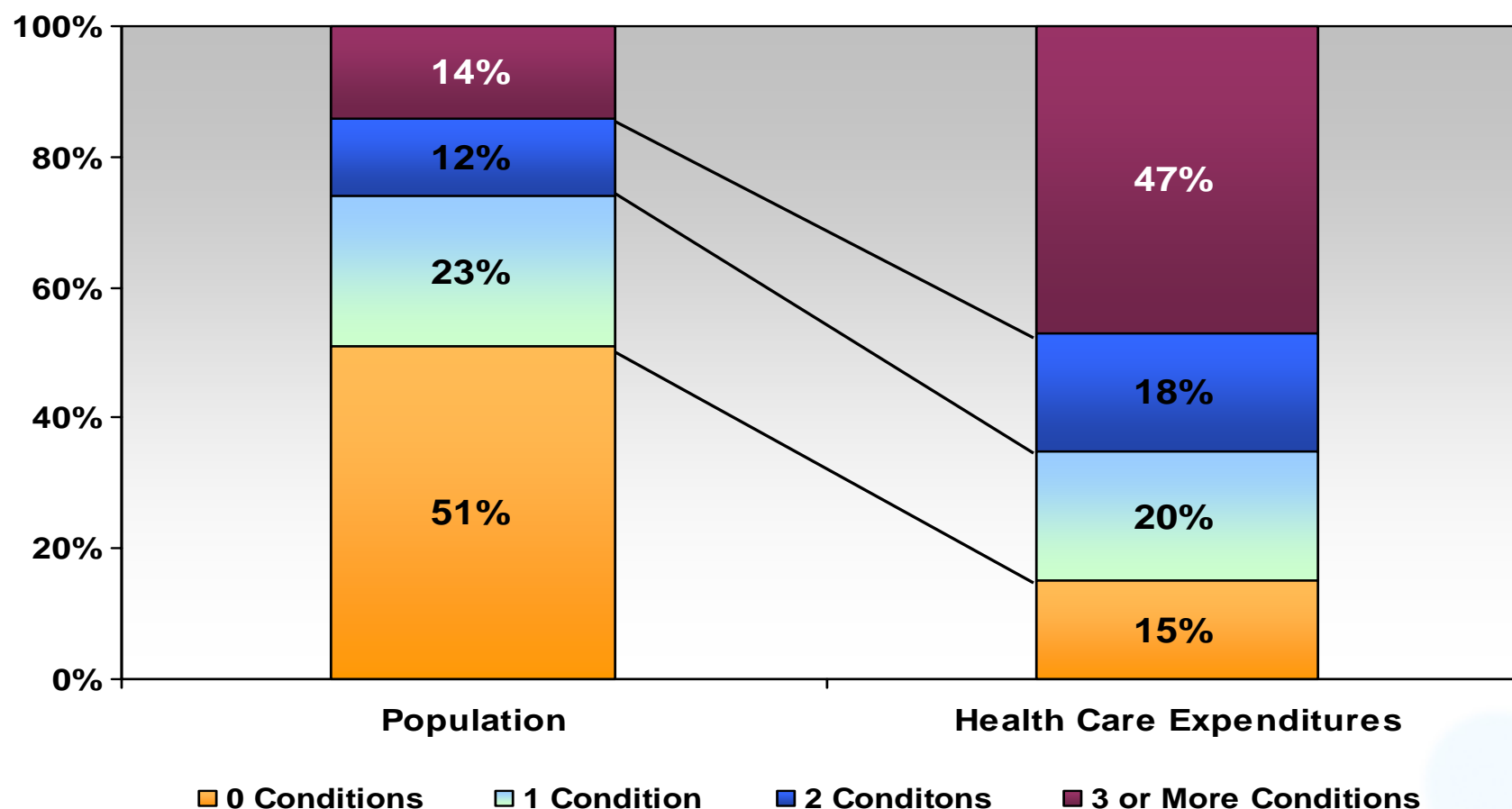
Percent Change in Spending Due to Rise in Treated Prevalence and Increased Population, 1987-2000



U.S. Health Care Spending for Patients with Chronic Conditions



65 percent of all health care spending goes to treat patients with 2 or more chronic conditions



Source: Gerard Anderson, analysis, prepared for PhRMA, of the Medical Expenditure Panel Survey, 2004.

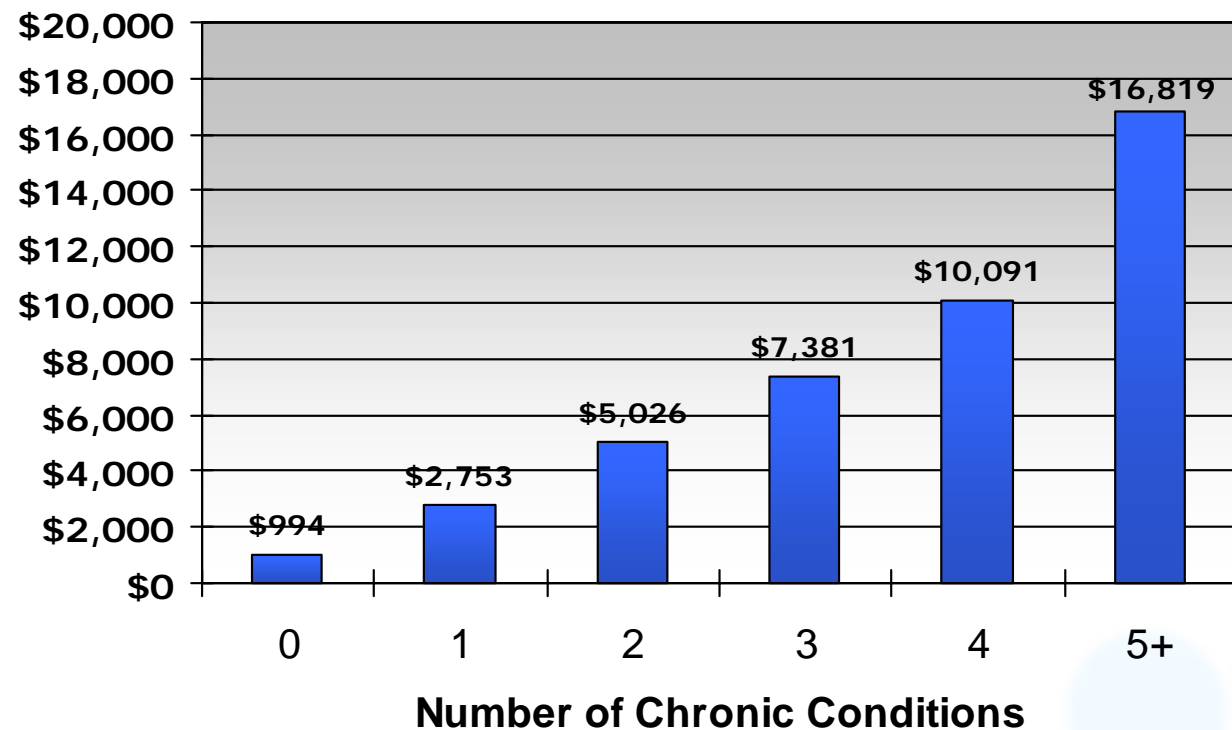
Per Capita Health Spending for Patients with Chronic Conditions



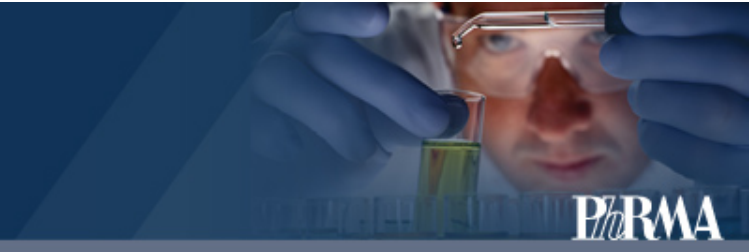
Annual spending for individuals with two chronic conditions is more than 5 times greater than for those without any condition

Spending is almost 17 times higher for individuals with five or more chronic diseases, compared to spending for those without any condition.

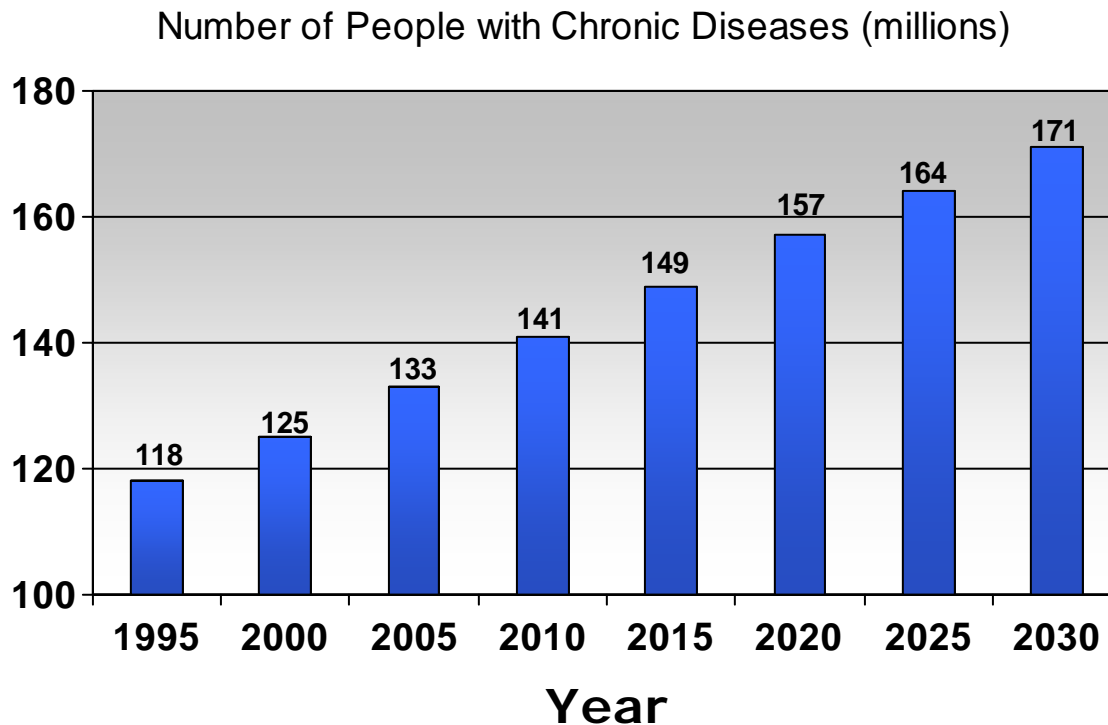
Average Yearly Per Capita Health Care Spending for Persons with Chronic Diseases



Projected Rates of Chronic Disease



Through 2030, the number of Americans with a chronic disease is expected to increase by more than 1 percent every year



“Chronic illness is a major health challenge... The aging of the U.S. population and increases in risk factors such as obesity suggest that chronic illnesses will be an even greater problem in future years.”

- Homer, Hirsch, and Milstein

Sources: Wu, Shin-Yi and Green, Anthony. Projection of Chronic Illness Prevalence and Cost Inflation. Rand Corporation, October 2000; J. Homer, G. Hirsch, and B. Milstein. “Chronic Illness in a Complex Health Economy: The Perils and Promises of Downstream and Upstream Reforms.” *Systems Dynamics Review*, Oct 30 2007. Vol. 23, No.2-3, pgs.313-343.



Highlights from Milken Institute Report:

An Unhealthy America: The Economic Burden of Chronic Disease

The Economic Burden of Chronic Disease: *Two Paths, Two Choices*



- Chronic Disease Today: The Current Toll
 - **The Human Cost**
 - **The Economic Cost**
- Chronic Disease Tomorrow: The Future Toll
 - **The Future on Our Current Path**
 - **The Alternative Path: Cases and costs avoidable with reasonable action**
 - **Longer Term Impact on GDP growth**
- Conclusion and Recommendations

The Economic Burden of Chronic Disease: *Two Paths, Two Choices*

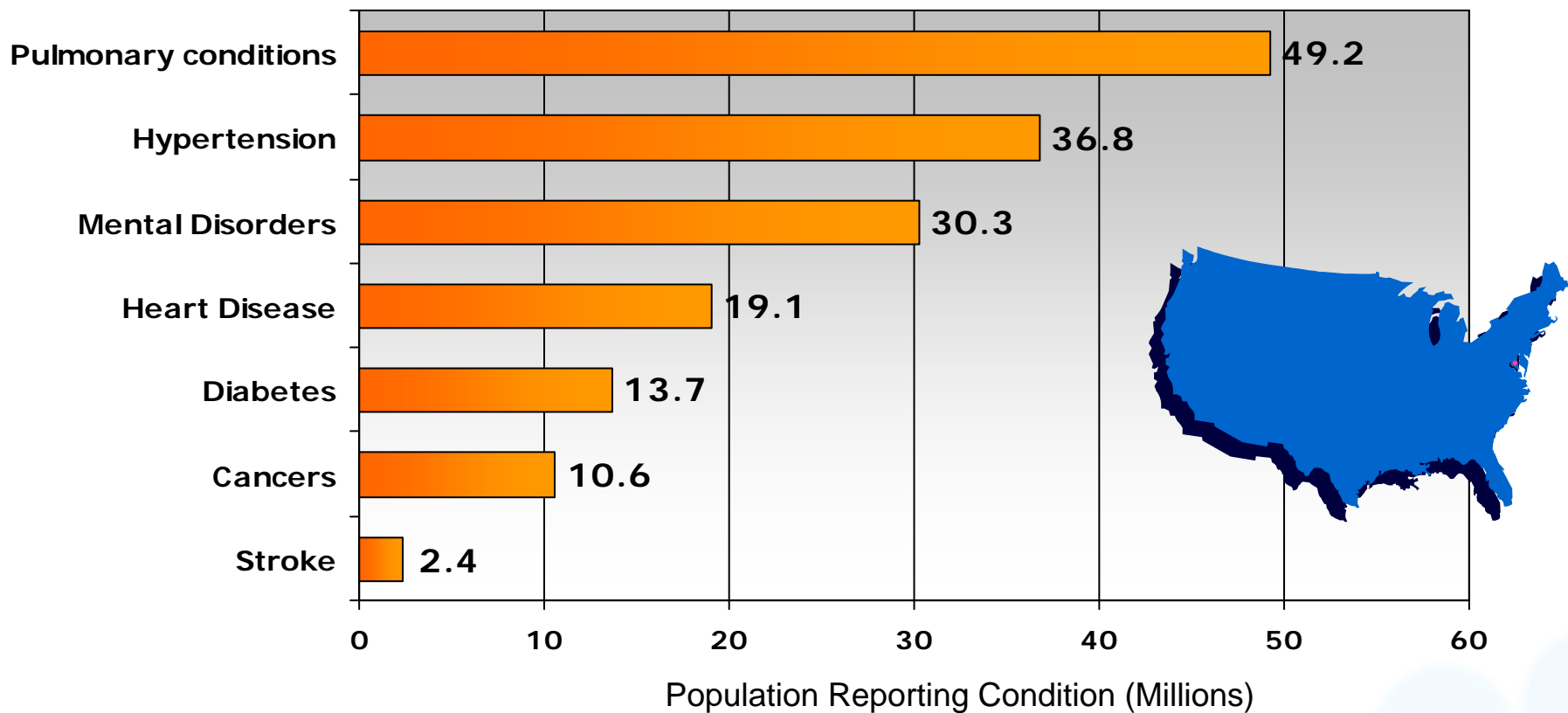


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The Human Cost: Millions of Americans Have a Chronic Disease

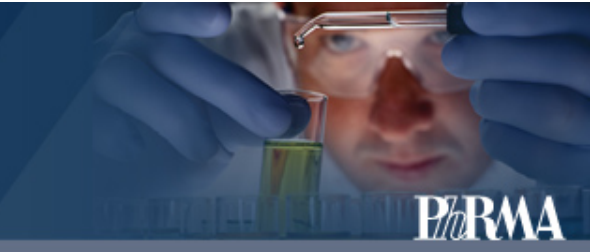


Number Reporting Seven Common Chronic Disease, 2003
United States

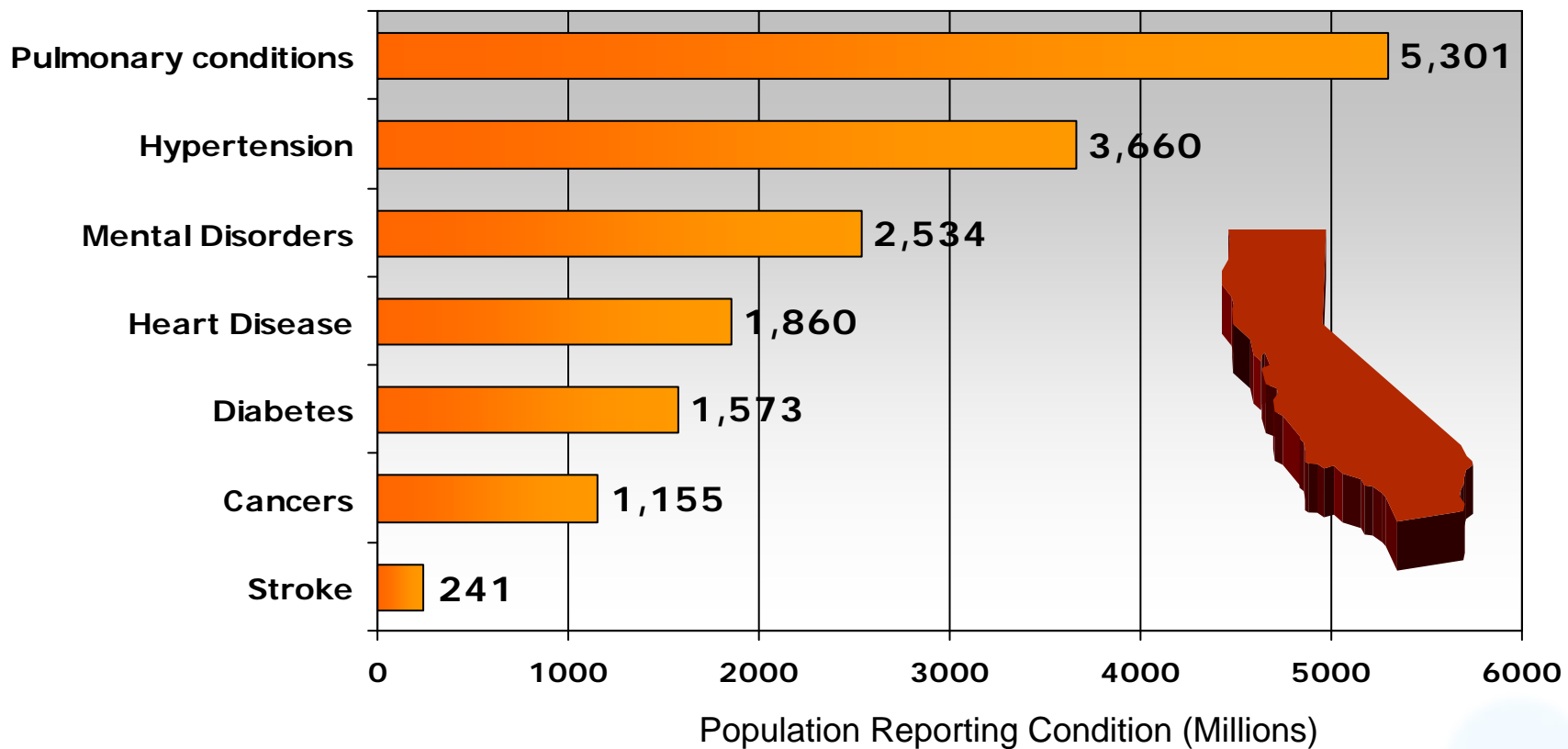


Total: 109 Million Americans; 162 Million Cases

The Human Cost: Millions of Americans Have a Chronic Disease

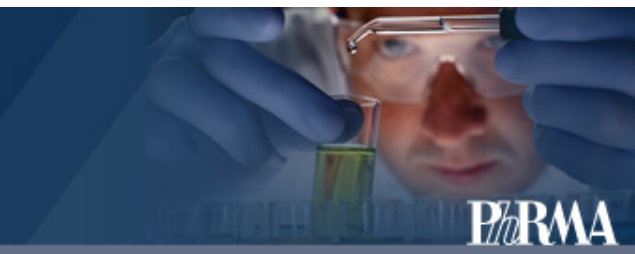


Number Reporting Seven Common Chronic Disease, 2003 California

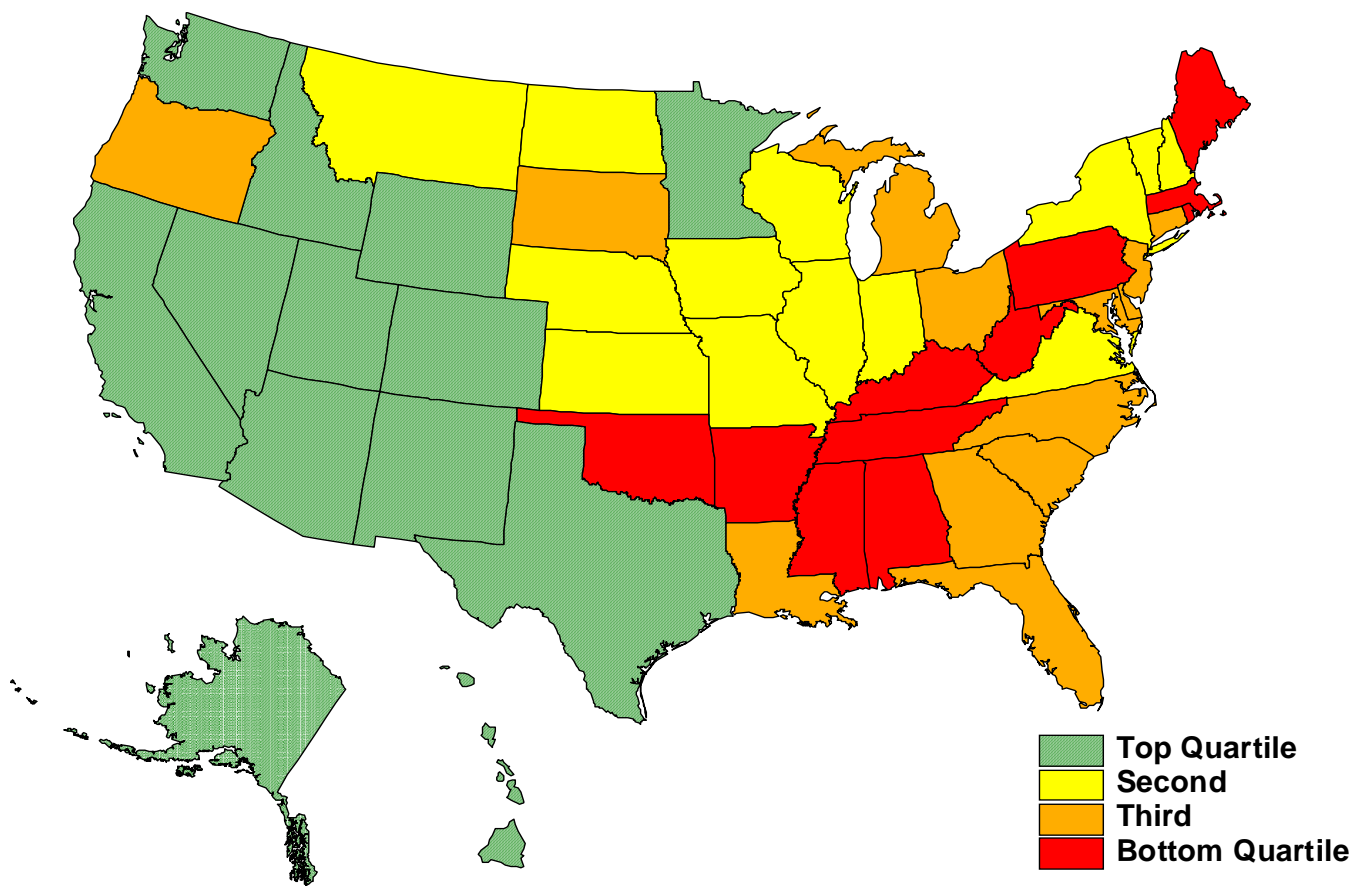


Total: 109 Million Americans; 162 Million Cases

The Human Cost: The Burden of Chronic Disease Varies by State



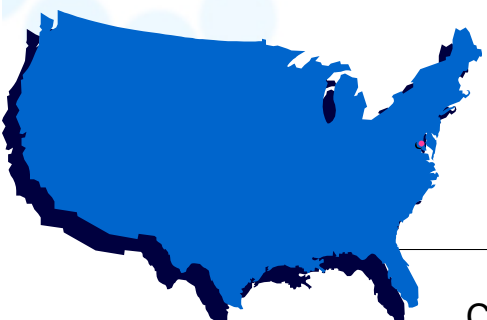
“The Milken State Chronic Disease Index”
States in Top Quartile have the Lowest Rates of Seven Common Chronic Diseases



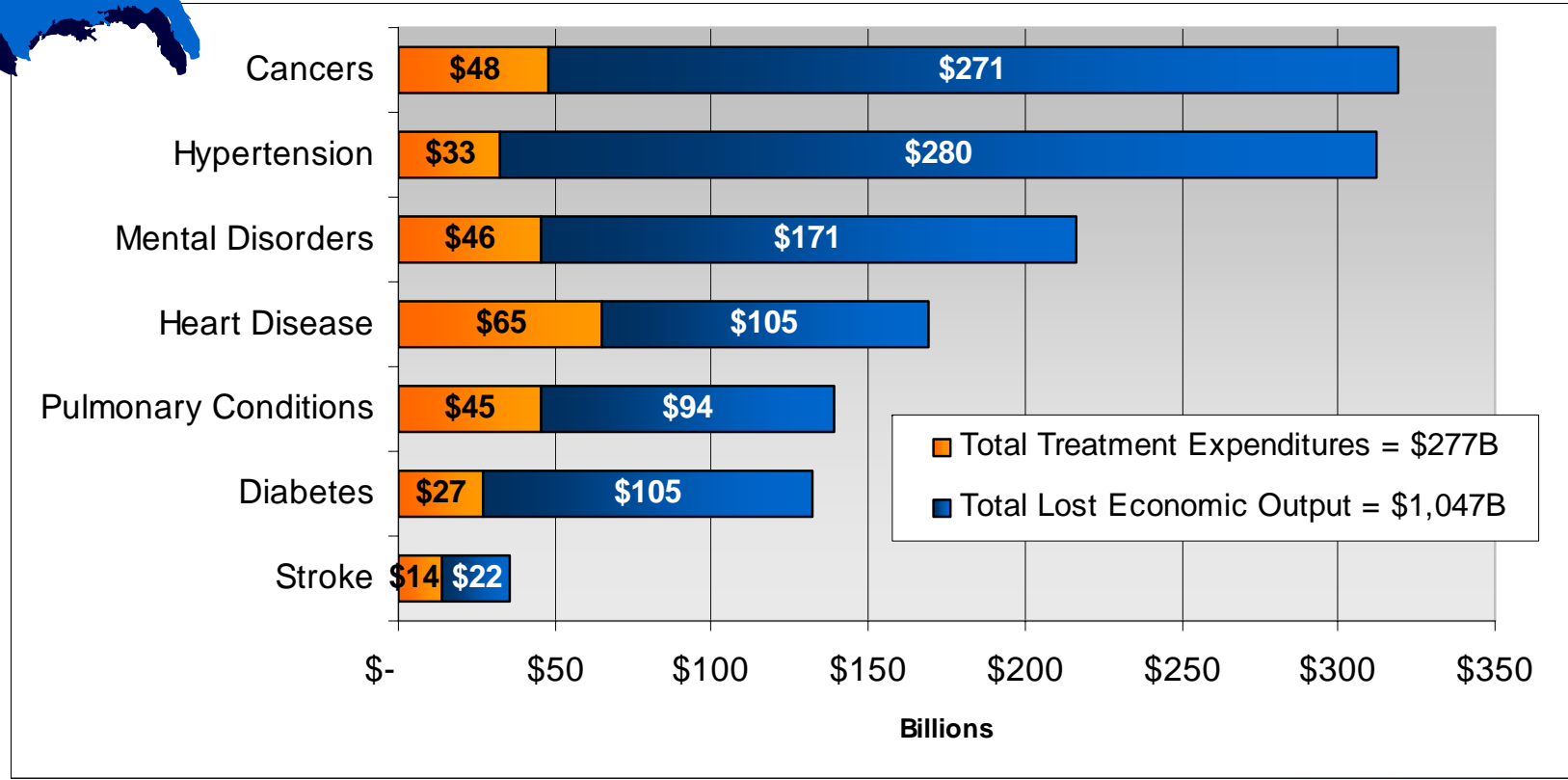
States with Highest Rates of Chronic Disease:

1. West Virginia
2. Tennessee
3. Arkansas
4. Kentucky
5. Mississippi
6. Pennsylvania
7. Rhode Island
8. Maine
9. Oklahoma
10. Alabama

The Economic Cost: Chronic Diseases Account for Billions in Health Care Spending & Lost Output



Economic Impact of Chronic Disease, 2003
United States



Sources of Lost Productivity



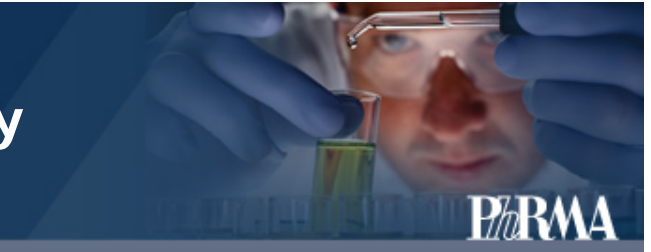
Absenteeism



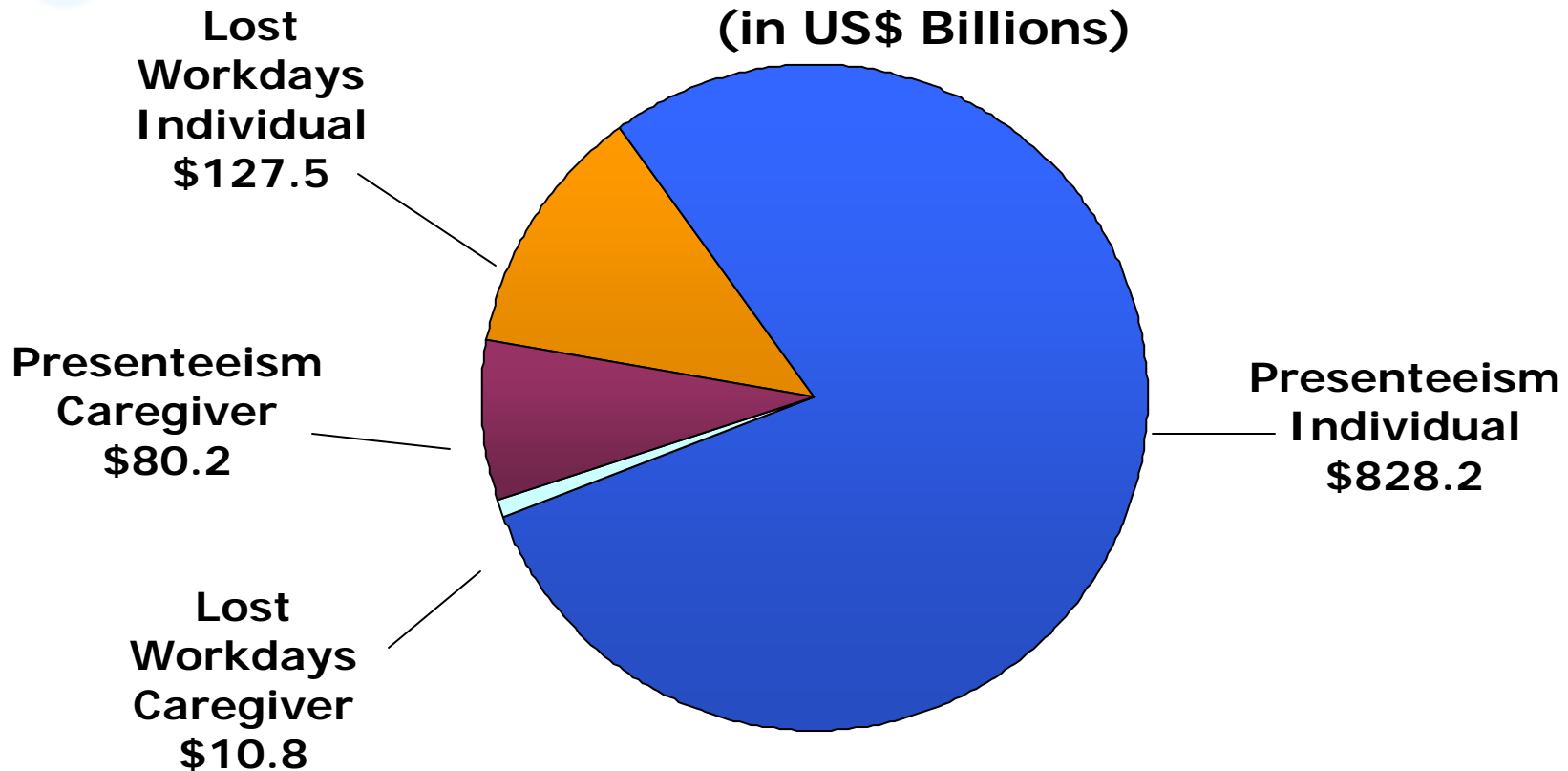
"Presenteeism"



The Economic Cost: Lost Productivity From Chronic Disease Costs Our Economy Billions Each Year



Lost Productivity by Source, 2003
(in US\$ Billions)



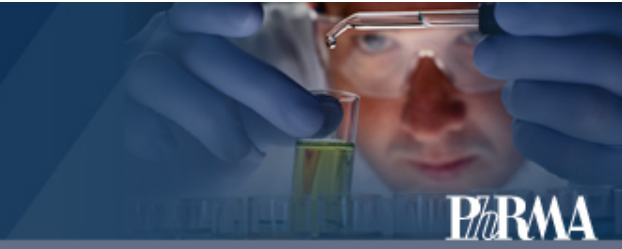
**Total Lost Productivity in 2003 = \$1.0 Trillion in U.S.,
and \$106 Billion in California Alone**

The Economic Burden of Chronic Disease: *Two Paths, Two Choices*

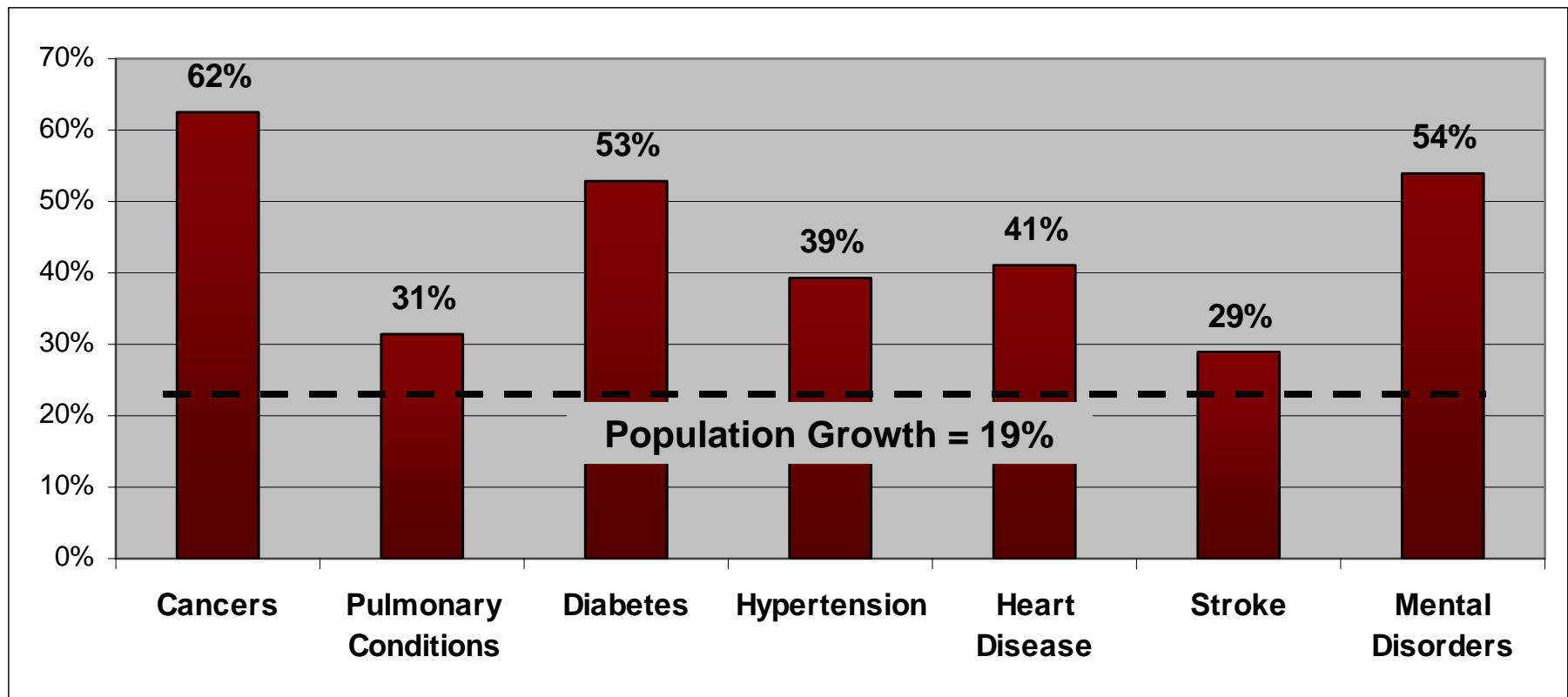


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Chronic Disease Rates Are Expected to Grow Dramatically



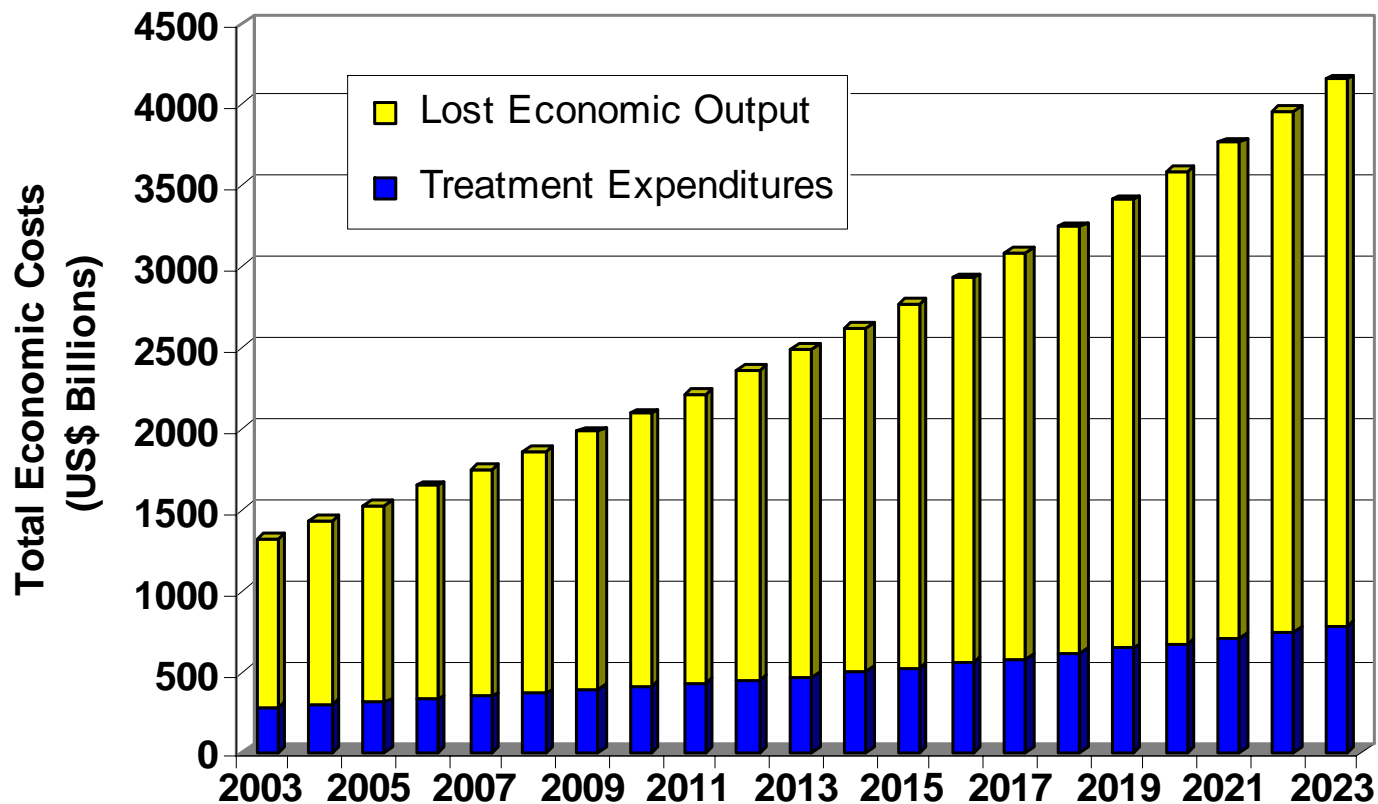
Expected Growth in Prevalence of Major Chronic Conditions
2003 to 2023



Our Current Path: Chronic Disease Will Cost U.S. Economy Over \$4 Trillion Annually by 2023...



Current Path:
*Combined Value of Treatment Expenditures
and Productivity Losses in U.S.*



For California, cost is over \$430 billion annually by 2023 -- \$360 in lost productivity and over \$70 billion in treatment expenditures annually

The Alternative Path: Improvements in Prevention, Behavior, and Treatment



Cases and Treatment Costs Under “Alternative Path” – The Assumptions:

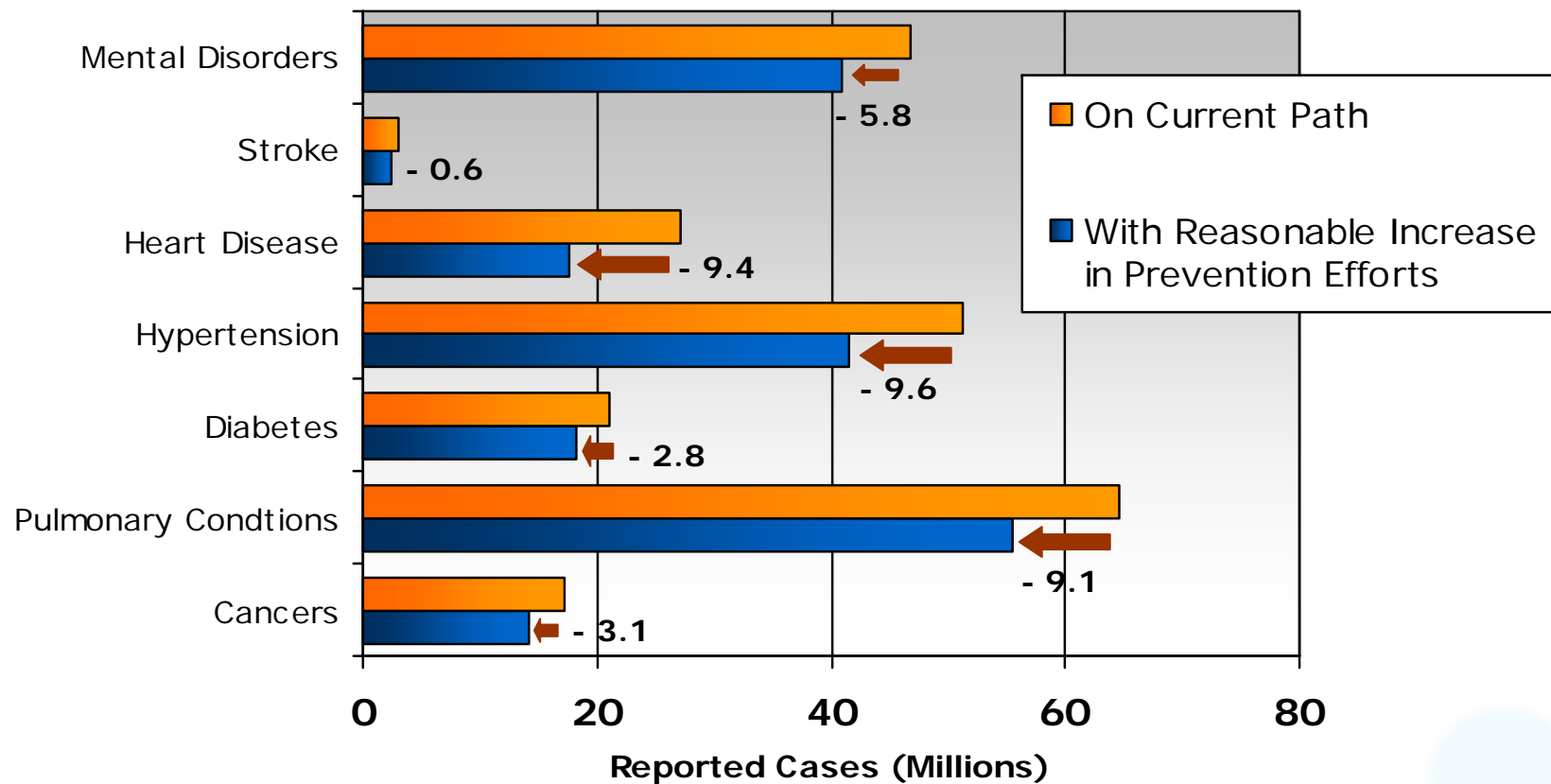
From 2003 to 2023, we assume “reasonable improvements,” such as:

- A reduction in number of obese persons (to 1998 levels of 19%)
- A continued reduction in smoking to 15%
- A decline in “at risk drinking” (from 6% to 4%)
- An increase in physical activity (from 75% to 83%)
- A decrease in high cholesterol levels (to 2000 levels of 32%)
- An improvement in air quality
- A gradual decline in illicit drug use
- A modest improvement in early intervention and treatment
- Lower health care cost growth

The Alternative Path: We Could Reduce Chronic Disease Rates Dramatically



Improvements in the prevention and management of chronic disease could avoid over 40 million cases of seven common chronic conditions in 2023

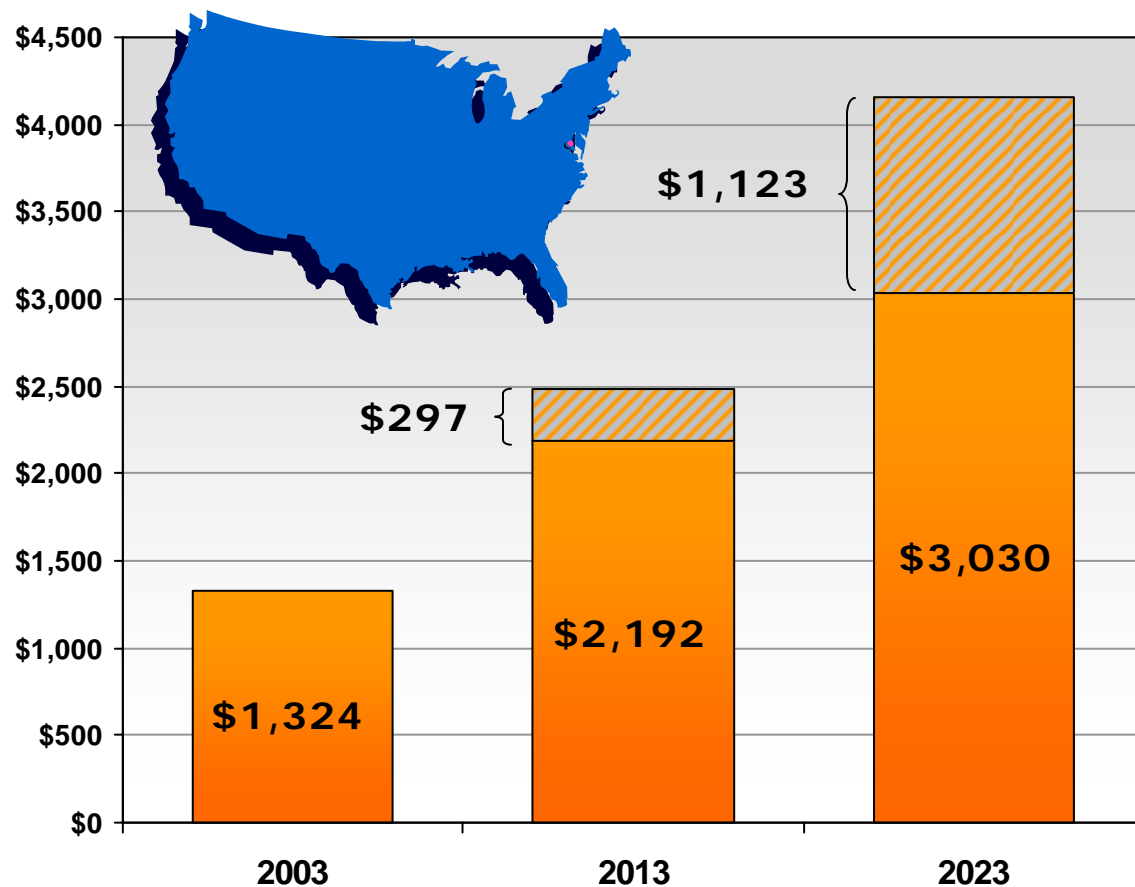


Source: Devol, Ross and Armen Bedroussian, An Unhealthy America: Economic Burden of Chronic Disease. Milken Institute, October 2007.

The Alternative Path: ...And Reduce Economic Costs in 2023 by \$1.1 Trillion



Projected Annual Economic Costs 2003 – 2023 (Billions)
United States



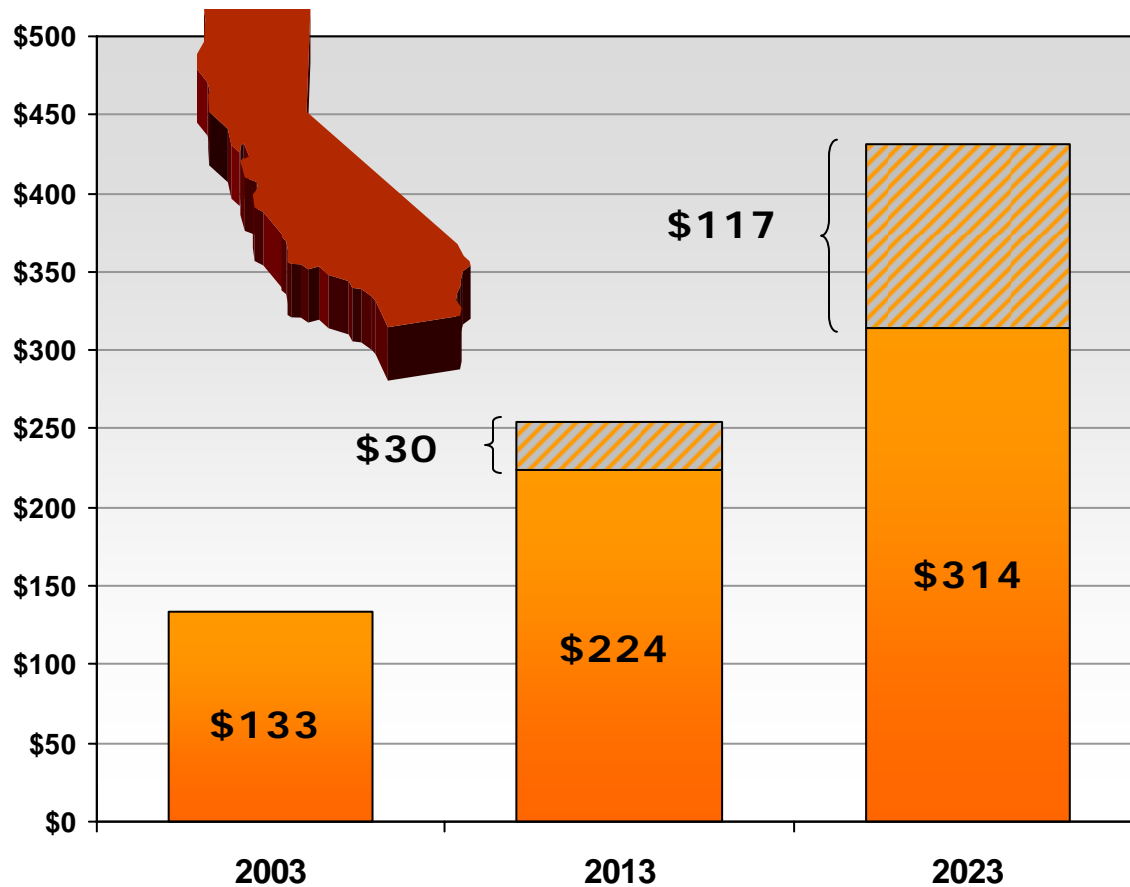
Improvements in prevention and early detection could reduce economic costs of chronic disease by \$1.1 trillion in 2023:

- \$905 billion from gains in productivity
- \$218 billion from avoided treatment expenditures

The Alternative Path: ...And Reduce Economic Costs in 2023 by \$1.1 Trillion



Projected Annual Economic Costs 2003 – 2023 (Billions)
California

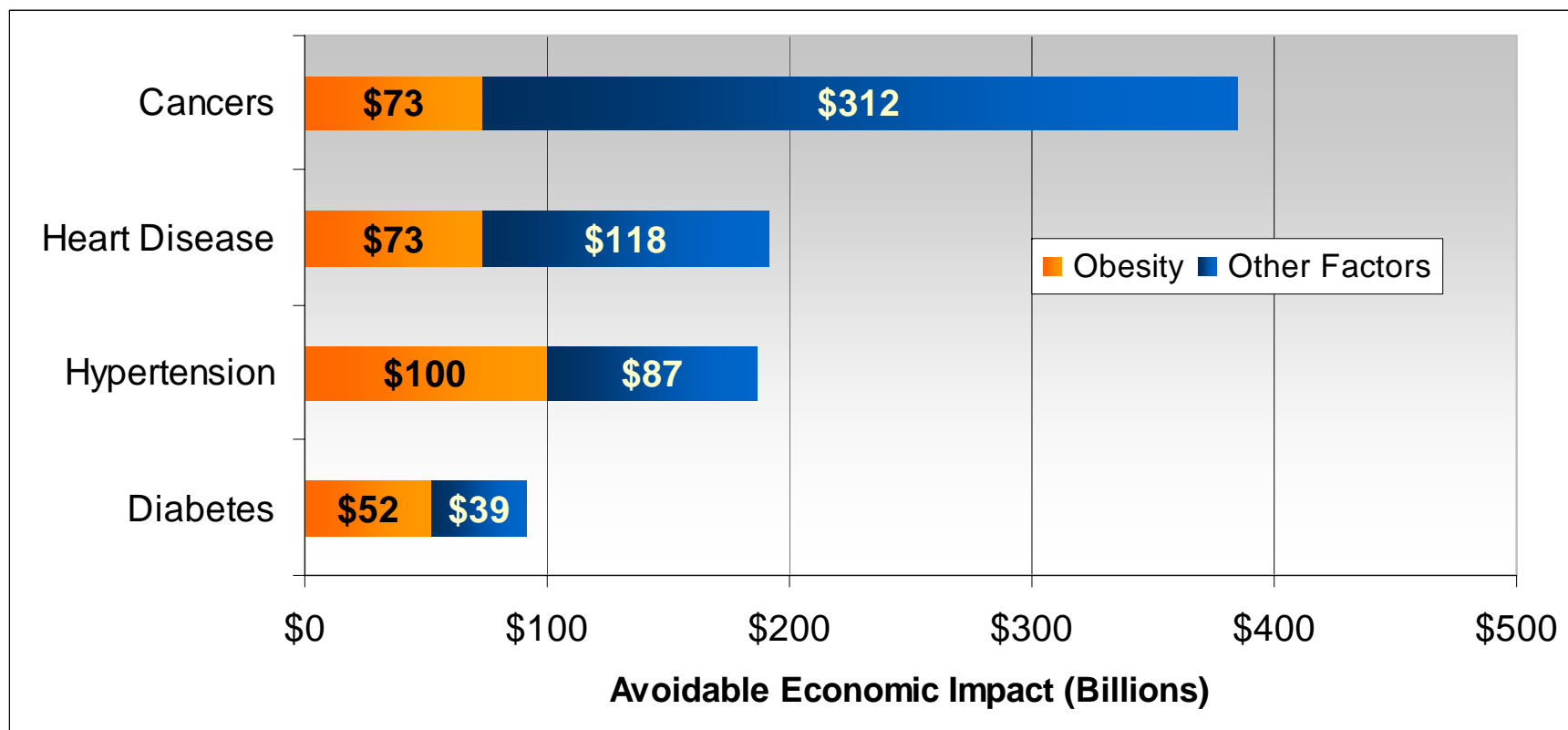


Improvements in prevention and early detection could reduce economic costs of chronic disease in California by \$117 billion in 2023:

- \$98 billion from gains in productivity
- \$19 billion from avoided treatment expenditures

For Example, Lower Obesity Rates Would Avoid Over \$800 Billion in Economic Costs in the Year 2023

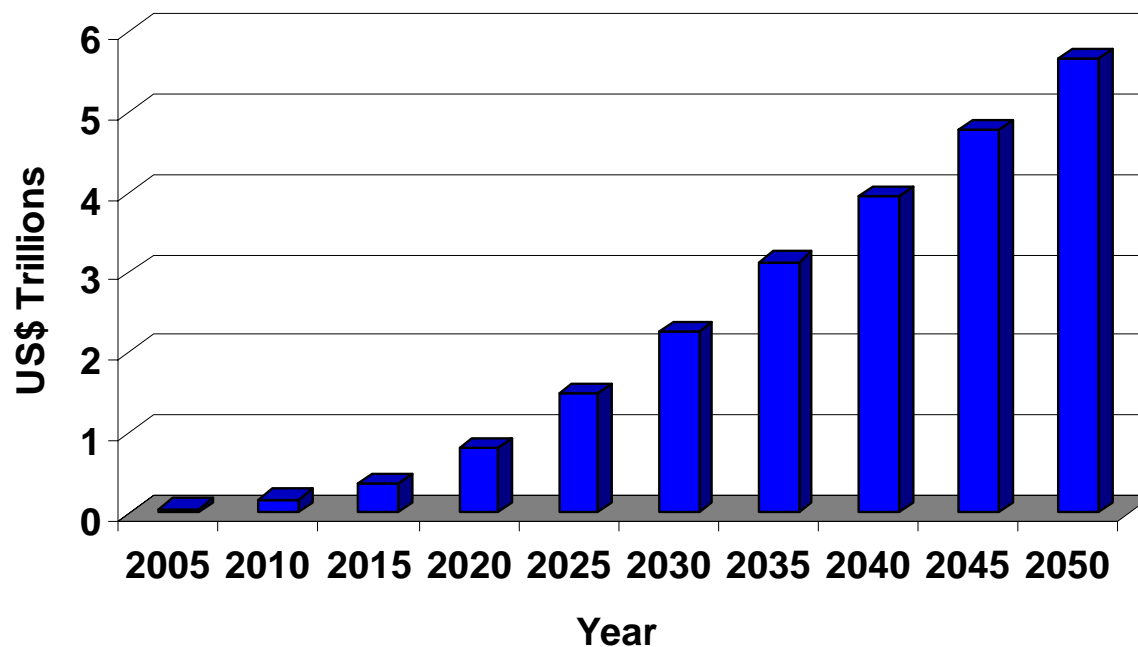
Avoidable Economic Costs Attributable to Decline in Obesity *Projected Estimates, 2023*



Longer term impact: Chronic Disease Prevention & Management Can Accelerate GDP Growth



Long-Term Forgone Economic Output
Change in Real GDP Between Baseline and Optimistic Scenarios

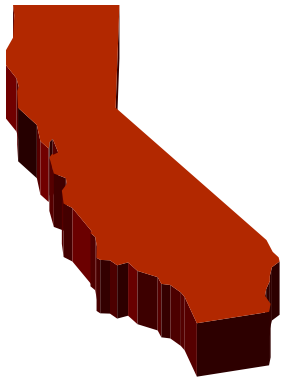


WHY IS THIS?

- Healthy Americans are more productive Americans
- Healthy Americans are able to get higher levels of education
- The higher an income earner's human capital, the greater the probability of investment in their children's and grandchildren's education

On this alternative path, U.S. GDP could increase by as much \$5.7 Trillion Annually by 2050

Longer term impact: Chronic Disease Prevention & Management Can Accelerate GDP Growth



California's Gross Domestic Product in 2050* *Current versus Alternative Path*

GDP in 2050, Current Path	\$5,188 Billion
GDP in 2050, Alternative Path	\$6,096 Billion
Potential Real Gain in GDP	\$908 Billion

**Inflation adjusted (2003 dollars)*

If Californian's take action today, California's annual GDP can be increased by as much as 18 percent, or \$908 Billion, by 2050

Economic Burden of Chronic Disease: *Conclusions and Recommendations*



Conclusions:

- Lost Productivity Surpasses Treatment as the Cause of Economic Burden
- Early Interventions and Medical Innovations Improve Quality and Longevity of Life
- Good Health Is an Investment in Economic Growth

Recommendations from Milken Institute:

- Incentives for Prevention and Early Intervention
 - *We need private-public partnerships to **incentivize patients and providers to prevent chronic disease effectively***
- “Healthy Body Weight Initiative”
 - *We need a **strong, long-term national commitment to promote health, wellness, and healthy body weight***