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.

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

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

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.

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.

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Number of People with Chronic Diseases (millions)

180
160
140
120
100


118 125 133 141 149 157 164 171
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"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

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

- Pulmonary conditions: 49.2
- Hypertension: 36.8
- Mental Disorders: 30.3
- Heart Disease: 19.1
- Diabetes: 13.7
- Cancers: 10.6
- Stroke: 2.4

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

<table>
<thead>
<tr>
<th>Condition</th>
<th>Population Reporting Condition (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulmonary conditions</td>
<td>5,301</td>
</tr>
<tr>
<td>Hypertension</td>
<td>3,660</td>
</tr>
<tr>
<td>Mental Disorders</td>
<td>2,534</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>1,860</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1,573</td>
</tr>
<tr>
<td>Cancers</td>
<td>1,155</td>
</tr>
<tr>
<td>Stroke</td>
<td>241</td>
</tr>
</tbody>
</table>

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

- Cancers: $48 billion in treatment expenditures, $271 billion total costs
- Hypertension: $65 billion in treatment expenditures, $280 billion total costs
- Mental Disorders: $33 billion in treatment expenditures, $171 billion total costs
- Heart Disease: $27 billion in treatment expenditures, $105 billion total costs
- Pulmonary Conditions: $45 billion in treatment expenditures, $94 billion total costs
- Diabetes: $46 billion in treatment expenditures, $105 billion total costs
- Stroke: $14 billion in treatment expenditures, $22 billion total costs

Total Treatment Expenditures = $277 billion
Total Lost Economic Output = $1,047 billion
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)

- Presenteeism Individual: $828.2
- Presenteeism Caregiver: $80.2
- Lost Workdays Individual: $127.5
- Lost Workdays Caregiver: $10.8

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_

- Chronic Disease Today: The Current Toll
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  - The Economic Cost

- Chronic Disease Tomorrow: The Future Toll
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  - The Alternative Future: Cases and costs avoidable with reasonable action
  - Longer Term Impact on GDP growth

- Conclusion and Recommendations
Chronic Disease Rates Are Expected to Grow Dramatically

Expected Growth in Prevalence of Major Chronic Conditions
2003 to 2023

- Cancers: 62%
- Pulmonary Conditions: 31%
- Diabetes: 53%
- Hypertension: 39%
- Heart Disease: 41%
- Stroke: 29%
- Mental Disorders: 54%

Population Growth = 19%
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.

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

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

Projected Annual Economic Costs 2003 – 2023 (Billions)

United States

![Graph showing projected annual economic costs from 2003 to 2023 for the United States. The graph indicates a significant reduction in costs from 2003 to 2023 due to improvements in prevention and early detection.]
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

Avoidable Economic Impact (Billions)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Obesity</th>
<th>Other Factors</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancers</td>
<td>$73</td>
<td>$312</td>
<td>$385</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>$73</td>
<td>$118</td>
<td>$191</td>
</tr>
<tr>
<td>Hypertension</td>
<td>$100</td>
<td>$87</td>
<td>$187</td>
</tr>
<tr>
<td>Diabetes</td>
<td>$52</td>
<td>$39</td>
<td>$91</td>
</tr>
</tbody>
</table>
Long-Term Forgone Economic Output
*Change in Real GDP Between Baseline and Optimistic Scenarios*

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

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
### California’s Gross Domestic Product in 2050*

**Current versus Alternative Path**

<table>
<thead>
<tr>
<th>GDP in 2050, Current Path</th>
<th>$5,188 Billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP in 2050, Alternative Path</td>
<td>$6,096 Billion</td>
</tr>
</tbody>
</table>

**Potential Real Gain in GDP**  
$908 Billion

*Inflation adjusted (2003 dollars)*

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