Is American Health Care Uniquely Inefficient?

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Health Care Expenditures in the U.S. and Other Countries

Source: OECD, 2009
WHO 2000 Rankings of Health Care Systems

1. France
2. Italy
5. Malta
6. Singapore
7. Spain
8. Oman
9. Austria

33. Chile
34. Denmark
35. Dominica
36. Costa Rica
37. United States
38. Slovenia
39. Cuba
40. Brunei
Health Improvements ($95 Trillion) = 3X Health Care Spending

The Value of Health and Longevity

Kevin M. Murphy and Robert H. Topel

University of Chicago and National Bureau of Economic Research

We develop a framework for valuing improvements in health and apply it to past and prospective reductions in mortality in the United States. We calculate social values of (i) increased longevity over the twentieth century, (ii) progress against various diseases after 1970, and (iii) potential future progress against major diseases. Cumulative gains in life expectancy after 1900 were worth over $1.2 million to the representative American in 2000, whereas post-1970 gains added about $3.2 trillion per year to national wealth, equal to about half of GDP. Potential gains from future health improvements are also large; for example, a 1 percent reduction in cancer mortality would be worth $500 billion.

Journal of Political Economy, 2006
Former Presidential Candidate Rudolph Giuliani compares the U.S. with the U.K.

My chance of surviving prostate cancer — and thank God I was cured of it — in the United States? Eighty-two percent.

My chances of surviving prostate cancer in England? Only 44 percent, under socialized medicine.
Goals of This Lecture

• Define productive and allocative efficiency in health care

• So how does the US system compare to other countries?

• Why is US health care cost growth so fast?

• Lessons for health care reform
A Health Care Production Function

Survival (life expectancy) vs. Factor Inputs
A Health Care Production Function

Survival (life expectancy)

Factor Inputs

Allocative inefficiency

Productive inefficiency

0
Health Status Can Shift the Production Function
## Health Expenditures and Health Status

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>CAN</th>
<th>FRA</th>
<th>GER</th>
<th>NTL</th>
<th>UK</th>
<th>JAP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Per Capita Health Expenditures</strong></td>
<td>$6,401</td>
<td>3,326</td>
<td>3,374</td>
<td>3,287</td>
<td>3,094</td>
<td>2,734</td>
<td>2,358</td>
</tr>
<tr>
<td><strong>Obesity Rate</strong></td>
<td>32</td>
<td>18</td>
<td>10</td>
<td>14</td>
<td>11</td>
<td>23</td>
<td>3</td>
</tr>
<tr>
<td><strong>Adult Smoking</strong></td>
<td>17</td>
<td>17</td>
<td>23</td>
<td>24</td>
<td>31</td>
<td>24</td>
<td>26</td>
</tr>
</tbody>
</table>

Source: ACP, Annals of Internal Medicine, 1 Jan 2008
Figure 2b: Explaining “Flat of the Curve” Health Care Expenditures
Productive Efficiency in the U.S.

The Quality of Health Care Delivered to Adults in the United States

Elizabeth A. McGlynn, Ph.D., Steven M. Asch, M.D., M.P.H., John Adams, Ph.D., Joan Keesey, B.A., Jennifer Hicks, M.P.H., Ph.D., Alison DeCristofaro, M.P.H., and Eve A. Kerr, M.D., M.P.H.
<table>
<thead>
<tr>
<th>Variable</th>
<th>No. of Indicators</th>
<th>No. of Participants Eligible</th>
<th>Total No. of Times Indicator Eligibility Was Met</th>
<th>Percentage of Recommended Care Received (95% CI)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall care</td>
<td>439</td>
<td>6712</td>
<td>98,649</td>
<td>54.9 (54.3–55.5)</td>
</tr>
<tr>
<td>Type of care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preventive</td>
<td>38</td>
<td>6711</td>
<td>55,268</td>
<td>54.9 (54.2–55.6)</td>
</tr>
<tr>
<td>Acute</td>
<td>153</td>
<td>2318</td>
<td>19,815</td>
<td>53.5 (52.0–55.0)</td>
</tr>
<tr>
<td>Chronic</td>
<td>248</td>
<td>3387</td>
<td>23,566</td>
<td>56.1 (55.0–57.3)</td>
</tr>
<tr>
<td>Function</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screening</td>
<td>41</td>
<td>6711</td>
<td>39,486</td>
<td>52.2 (51.3–53.2)</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>178</td>
<td>6217</td>
<td>29,679</td>
<td>55.7 (54.5–56.8)</td>
</tr>
<tr>
<td>Treatment</td>
<td>173</td>
<td>6707</td>
<td>23,019</td>
<td>57.5 (56.5–58.4)</td>
</tr>
<tr>
<td>Follow-up</td>
<td>47</td>
<td>2413</td>
<td>6,465</td>
<td>58.5 (56.6–60.4)</td>
</tr>
</tbody>
</table>

* CI denotes confidence interval.
# Productive Inefficiency Around the World

<table>
<thead>
<tr>
<th>% of Population &gt; 65 with flu shot, 2004(^b)</th>
<th>US</th>
<th>CAN</th>
<th>FRA</th>
<th>GER</th>
<th>NTL</th>
<th>UK</th>
<th>JAP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>65%</td>
<td>62</td>
<td>68</td>
<td>48</td>
<td>73</td>
<td>71</td>
<td>43</td>
</tr>
</tbody>
</table>
Primary Care Doctors Use of Electronic Patient Medical Records, 2006

Percent of physicians

<table>
<thead>
<tr>
<th>Country</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>NET</td>
<td>98</td>
</tr>
<tr>
<td>NZ</td>
<td>92</td>
</tr>
<tr>
<td>UK</td>
<td>89</td>
</tr>
<tr>
<td>AUS</td>
<td>79</td>
</tr>
<tr>
<td>GER</td>
<td>42</td>
</tr>
<tr>
<td>US</td>
<td>28</td>
</tr>
<tr>
<td>CAN</td>
<td>23</td>
</tr>
</tbody>
</table>

Source: 2006 Commonwealth Fund International Health Policy Survey of Primary Care Physicians
Percentage of Total Health Care Spending on Health Administration and Insurance in 2004

- United States: 7.6%
- France: 7.5%
- Germany: 5.6%
- Netherlands: 4.4%
- Canada: 4.1%
- Australia: 3.0%
- OECD Median: 3.0%
- Japan: 2.3%

Per Capita Medicare Spending by Hospital Referral Region, 2006

- $9,000 to 16,352 (57)
- 8,000 to < 9,000 (79)
- 7,500 to < 8,000 (53)
- 7,000 to < 7,500 (42)
- 5,310 to < 7,000 (75)
- Not Populated
Lifetime Differences in Medicare Expenditures: Los Angeles Vs. Minneapolis
Negative Association between Quality of Care and Medicare Expenditures

Source: Baicker and Chandra, *Health Affairs*, 2004
Racial Disparities in Knee Replacements (per 1,000 Medicare Enrollees)

Unequal Access Shifts the Apparent Aggregate Production Function
But what about allocative inefficiency?
A Health Care Production Function

Survival (life expectancy)

Allocative inefficiency

Productive inefficiency

Factor Inputs

0
Average Annual Number of Physician Visits per Capita in 2004

<table>
<thead>
<tr>
<th>Country</th>
<th>Visits per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>13.8</td>
</tr>
<tr>
<td>France</td>
<td>6.7</td>
</tr>
<tr>
<td>Canada</td>
<td>6.1</td>
</tr>
<tr>
<td>OECD Median</td>
<td>6.1</td>
</tr>
<tr>
<td>Australia</td>
<td>6.0</td>
</tr>
<tr>
<td>Netherlands</td>
<td>5.3</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>5.3</td>
</tr>
<tr>
<td>United States</td>
<td>3.9</td>
</tr>
<tr>
<td>New Zealand</td>
<td>3.2</td>
</tr>
</tbody>
</table>

*2003

# Utilization of Health Care

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>CAN</th>
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<th>GER</th>
<th>NTL</th>
<th>UK</th>
<th>JAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Beds</td>
<td>2.7</td>
<td>2.9</td>
<td>3.7</td>
<td>6.4</td>
<td>3.1</td>
<td>3.1</td>
<td>8.2</td>
</tr>
<tr>
<td>per 1000 people</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prescription Drugs</td>
<td>100</td>
<td>146</td>
<td>171</td>
<td>85</td>
<td>94</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>(US=100)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MRIs (per million people)</td>
<td>26.6</td>
<td>5.5</td>
<td>3.2</td>
<td>7.1</td>
<td>5.6</td>
<td>5.4</td>
<td>40.1</td>
</tr>
</tbody>
</table>

Source: ACP, Annals of Internal Medicine, 1 Jan 2008
## Waiting, Overuse, and MD Salaries

<table>
<thead>
<tr>
<th></th>
<th>US</th>
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<th>GER</th>
<th>NTL</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wait &gt; 6 Months for Elective Surgery</td>
<td>4%</td>
<td>14</td>
<td>3</td>
<td>2</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>MD Recommended Treatment w/o Benefit</td>
<td>20%</td>
<td>12</td>
<td>20</td>
<td>13</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Generalists MD Salaries (in thousands of US$)</td>
<td>$161</td>
<td>107</td>
<td>92</td>
<td>[77]</td>
<td>117</td>
<td>118</td>
</tr>
</tbody>
</table>

Source: ACP, Annals of Internal Medicine, 1 Jan 2008
Improving Productive Efficiency: Do These Save Money, or Do They Just Save Lives?

• Expanding insurance coverage

• Improved Information Technology (IT)

• P4P (Pay for Performance)

• Better preventive care
Much Harder to Tackle Allocative Inefficiency

- Cost-effectiveness (aka death) review panels?
- Health savings accounts?
- Price controls on pharmaceuticals?
# US Health Care Not Always “Affordable”

<table>
<thead>
<tr>
<th></th>
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<th>UK</th>
<th>JAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Chronic ill skipping care because of costs, 2007</td>
<td>42</td>
<td>14</td>
<td>20</td>
<td>5</td>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What about Growth in US Health Care?
Health Care Costs in the U.S. Growing Relatively Faster

Note: "Peer Countries" include Canada, France, Germany, Japan, Switzerland, and the United
But Survival Gains in the U.S. Falling Behind
Projected US Federal Debt (% of GDP)

Source: Congressional Budget Office, June 2009
Prime Suspects in the Growth of US Health Care Costs

- Greedy insurance companies
Percentage of Total Health Care Spending on Health Administration and Insurance in 2004

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>7.6%</td>
</tr>
<tr>
<td>France</td>
<td>7.5%</td>
</tr>
<tr>
<td>Germany&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.6%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4.4%</td>
</tr>
<tr>
<td>Canada</td>
<td>4.1%</td>
</tr>
<tr>
<td>Australia&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.0%</td>
</tr>
<tr>
<td>OECD Median</td>
<td>3.0%</td>
</tr>
<tr>
<td>Japan&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

<sup>a</sup>2003  
<sup>b</sup>2002

Prime Suspects in the Growth of US Health Care Costs

- Greedy insurance companies
- Greedy drug companies
Drugs as a % of total medical care

http://www.kaiseredu.org/topics_im.asp?imID=1&parentID=61&id=358
Prime Suspects in the Growth of US Health Care Costs

- Greedy insurance companies
- Greedy drug companies
- Greedy malpractice lawyers
Medical Malpractice System Breeds More Waste
By David Leonhardt
September 23, 2009

• The fear of lawsuits among doctors does seem to lead to a noticeable amount of wasteful treatment. Amitabh Chandra — a Harvard economist whose research is cited by both the American Medical Association and the trial lawyers’ association — says $60 billion a year, or about 3 percent of overall medical spending, is a reasonable upper-end estimate.
Prime Suspects in the Growth of US Health Care Costs

- Greedy insurance companies
- Greedy drug companies
- Greedy malpractice lawyers
- Greedy – consumers?
The Survival Benefits of a $30K Drug (Erlotinib) for Pancreatic Cancer


HR = 0.82
95% CI (0.69 to 0.99)
P = .038

Erlotinib (n = 285)
Median = 6.24 months
1-year survival = 23%

Placebo (n = 284)
Median = 5.91 months
1-year survival = 17%
“Demand-Side” Waste from Health Care Spending

- A few weeks ago, Rivers asked her father whether he would like to be hooked to life-support machines should he be near death. "Two years on one of them machines probably costs $100,000," Norton says. "It'd be silly, all that money and you don't even have it."

Molly Lamb, Valley News, July 15, 1999
Prime Suspects in the Growth of US Health Care Costs

- Greedy insurance companies
- Greedy drug companies
- Greedy malpractice lawyers
- Greedy consumers?
- Greedy doctors?

The New Yorker June 1 2009
A Tale of Two Cities: El Paso & McAllen

El Paso & McAllen in 1992: Similar Medicare Expenditure Patterns

Note: Per capita age-sex-rate-adjusted Medicare expenditures
Source: Bynum & Skinner
## Similar Underlying Health: Medicare Utilization & Mortality

<table>
<thead>
<tr>
<th></th>
<th>Mortality Rate</th>
<th>Hip Fracture (per 1000)</th>
<th>Hip and Knee Repl. (per 1000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>McAllen</td>
<td>4.7%</td>
<td>6.3</td>
<td>10.8</td>
</tr>
<tr>
<td>El Paso</td>
<td>5.0</td>
<td>7.8</td>
<td>9.8</td>
</tr>
<tr>
<td>US Average</td>
<td>5.1%</td>
<td>7.3</td>
<td>11.7</td>
</tr>
</tbody>
</table>

Source: [www.dartmouthatlas.org](http://www.dartmouthatlas.org). Age, sex, and race-adjusted measures
By 2006: Divergent Expenditure Patterns in El Paso & McAllen

Source: Bynum & Skinner
## Intensity of Care in McAllen is High -- but Low Quality Measures

<table>
<thead>
<tr>
<th></th>
<th>Medicare Spending (2006)</th>
<th>Cardiac Surgery* (per 1000)</th>
<th>Quality Index (100=best)</th>
</tr>
</thead>
<tbody>
<tr>
<td>McAllen</td>
<td>$14,946</td>
<td>24.1</td>
<td>69.5</td>
</tr>
<tr>
<td>El Paso</td>
<td>7,504</td>
<td>12.2</td>
<td>77.4</td>
</tr>
<tr>
<td>US Average</td>
<td>$8,304</td>
<td>16.1</td>
<td>87.2</td>
</tr>
</tbody>
</table>

* Percutaneous Coronary Interventions (eg stents) and bypass surgery
Source: [www.dartmouthatlas.org](http://www.dartmouthatlas.org). Age, sex, and race-adjusted measures
THE COST CONUNDRUM

What a Texas town can teach us about health care.

BY ATUL Gawande

It is spring in McAllen, Texas. The morning sun is warm. The streets are lined with palm trees and pickup trucks. McAllen is in Hidalgo County, which has the most expensive town in the most expensive country for health care in the world. McAllen, Texas, the most expensive town in the world, seemed a good place to look. The surgeon came to McAllen in the mid-nineties, and since then, he said, “the way to practice medicine has changed completely. Before, it was about how to do a good job. Now it is about How much will you benefit?”
Some positive reviews.....

- The best recent journalistic treatment of this issue is Atul Gawande’s [excellent recent article](#) in The New Yorker. Gawande is a surgeon, and I’m very envious that he’s as brilliant a journalist as he is a doctor. The article, by the way, wowed President Obama and became required reading in the West Wing.

Nicholas Kristof, New York Times (blog)
Not Everyone was so Positive!

Today we’re going to be discussing this issue in the New Yorker. The New Yorker is this liberal rag from the east coast and they have written an article talking about healthcare in the United States and specifically the healthcare as it appears in South Texas and Hidalgo County. Let’s look at a little bit about the author. The author is Atul Ga-wan-de. Not a name you’re going to hear very frequently in South Texas.... Let’s take a look a little bit at Mr. Atul Gawande. Uh, he was a volunteer for Gary Hart’s campaign – you remember Gary Hart – and was that the Donna Rice fame? ...
Could this Explain High Health Care Costs?

RESEARCHER’S WARNING:

PROVO, Utah — Thousands of treacherous space aliens are masquerading as doctors around the world, subjecting unsuspecting patients to dangerous medical experiments that could ruin their lives.

As many as 2 million Americans and millions more in Europe and Asia are trusting their health to alien creatures, leading UFO researcher Dr. Terrence Starnes estimates.

“This is a terrifying situation,” Dr. Starnes said.

“These alien impostors have infiltrated the medical establishment and are using our own hospitals and tools to achieve their evil ends.”

The phony physicians are conducting life-threatening experiments, including the implantation of mind-control devices.

If you have doubts about your doctor being an Earthling, verify his credentials or check with the nearest medical association.

But even that precaution might not be foolproof, he said — because...

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Where Knowledge Informs Change
The introduction of Multislice Computed Tomography (MSCT) has changed the way urologists diagnose their patients. Today, CT has become the gold standard for many diagnostic examinations in urology.

Now Siemens Medical Solutions is making this fascinating imaging technology available to private practices like yours. Adding computed tomography can not only improve patient convenience — by combining...
<table>
<thead>
<tr>
<th>Procedures Per Day</th>
<th>Days Per Month</th>
<th>Average CPT</th>
<th>Income</th>
<th>FMVL Cost</th>
<th>ROI* Per Month</th>
<th>ROI for 5 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1.8</td>
<td>20</td>
<td>$220</td>
<td>$7,950</td>
<td>Break Even</td>
<td>Break Even</td>
</tr>
<tr>
<td>B</td>
<td>5</td>
<td>20</td>
<td>$220</td>
<td>$22,000</td>
<td>$14,050</td>
<td>$843,000</td>
</tr>
<tr>
<td>C</td>
<td>10</td>
<td>20</td>
<td>$220</td>
<td>$44,000</td>
<td>$36,050</td>
<td>$2,163,000</td>
</tr>
</tbody>
</table>

Sample computation – Basic SOMATOM Spirit configuration, based on a 5-year Fair Market Value Lease (FMVL). Prices will vary with additional options. Please consult your Siemens Account Executive for details.

*Return on Investment.
Incentives Matter®