

The World's Best Health Care?

William Greene
Department of Economics
Stern School of Business
New York University

Leigh Lecture
Washington State University
March 21, 2013



“The people here at Queen's Hospital could not have been better. I feel very, very fortunate. I have been treated to the **best health care the world has to offer** -- and that is right here in the United States of America.”

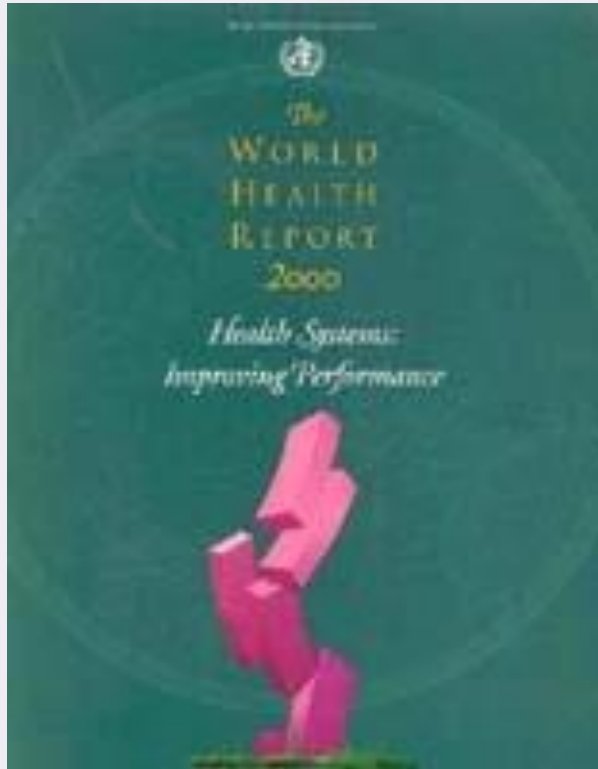
Rush does not have health insurance. He self insures out of his \$33,000,000 yearly income. The hospital was a state run institution staffed by public servants. Rush survived his heart attack and resumed his normal life.

"I believe that the **health care bill** that was enacted by the current Congress will kill jobs in America, ruin **the best health care system in the world**, and bankrupt our country,"

*John Boehner, House Speaker, 2010, just after
ACA was passed*

Boehner is not the first nor the only Republican to try to make us believe that the U.S. has **the world's best health care system** Well, those guys need to get out more. Out of the country, in fact. They need to travel to at least one of **the many countries that are doing a much better job of delivering high quality care at much lower costs than the good old USA.**

Wendell Potter, Retired Insurance Company Executive, 11/29/11



In the millennial edition of its *World Health Report*, in 2000, the World Health Organization published a study that compared the successes of the health care systems of 191 countries. The results notoriously ranked the United States a dismal 37th, between Costa Rica and Slovenia. The study was widely misrepresented, universally misunderstood and was, in fact, unhelpful in understanding the different outcomes across countries. Nonetheless, the result remains controversial a decade later, as policy makers argue about why **the world's most expensive health care system isn't the world's best.**



37

Annex Table 1 Health system attainment and performance in all Member States, ranked by eight measures, estimates for 1997

Immediate Reaction to the WHR Health System Performance Report

New York Times, June 21, 2000

The New York Times

Health

WORLD	U.S.	N.Y. / REGION	BUSINESS	TECHNOLOGY	SCIENCE	HEALTH	SPORTS	OPINION	ARTS	STYLE	TRAVEL
-------	------	---------------	----------	------------	---------	--------	--------	---------	------	-------	--------

Europeans Perform Highest In Ranking of World Health

By PHILIP J. HILTS

Published: June 21, 2000

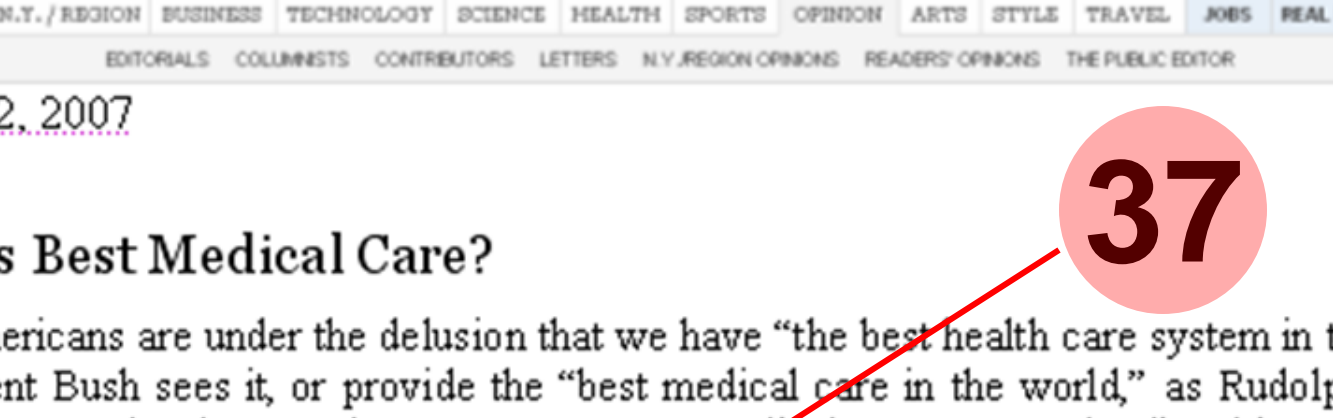
The World Health Organization issued figures yesterday that rank health care systems around the world for the first time. They indicate that European health systems are generally performing best and that the United States is lagging behind, largely because of unequal distribution of health care services.

The rankings are contained in the World Health Report 2000. The report measured not just overall spending on health but also how health care was distributed among different groups in each of the 191 nations that are members of the World Health Organization. The countries were judged according to five health-care categories that W.H.O surveys found to be most important to the people in various nations.

Until now, argument over how well health systems and policies are working has been based on anecdotes and fractional bits of data, said Dr. Jeffrey Koplan, director of the United States Centers for Disease Control and Prevention. He said the report was the first attempt to put the arguments on a factual footing. **According to the report, the five top nations for health care were France, Italy, San Marino, Andorra and Malta.**

Sustained Reaction to the WHR Health System Performance Report

New York Times, August 12, 2007



The screenshot shows the top of a New York Times article. The page has a header with "The New York Times" logo, the word "Opinion", and a search bar. Below the header is a navigation bar with links for "WORLD", "U.S.", "N.Y. / REGION", "BUSINESS", "TECHNOLOGY", "SCIENCE", "HEALTH", "SPORTS", "OPINION", "ARTS", "STYLE", "TRAVEL", "JOBS", "REAL ESTATE", and "AUTOS". Below this is a sub-navigation bar with links for "EDITORIALS", "COLUMNISTS", "CONTRIBUTORS", "LETTERS", "N.Y. REGION OPINIONS", "READERS' OPINIONS", and "THE PUBLIC EDITOR". The date "August 12, 2007" is displayed on the left. The article title is "World's Best Medical Care?". The first paragraph discusses the U.S. health care system. A red circle with the number "37" inside is positioned over the text, with a red arrow pointing to it from the right. The text "37" is also highlighted in a pink circle. The second paragraph is highlighted in a light red background. The third paragraph is highlighted in a light gray background.

The New York Times

Opinion

WORLD U.S. N.Y. / REGION BUSINESS TECHNOLOGY SCIENCE HEALTH SPORTS OPINION ARTS STYLE TRAVEL JOBS REAL ESTATE AUTOS

EDITORIALS COLUMNISTS CONTRIBUTORS LETTERS N.Y. REGION OPINIONS READERS' OPINIONS THE PUBLIC EDITOR

August 12, 2007

EDITORIAL

World's Best Medical Care?

Many Americans are under the delusion that we have “the best health care system in the world,” as President Bush sees it, or provide the “best medical care in the world,” as Rudolph Giuliani declared last week. That may be true at many top medical centers. But the disturbing truth is that this country lags well behind other advanced nations in delivering timely and effective care.

Michael Moore struck a nerve in his new documentary, “Sicko,” when he extolled the virtues of the government-run health care systems in France, England, Canada and even Cuba while deploring the failures of the largely private insurance system in this country. There is no question that Mr. Moore overstated his case by making foreign systems look almost flawless. But there is a growing body of evidence that, by an array of pertinent yardsticks, the United States is a laggard not a leader in providing good medical care.

Seven years ago, the World Health Organization made the first major effort to rank the health systems of 191 nations. France and Italy took the top two spots; the United States was a dismal 37th.

HOME

STAFF BLOGS ↓

BLOGS NETWORK ↓

COMMUNITY ↓

Neuroanthropology

Understanding the encultured brain and body

← Quotations and “Unquotations” in Journalism and Ethnography

“The Encultured Brain: An Introduction to Neuroanthropology” Comes Out Next Friday! →

Why Does the United States Rank So Badly in Health?

By [daniel.lende](#)
Posted: August 12, 2012

“Why is USA in the worst shape as patient among industrialized nations?”

That’s the question I just got on Twitter. Indeed, the United States [ranks 37th out of 191 countries](#) in average life expectancy.

My quick answer back: “Off top of head, uneven access & expense of health care, inequality, diet & levels of activity, early adverse experiences, smoking.”

37

<http://blogs.plos.org/neuroanthropology/2012/08/12/why-does-the-united-states-rank-so-badly-in-health/>

8

Thoughtful Reaction to the WHR Health System Performance Report

American Journal of Health Sciences, March, 2012



The Clute Institute

American Journal Of Health Sciences

American Journal of Health Sciences – First Quarter 2012

Volume 3, Number 1

Health Care Reform: Why Not Best Practices?

Robert B. Matthews, Sam Houston State University, USA

G. Keith Jenkins, Sam Houston State University, USA

Joey Robertson, Sam Houston State University, USA

L'homme est bon par nature, c'est la société qui le corrompt.

(Man is good by nature, society corrupts him).

--Jean-Jacques Rousseau

<http://journals.cluteonline.com/index.php/AJHS/article/view/6758/6833>



6/29/2012

The results became notorious — the US healthcare system came in 15th in overall performance, and first in overall expenditure per capita.

That result meant that its overall ranking was 37th.

37

These Are The 36 Countries That Have Better Healthcare Systems Than The US

Adam Taylor and Samuel Blackstone | Jun. 29, 2012, 2:44 PM

12 years ago, the World Health Organization released the *World Health Report 2000*. Inside the report there was an ambitious task — to rank the world's best healthcare systems.

The results became notorious — the US healthcare system came in 15th in overall performance, and first in overall expenditure per capita. That result meant that its overall ranking was 37th.



US Air Force

[Click here to see who beat the US >](#)

The results have long been debated, with critics arguing that the data was out-of-date, incomplete, and that factors such as literacy and life expectancy were over-weighted.

So controversial were the results that the WHO declined to rank countries in their *World Health Report 2010*, but the debate has raged on. In that same year, a report from the Commonwealth Fund ranked seven developed countries on their health care performance — the US came dead last.

So, what can we learn from the report?

NOTE: The rankings are based on an index of five factors — health, health equality, responsiveness, responsiveness equality, and fair financial contribution. As noted above, all data is from 2000 or earlier and these findings have been questioned.

United States Health Care System Performance

[illegible]

1 - France

Expenditure per capita
rank: 4

The French system combines private and public sectors to provide universal health coverage to all. Most citizens receive their insurance through their employer and almost everyone has supplemental private insurance. The majority of medical bills are paid for by the government (funds from payroll and income taxes) and the remainder is footed by individual's supplemental private insurance.



(Photo by Franck Prevel/Getty Images)

Source: World Health Report 2000

10 - Japan

Expenditure per capita
rank: 13

Health insurance in Japan is mandatory, either through an employer-based system or through the national health care program.



OoMax/Flickr

Source: World Health Report 2000

17 - Netherlands

Expenditure per capita
rank: 9

Holland's universal health coverage is achieved not through the government, which is used primarily as a regulatory body, but through private insurance companies. This system is based on private insurers competing for business.



AP Images

Source: World Health Report 2000

36 - Costa Rica

Expenditure per capita
rank: 50

Costa Rica's public health insurance system is available nation wide to all legal residents and citizens.



Source: World Health Report 2000

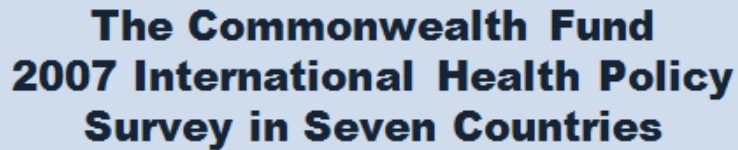
36 COSTA RICA
37 UNITED STATES
38 SLOVENIA
39 CUBA

Michael Moore struck a nerve in his new documentary, "Sicko,"



**No, they
didn't.**

So controversial were the results that the WHO declined to rank countries in their World Health Report 2010, but the debate has raged on. In that same year, **a report from the Commonwealth Fund** ranked seven developed countries on their health care performance — the US came dead last.



The Commonwealth Fund

2007 International Health Policy Survey

- ## Conclusions

- **No country systematically leads in performance**
- **Variations in health system performance offer opportunities for cross-national learning**
- **Three major challenges:**
 - **Better coordination of care**
 - **New approaches to managing patients with complex chronic illnesses**
 - **Primary care redesign and workforce strategy**
- **Amenable to policy action and changes in practice and essential to achieving a high performance health care system**

	VERY CONFIDENT	SOMEWHAT CONFIDENT	NOT VERY CONFIDENT	NOT AT ALL CONFIDENT	NOT SURE/ DECLINE TO ANSWER
Get quality and safe medical care					
AUS	34	46	14	5	*
CAN	28	52	13	6	1
GER	24	50	19	7	1
NETH	59	35	5	1	*
NZ	30	48	16	6	*
UK	28	44	20	7	1
USA	35	44	12	9	*
Receive the most effective drugs					
AUS	36	47	10	4	2
CAN	32	50	11	5	2
GER	23	49	19	7	2
NETH	45	45	8	2	*
NZ	20	50	21	6	3
UK	25	45	20	7	4
USA	33	44	14	7	1
Receive the best medical technology					
AUS	39	45	12	3	2
CAN	28	53	13	4	2
GER	24	46	22	5	2
NETH	46	47	5	1	1
NZ	25	52	17	4	2
UK	27	46	18	5	4
USA	38	43	12	6	1

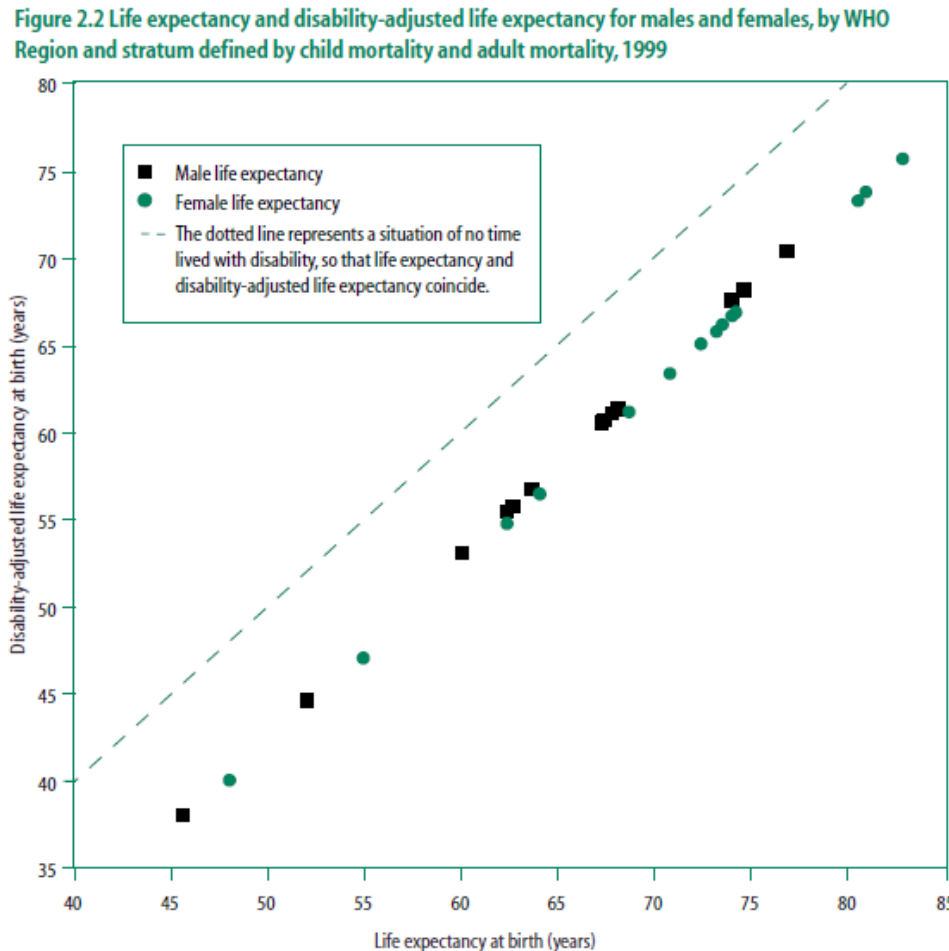
Cross Country Comparison of Within Country Surveys

	VERY CONFIDENT	SOMEWHAT CONFIDENT	NOT VERY CONFIDENT	NOT AT ALL CONFIDENT	NOT SURE/ DECLINE TO ANSWER
Get quality and safe medical care					
AUS	34	46	14	5	*
CAN	28	52	13	6	1
GER	24	50	19	7	1
NETH	59	35	5	1	*
NZ	30	48	16	6	*
UK	28	44	20	7	1
USA	35	44	12	9	*
Receive the most effective drugs					
AUS	36	47	10	4	2
CAN	32	50	11	5	2
GER	23	49	19	7	2
NETH	45	45	8	2	*
NZ	20	50	21	6	3
UK	25	45	20	7	4
USA	33	44	14	7	1
Receive the best medical technology					
AUS	39	45	12	3	2
CAN	28	53	13	4	2
GER	24	46	22	5	2
NETH	46	47	5	1	1
NZ	25	52	17	4	2
UK	27	46	18	5	4
USA	38	43	12	6	1

- **What is healthcare?**
- **By what metric is a healthcare system ‘best,’ or even ‘good?’**
- **It’s not the best because we spend the most money on it.**
- **What is the goal of public policy? Is the goal to achieve the best healthcare?**

U.S. Life Expectancy





**WHO used a common measure of health outcome:
Disability Adjusted Life Expectancy (DALE)**

U.S. HEALTH
— IN —
INTERNATIONAL PERSPECTIVE

Shorter Lives, Poorer Health

Panel on Understanding Cross-National Health Differences
Among High-Income Countries

Steven H. Woolf and Laudan Aron, *Editors*

Committee on Population
Division of Behavioral and Social Sciences and Education

Board on Population Health and Public Health Practice
Institute of Medicine

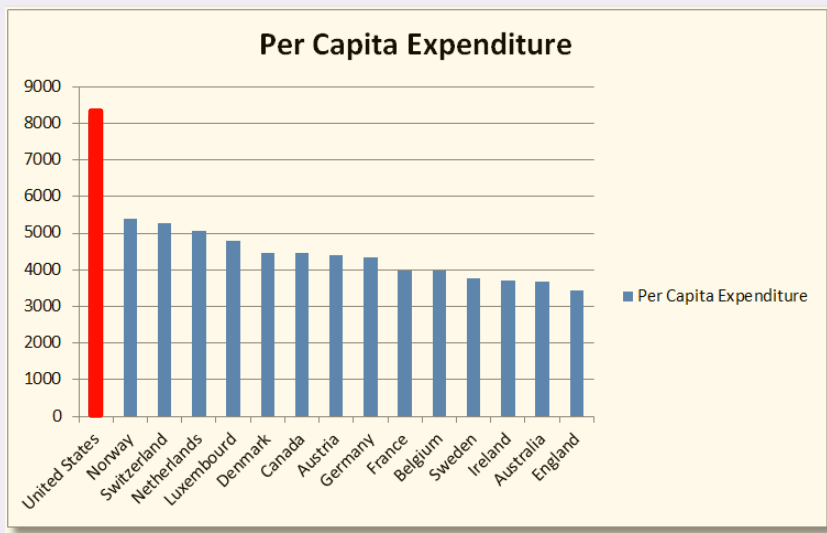
**NATIONAL RESEARCH COUNCIL AND
INSTITUTE OF MEDICINE**
OF THE NATIONAL ACADEMIES



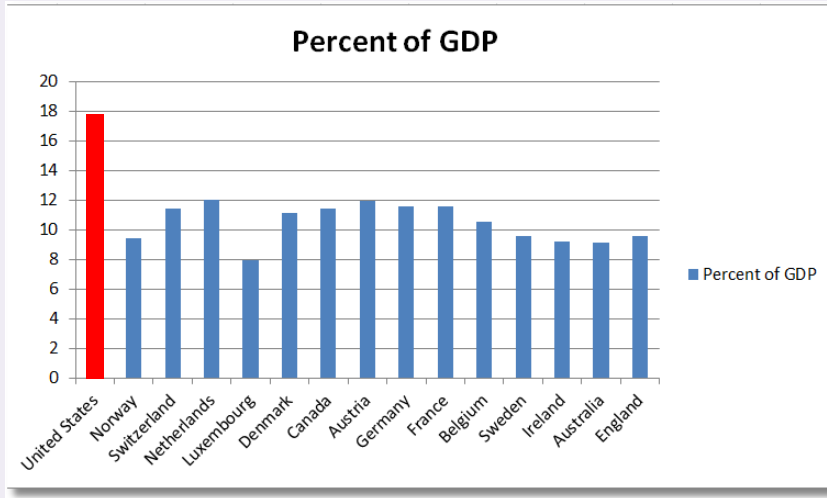
[illegible]

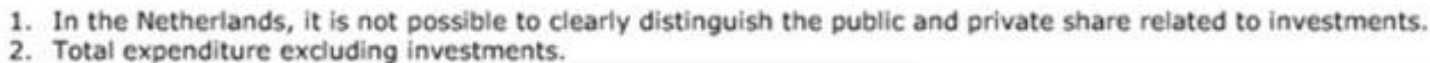
Rank	Country	Total health expenditure per capita PPP US\$	Total health expenditure % of GDP
1	 United States	8,233	17.6
2	 Norway	5,388	9.4
3	 Switzerland	5,270	11.4
4	 Netherlands	5,056	12.0
5	 Luxembourg	4,786 ⁽²⁰⁰⁹⁾	7.9 ⁽²⁰⁰⁹⁾
6	 Denmark	4,464	11.1
7	 Canada	4,445	11.4
8	 Austria	4,395	11.0
9	 Germany	4,338	11.6
10	 France	3,978	11.6
11	 Belgium	3,969	10.5
12	 Sweden	3,758	9.6
13	 Ireland	3,718	9.2
14	 Australia	3,670 ⁽²⁰⁰⁹⁾	9.1 ⁽²⁰⁰⁹⁾
15	 United Kingdom	3,433	9.6

2010 OECD Data

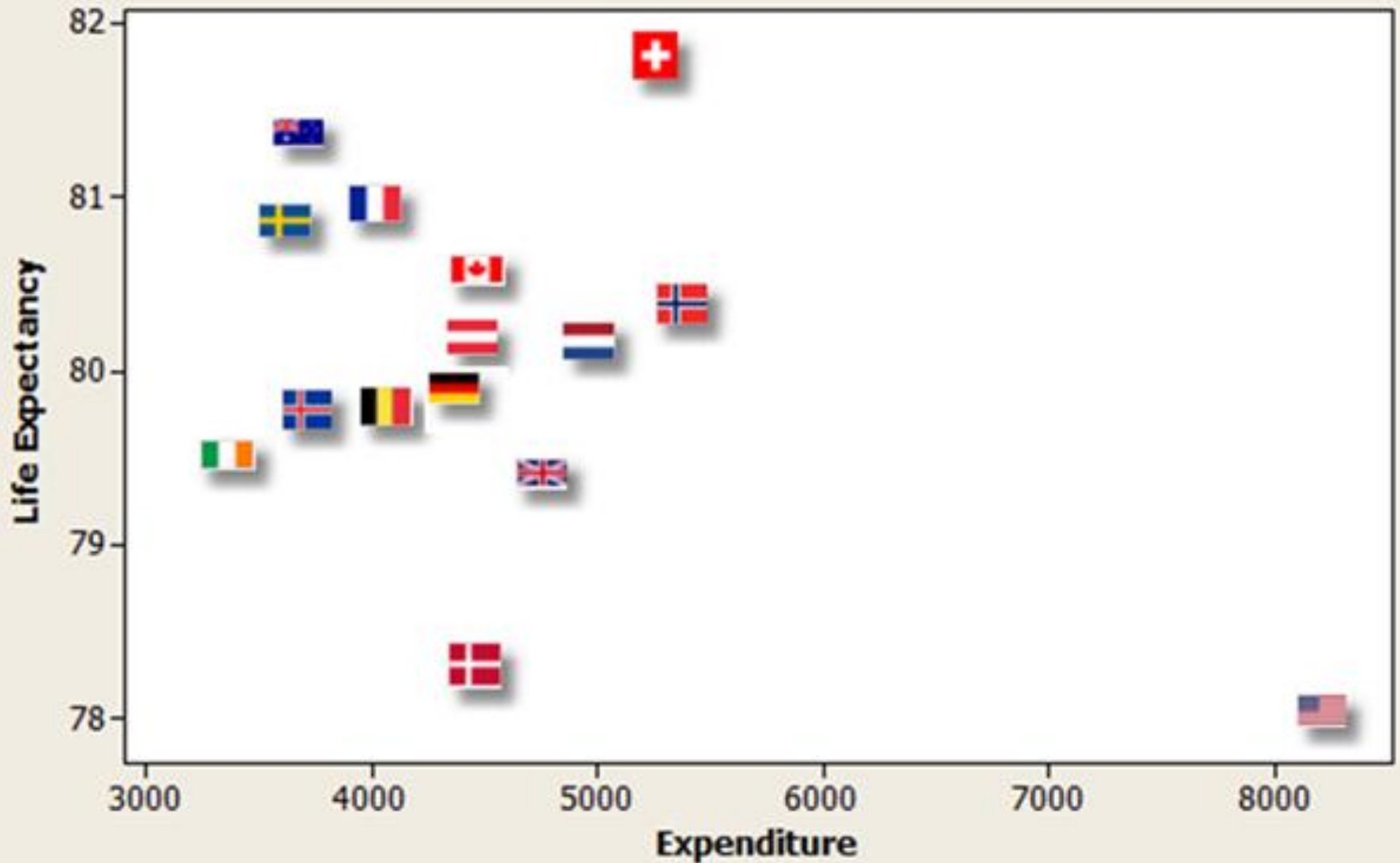


Percent of GDP



[illegible]**Total health expenditure per capita, public and private, 2010 (or nearest year)**

22 ●●●●●●●●●●●●●●●●●●●●○ ○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○



SLOWING THE GROWTH OF U.S. HEALTH CARE EXPENDITURES: WHAT ARE THE OPTIONS?

Karen Davis, Cathy Schoen, Stuart Guterman

Tony Shih, Stephen C. Schoenbaum, and Ilana Weinbaum

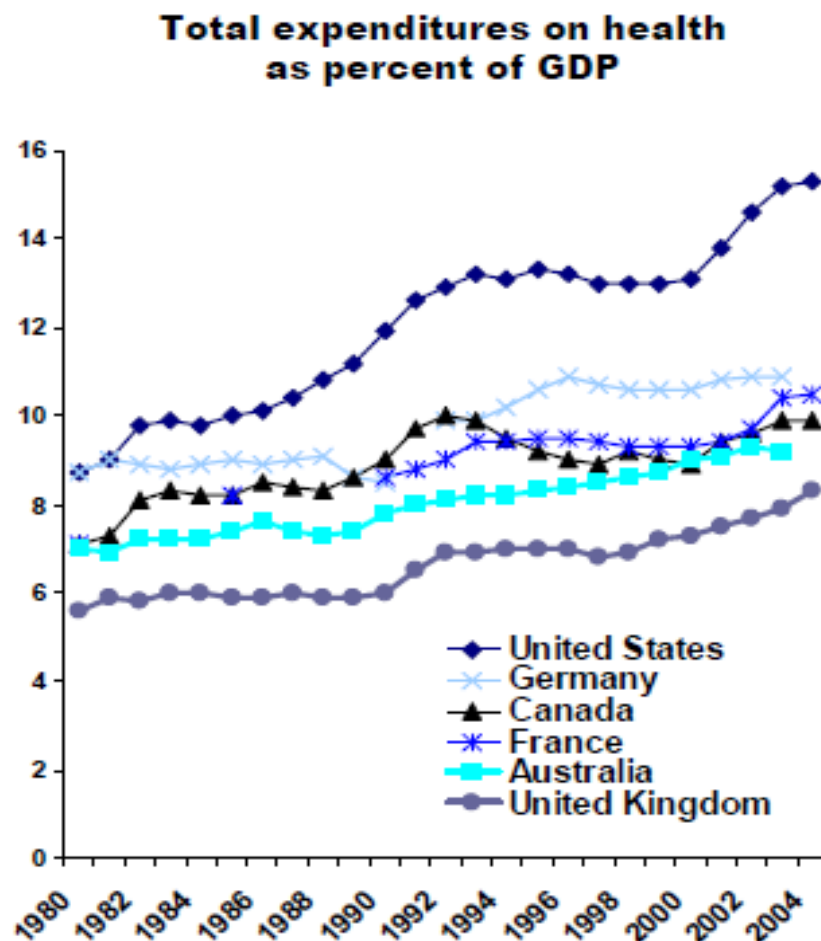
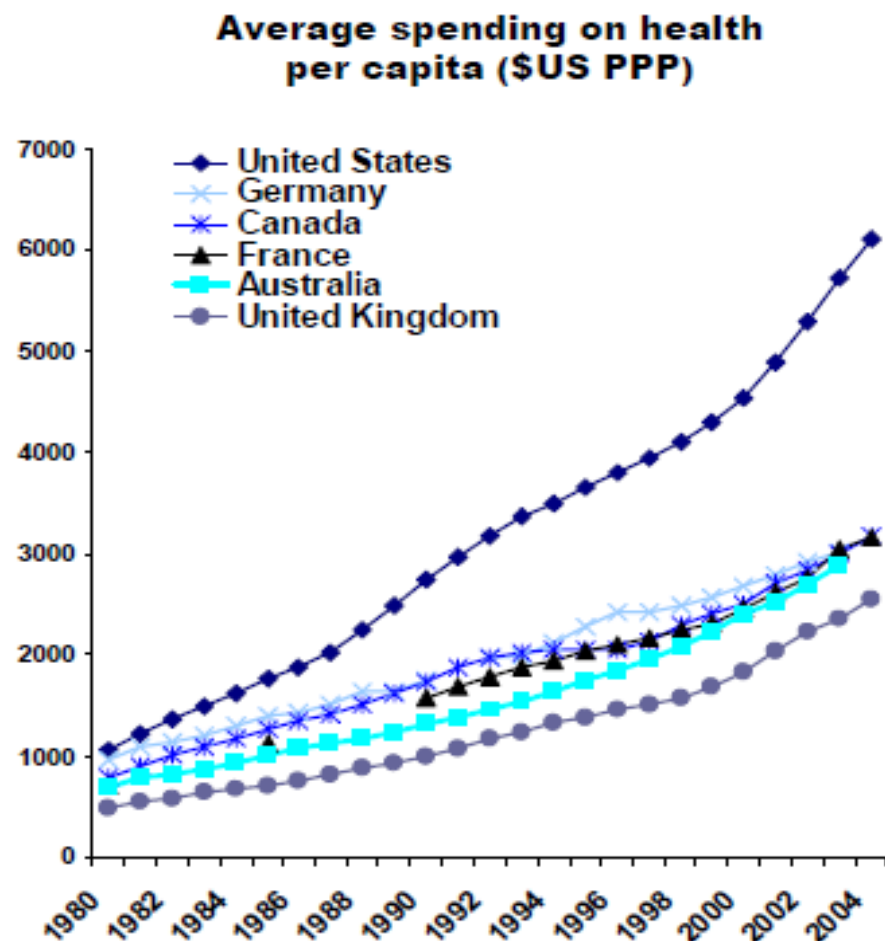
The Commonwealth Fund

January 2007

Prepared for The Commonwealth Fund/Alliance for Health Reform

2007 Bipartisan Congressional Health Policy Conference

Figure ES-1. International Comparison of Spending on Health, 1980–2004



Data: OECD Health Data 2005 and 2006.

Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006.

It's not all bad news.

- **The U.S. leads the world in health care research and cancer treatment.**
- **The five-year survival rate for breast cancer is higher in the U.S. than in other OECD countries**
- **Survival from colorectal cancer is also among the best.**

National Public Radio

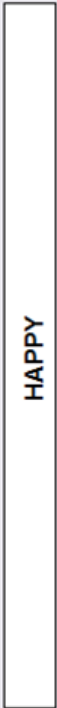
Health -- October 22, 2012 at 10:30 AM EDT

Health Costs: How the U.S. Compares With Other Countries

Jason Kane

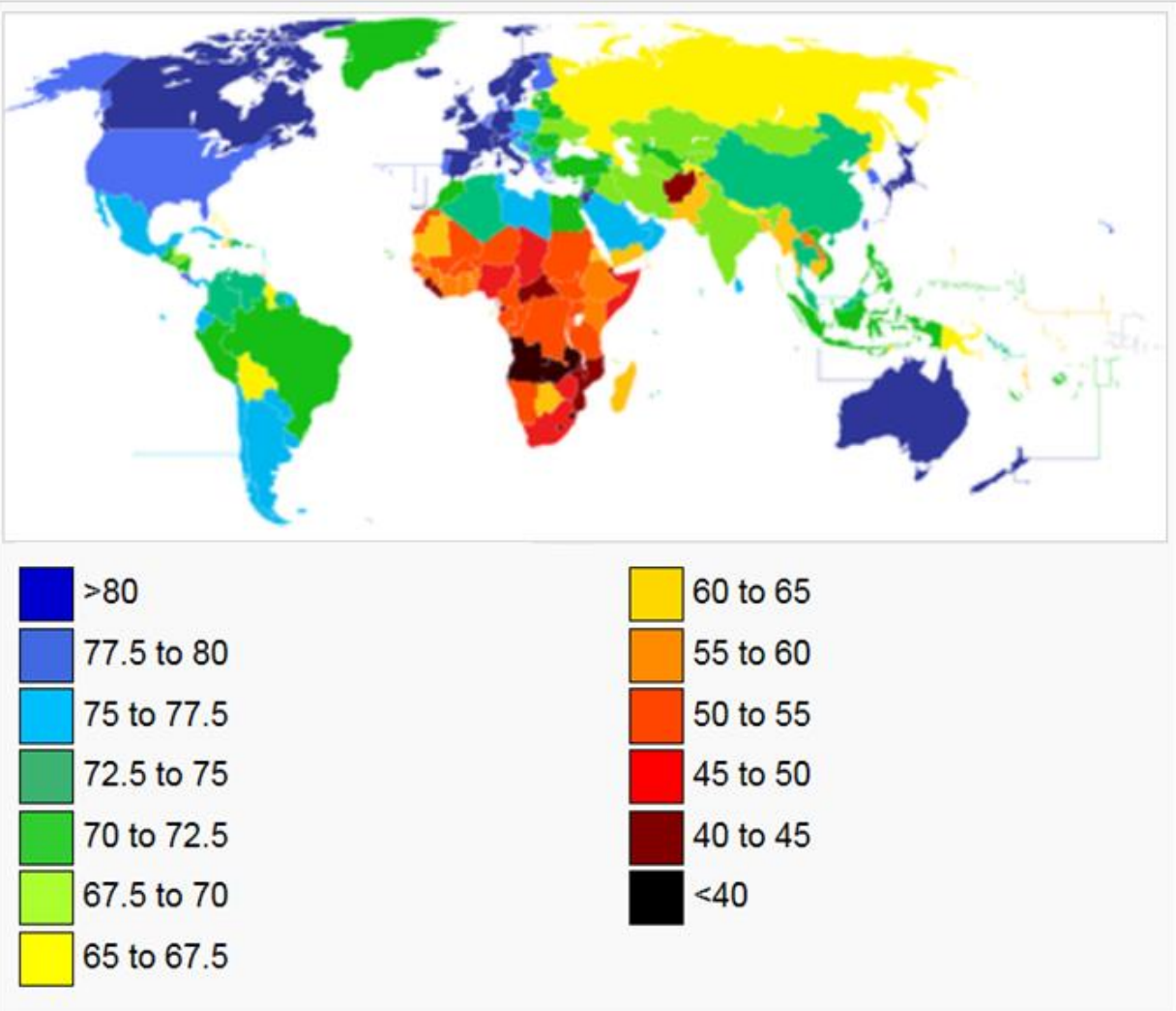
1 of 40



[illegible]

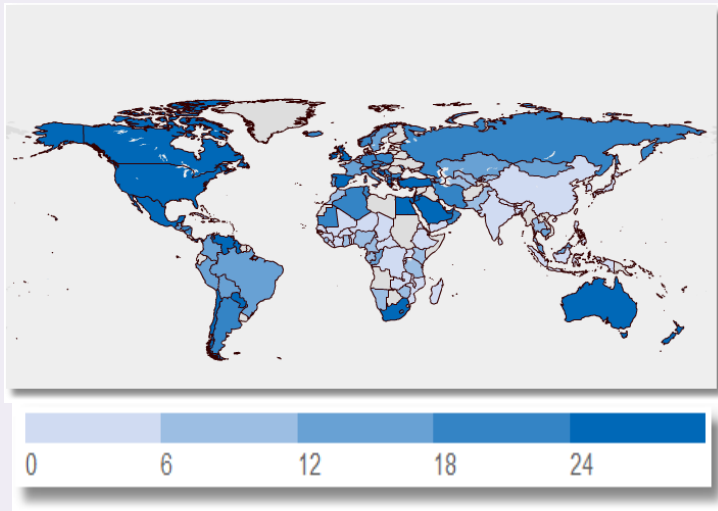
- **What is ‘health?’**
- **What is the overall goal of public health policy?**
 - Provide as much health as possible and spend as little as possible to provide it.
 - Spend as little as possible to provide an acceptable amount of health.
 - Provide as much health as possible given the intended amount of spending on health.
- **What are the policy levers?**
- **Can they achieve the goals?**
- **Maybe we are getting exactly what the policy makers want. (Andrew Weil: Escape Fire, CNN, 3/10/13)**

World Life Expectancies (WHO data)



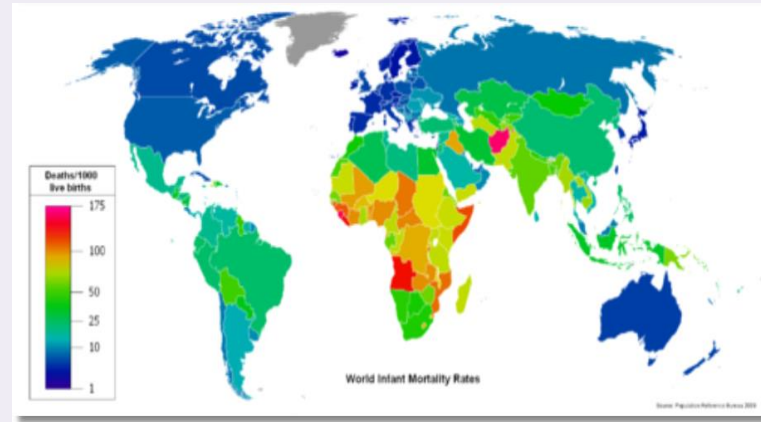
Alternative Measures of Health Care System Success

Obesity: Diet, Genetics, Exercise.
No public policy levers

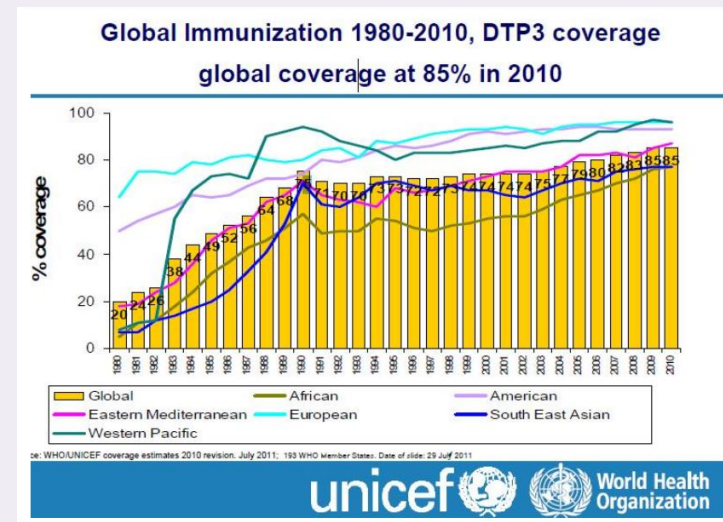


300 Million People Worldwide.
International Obesity Task Force:
www.ietf.org

Infant Mortality: Narrow definition
Not a policy priority



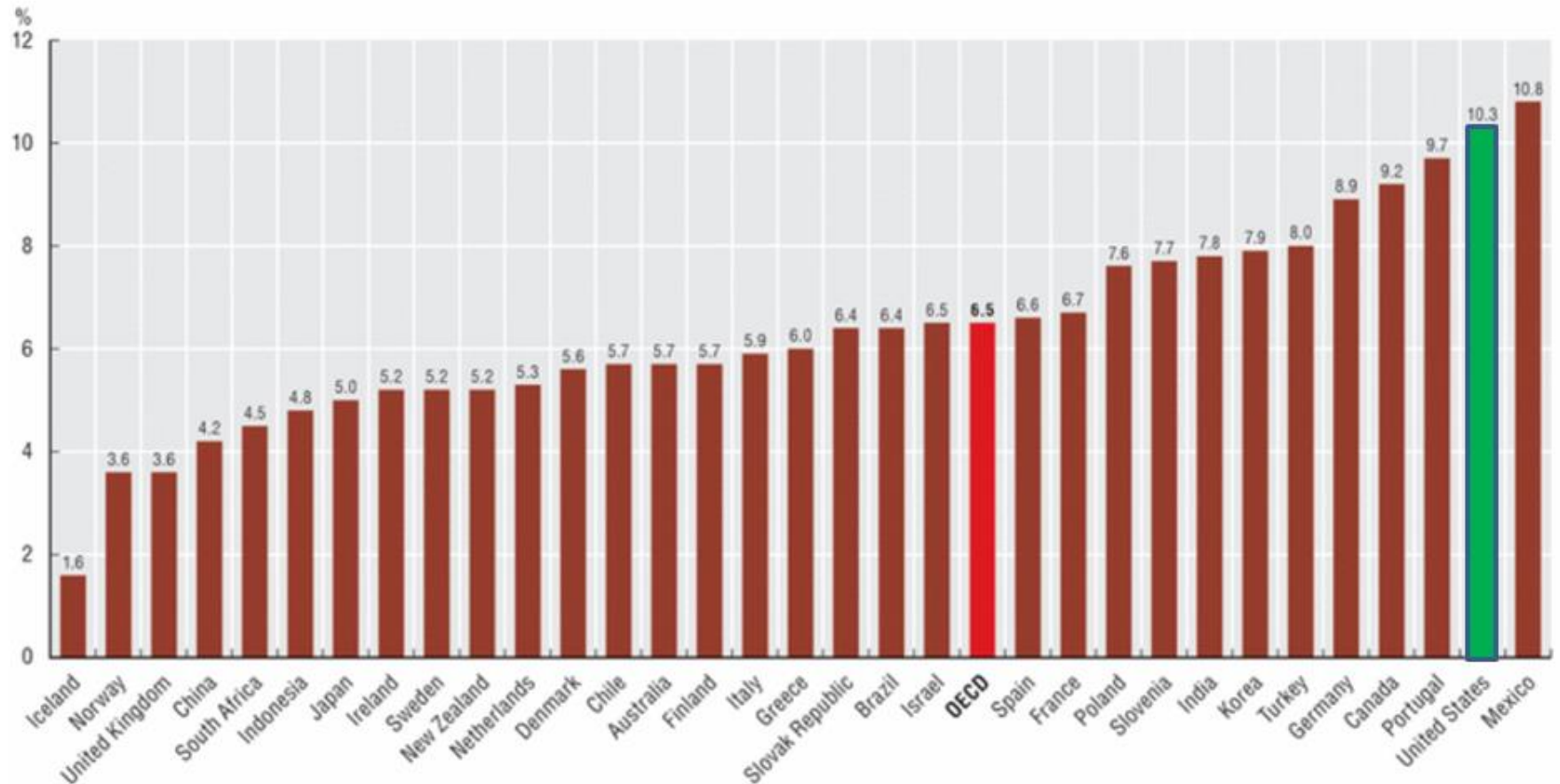
Immunization: Obvious policy levers
This is the policy, not the result.



Communicable

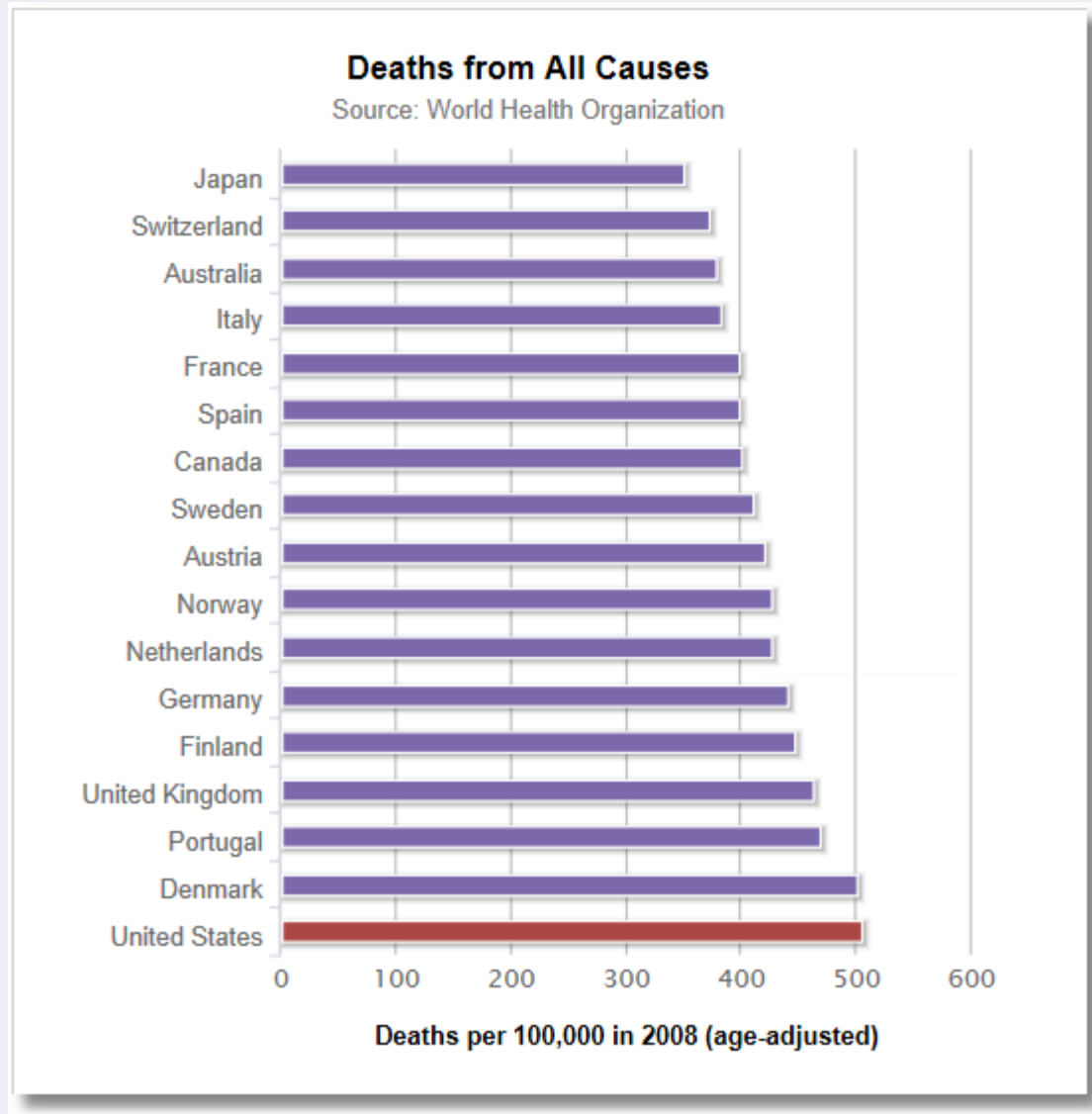
Prevalence of Diabetes Among Adults 20-29.

Figure 1.10.1 Prevalence estimates of diabetes, adults aged 20-79 years, 2010

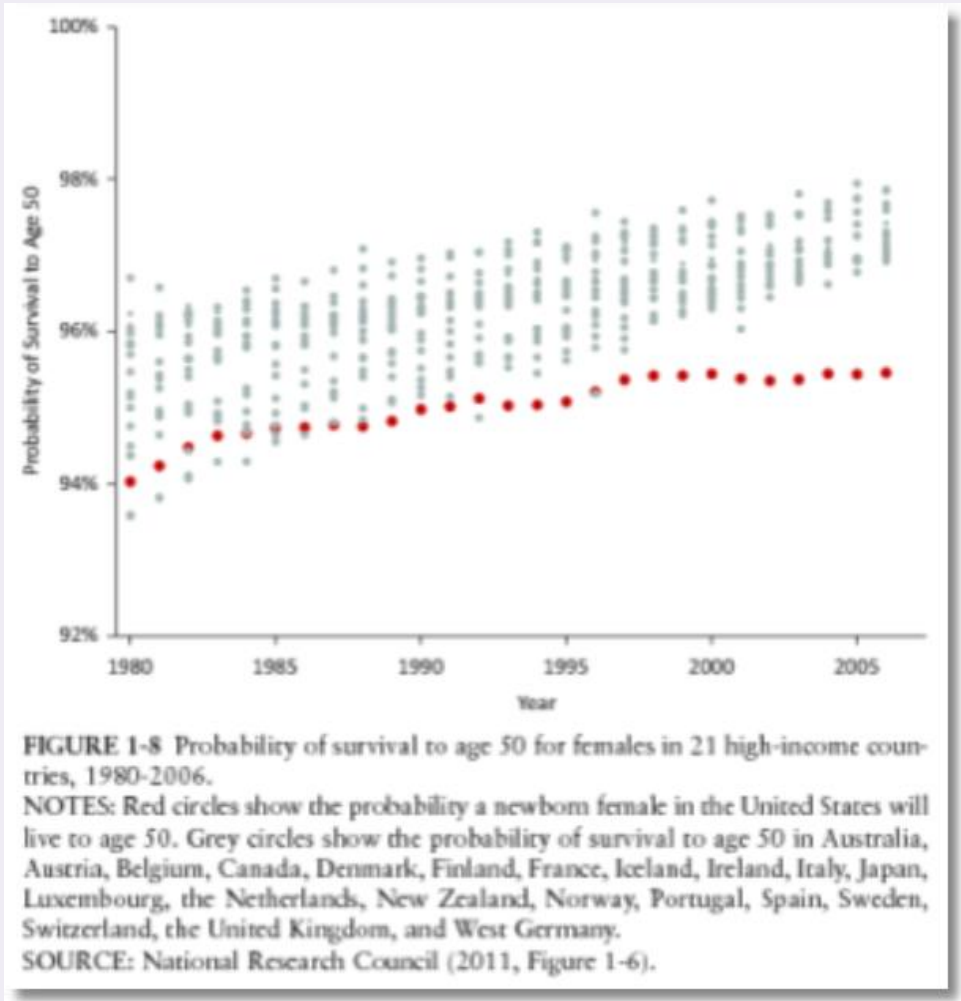


The data cover both Type 1 and Type 2 diabetes. Data are age-standardised to the World Standard Population.

Source: IDF (2009).



Probability of Survival to Age 50, Female at Birth U.S. and 20 Other Wealthy Countries





- [The world health report](#)
- [Current report](#)
- [Previous reports](#)
- [Press kit](#)

THE WORLD HEALTH REPORT 2000

Available in English, French, Spanish,
Russian, Arabic and Chinese

World health report 2000 Press kit

Press materials

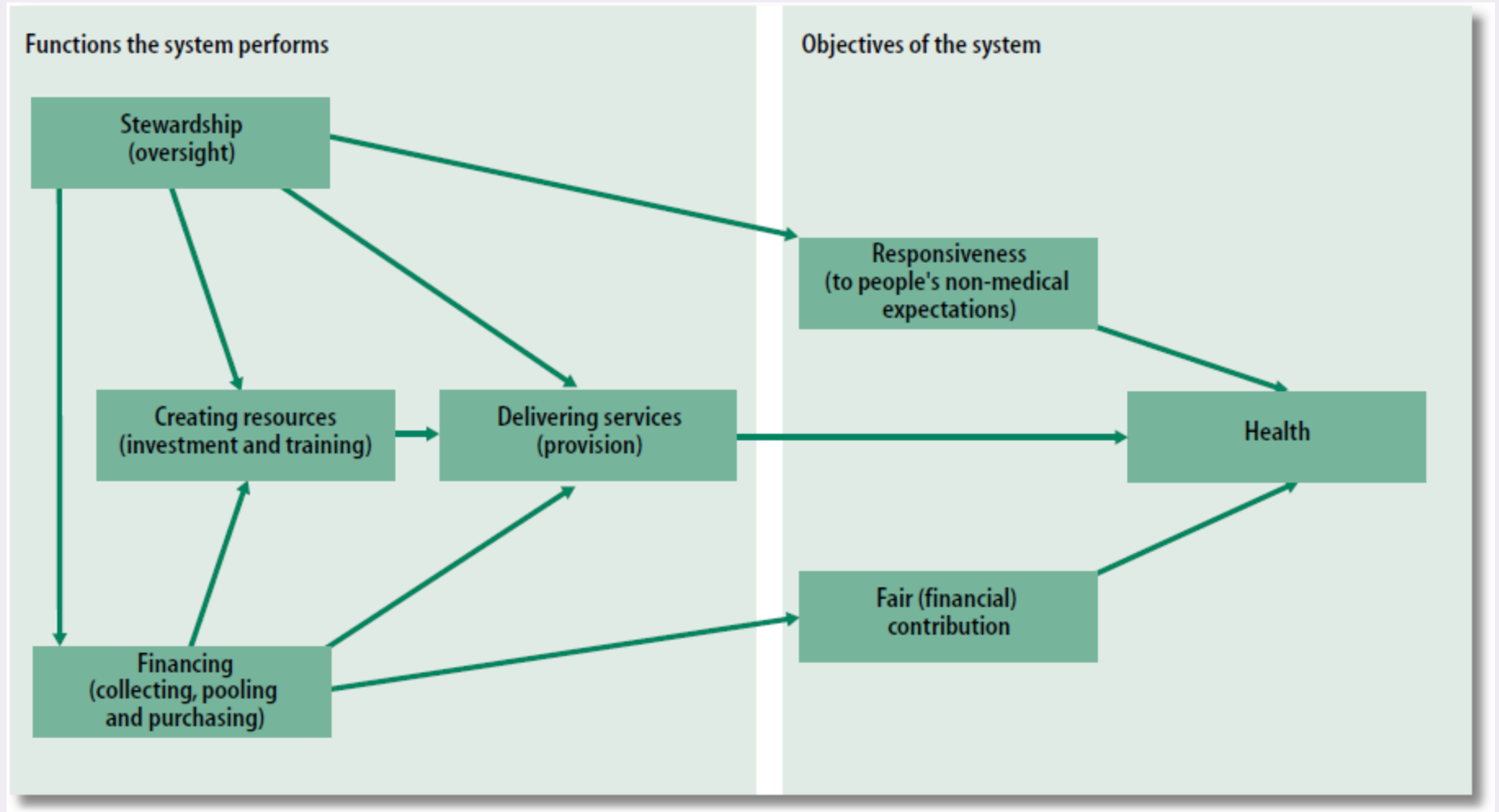


Contact information

More information

Additional information about the World Health Report.

What is the goal of the health care system?



Health system goals

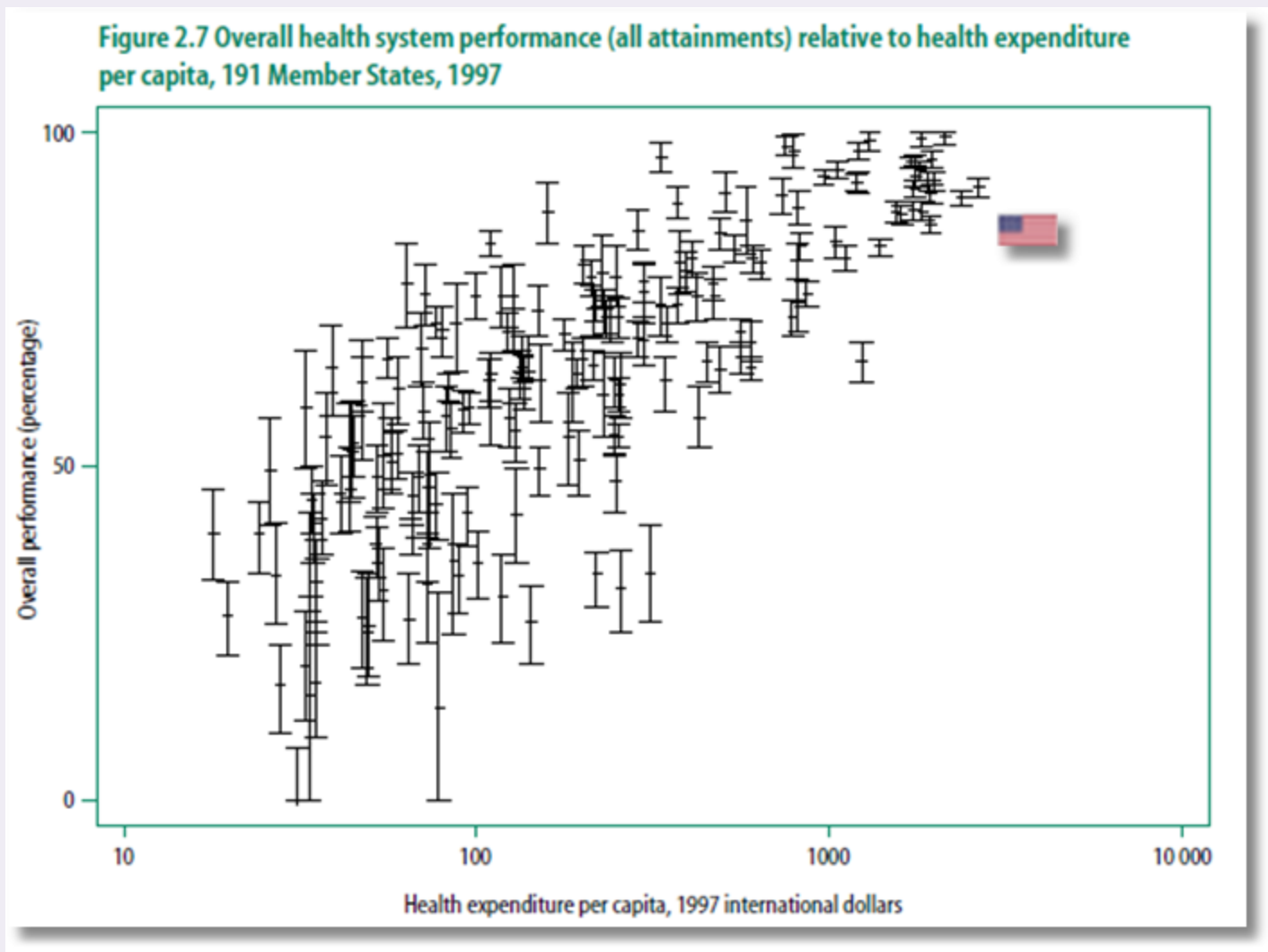


(From the WHO Technical Report)

39



The results became notorious — the US healthcare system came in 15th in overall performance, and first in overall expenditure per capita. That result meant that its overall ranking was 37th.



The World's Best Health Care?

15

Annex Table 1 Health system attainment and performance in all Member States, ranked by eight measures, estimates for 1997

Member State	ATTAINMENT OF GOALS						Health expenditure per capita in international dollars	PERFORMANCE	
	Health		Responsiveness		Fairness in financial contribution	Overall goal attainment		On level of health	Overall health system performance
	Level (DALE)	Distribution	Level	Distribution					
Tuvalu	119	116	132 – 135	153 – 155	26 – 29	120	151	128	136
Uganda	186	138	187 – 188	165	128 – 130	162	168	179	149
Ukraine	70	47	96	63 – 64	140 – 141	60	111	101	79
United Arab Emirates	50	62	30	1	20 – 22	44	35	16	27
United Kingdom	14	2	26 – 27	3 – 38	8 – 11	9	26	24	18
United Republic of Tanzania	176	172	157 – 160	150	48	158	174	180	156
United States of America	24	32	1	3 – 38	54 – 55	15	1	72	37
Uruguay	37	68	41	53 – 57	35 – 36	50	33	50	65
Uzbekistan	100	144	105 – 107	71	131 – 133	109	120	112	117
Vanuatu	135	127	127	132	62 – 63	134	132	120	127
Venezuela, Bolivarian Republic of	52	76	69 – 72	92	98	65	68	29	54
Viet Nam	116	104	51	121	187	140	147	130	160
Yemen	141	165	180	189	135	146	182	82	120
Yugoslavia	46	90	115 – 117	116	158	95	113	47	106
Zambia	188	171	132 – 135	171	155	174	148	190	182
Zimbabwe	184	98	122	166 – 167	175	147	110	191	155

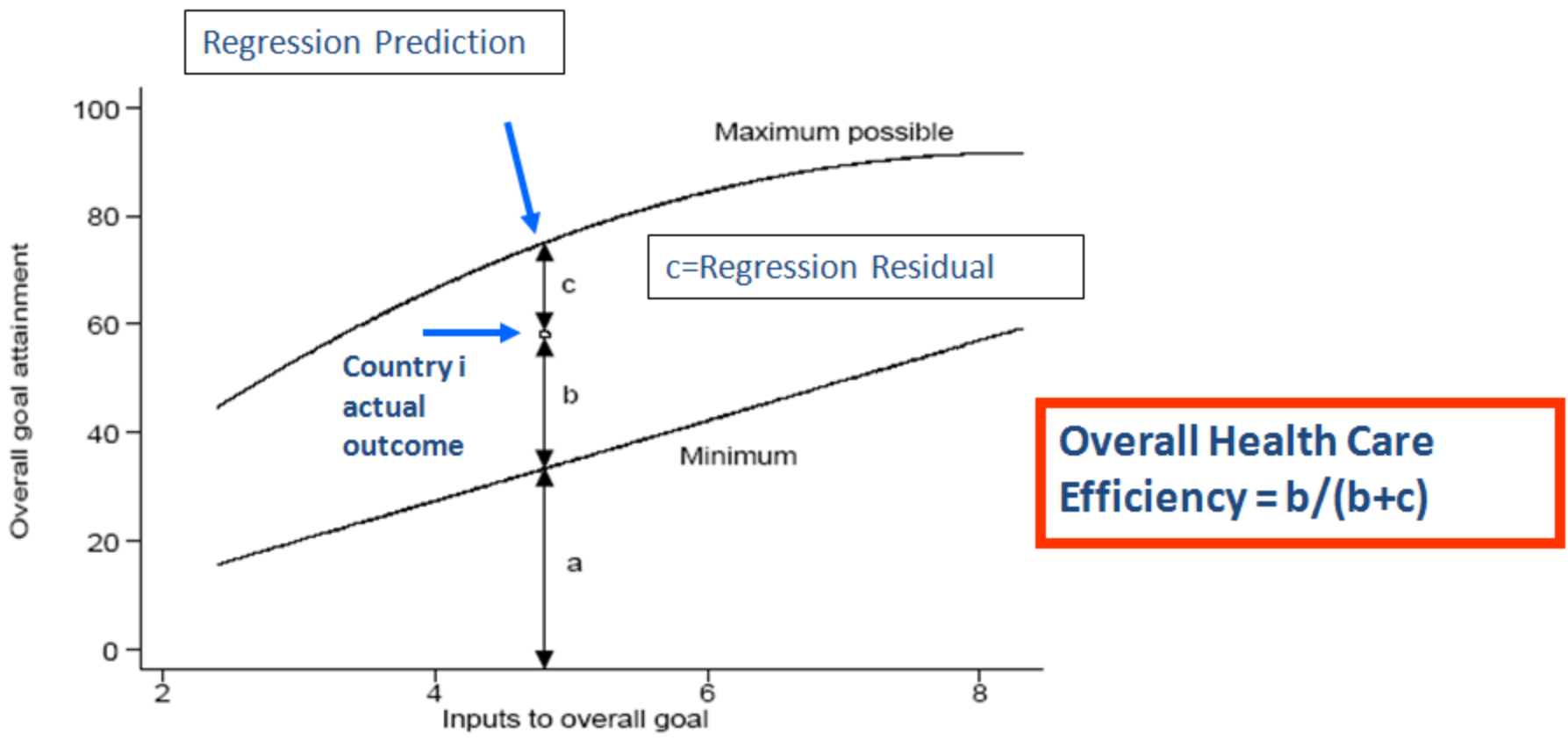
WHO defined an objective then ranked countries in attaining that objective. They defined 5 persuasively laudable goals of a health system and attached weights to the 5 components. They ranked countries in attainment of those goals.

Was that actually the objective being pursued by the governments? By the U.S.? Were those weights used in policies?

Health system goals		
	Level	Distribution
Health	24	32
Responsiveness	1	3-38
Fairness in financing		54-55
	Quality	Equity

EIP/GPE/EQC
World Health Organization

A Model of the Best a Country Could Do vs. what They Actually Do



The Best a Country Could Do vs. what They Actually Do – The U.S. Ranked 37th.

Countries were ranked by overall efficiency

Overall efficiency						
Rank	Uncertainty Interval		Member State	Index	Uncertainty Interval	
1	1	- 5	France	0.994	0.982	- 1.000
2	1	- 5	Italy	0.991	0.978	- 1.000
3	1	- 6	San Marino	0.988	0.973	- 1.000
4	2	- 7	Andorra	0.982	0.966	- 0.997
5	3	- 7	Malta	0.978	0.965	- 0.993
6	2	- 11	Singapore	0.973	0.947	- 0.998
7	4	- 8	Spain	0.972	0.959	- 0.985
8	4	- 14	Oman	0.961	0.938	- 0.985
9	7	- 12	Austria	0.959	0.946	- 0.972
10	8	- 11	Japan	0.957	0.948	- 0.965
30	27	- 32	Canada	0.881	0.868	- 0.894
31	27	- 33	Finland	0.881	0.866	- 0.895
32	28	- 34	Australia	0.876	0.861	- 0.891
33	22	- 43	Chile	0.870	0.816	- 0.918
34	32	- 36	Denmark	0.862	0.848	- 0.874
35	31	- 41	Dominica	0.854	0.824	- 0.883
36	33	- 40	Costa Rica	0.849	0.825	- 0.871
37	35	- 44	United States of America	0.838	0.817	- 0.859
38	34	- 46	Slovenia	0.838	0.813	- 0.859
39	36	- 44	Cuba	0.834	0.816	- 0.852

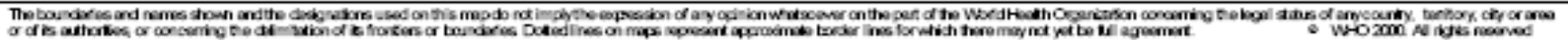


15

37

Annex Table 1 Health system attainment and performance in all Member States, ranked by eight measures, estimates for 1997

47

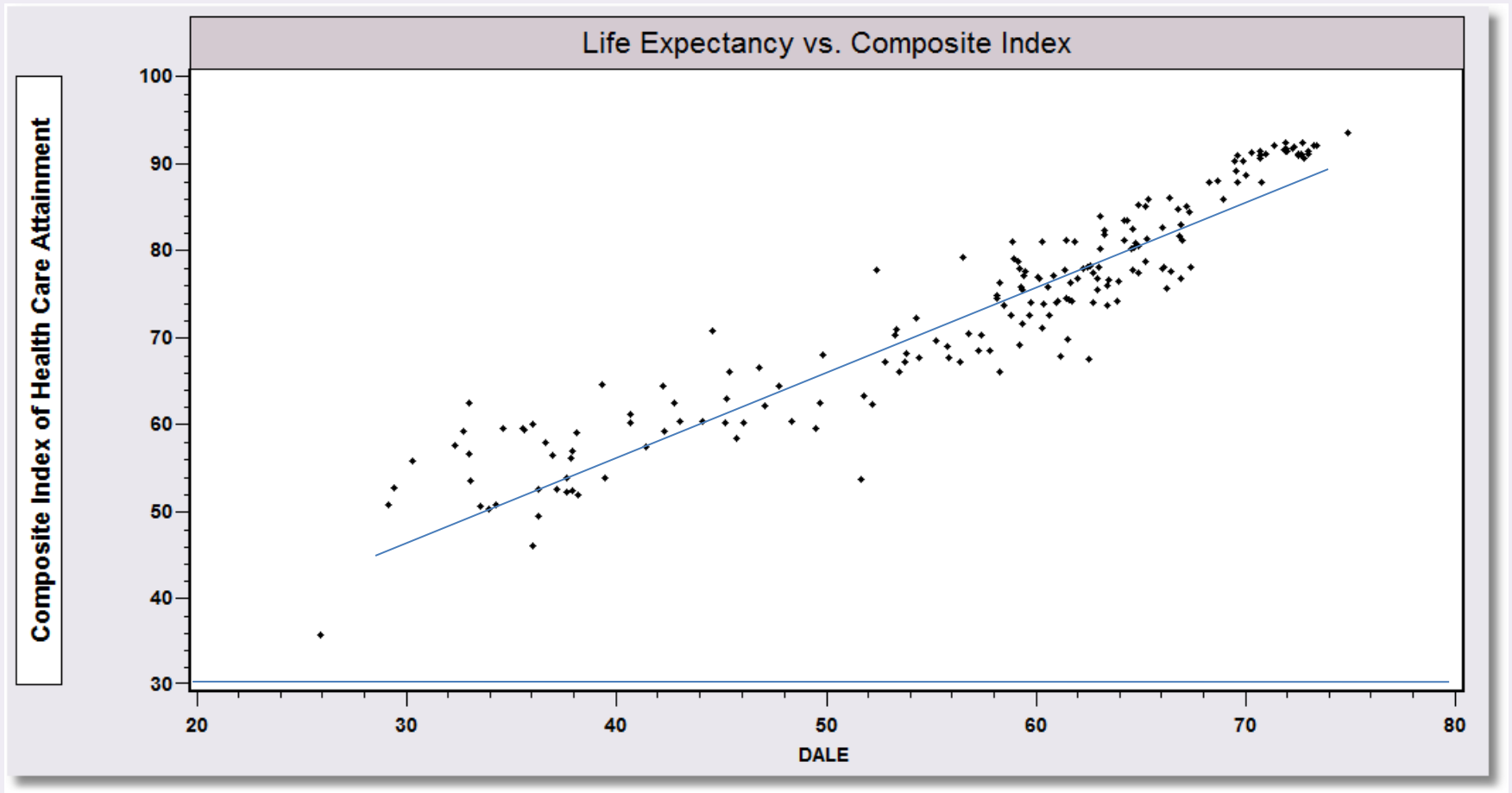




Life Expectancy

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement. © WHO 2000. All rights reserved.

Efficiency in Health Care Delivery



WHO Report Number 30 Did Not

In the ranking of the composite index, Canada ranked 7 and Britain ranked 9. The 30 and 18 related to efficiency, not goal attainment.

In making wholesale changes to a health care system that placed 37th, does it make sense to emulate a model that placed 30th, or even 18th?

Listing of current sample		
COUNTRY	RANK	COMP
Japan	1	93.44717
Switzerland	2	92.24893
Norway	3	92.19764
Sweden	4	92.01078
Luxembourg	5	91.99820
France	6	91.92503
Canada	7	91.70873
Netherlands	8	91.62379
United Kingdom	9	91.61010
Austria	10	91.47028
Belgium	11	91.35112
Australia	12	91.32975
Italy	13	91.29433
Germany	14	91.28409
United States of America	15	91.07186
Monaco	16	91.02146
Iceland	17	91.00779
Andorra	18	90.98447
Spain	19	90.95577
Denmark	20	90.86455
San Marino	21	90.86263
Finland	22	90.77825
Greece	23	90.52000
Israel	24	90.49990
Ireland	25	90.23191

In public health, knowledge is truly power. If politicians no longer agree that sound scientific knowledge is valid, our nation's health will suffer for decades — or centuries — to come.

Baltimore, March 4, 2013

The writer is a psychiatrist in private practice, a pediatrician and a former senior staff member at the Institute of Medicine.

$$\log \text{Comp}_i = \alpha + \beta_1 \log \text{HealthExp}_i + \beta_2 \log \text{Educ}_i + \beta_3 (\log \text{Educ}_i)^2 + \beta_4 (\log \text{HealthExp}_i)^2 + \beta_5 (\log \text{Educ}_i)(\log \text{HealthExp}_i) - u_i$$

was estimated then discarded for technical reasons.

Estimated Model

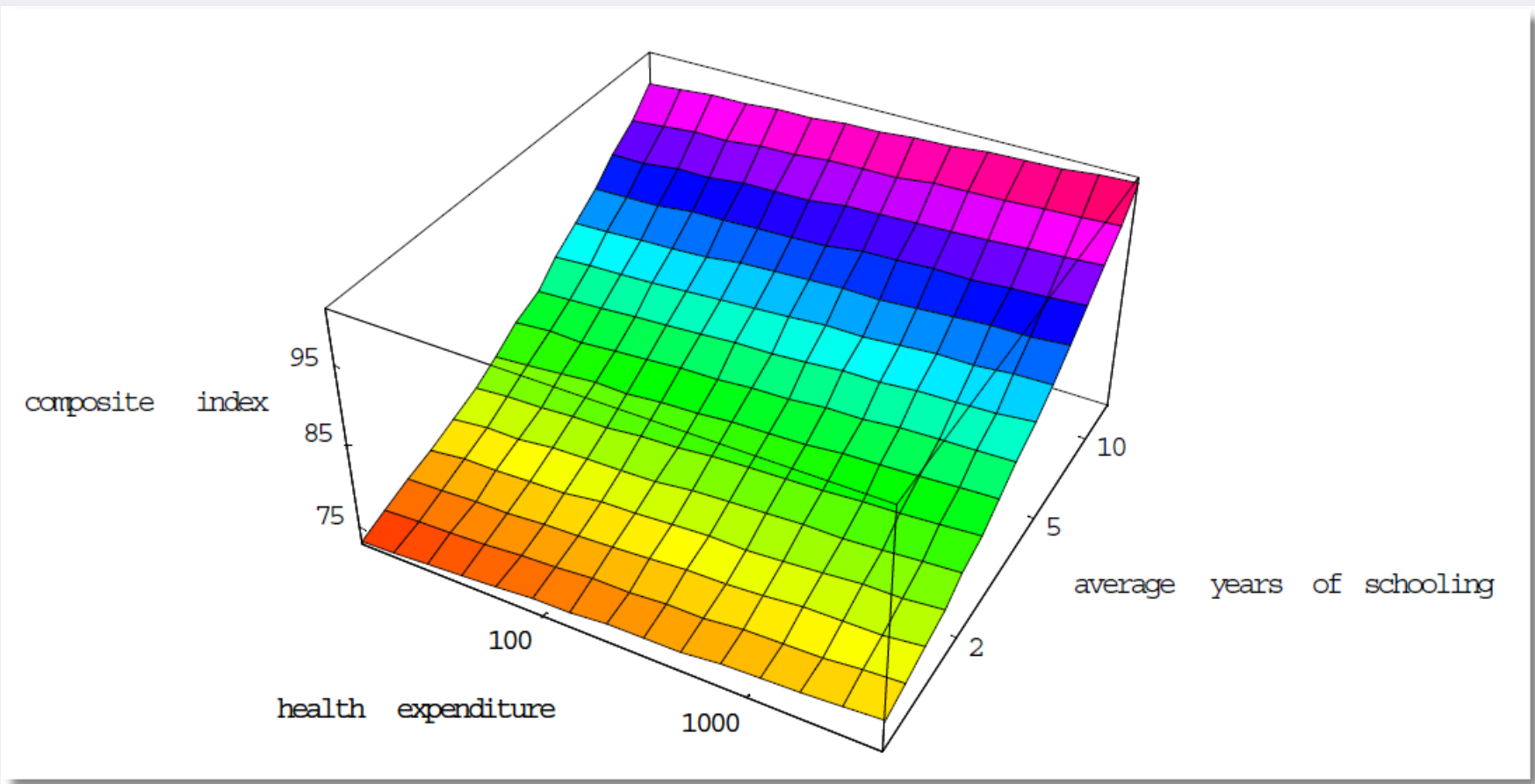
Table 1. Coefficient Estimates (Median, Mean and Uncertainty Interval) for the Frontier Health Production Function, Logged Variables, 191 Member Countries of WHO, Panel Estimates (1993–1997).

Coefficient Estimate	Median	Mean	Uncertainty Interval (95%)
Health expenditure	0.0065223	0.0065666	0.0057769 - 0.0076745
Average years of schooling	0.04963	0.0496496	0.0363105 - 0.0654469
Square average years of schooling	0.0223382	0.0225598	0.0187357 - 0.0281929
Constant	4.11182	4.110499	4.076119 - 4.136329
Max (u)	0.1731853	0.1736141	0.1631771 - 0.1871777

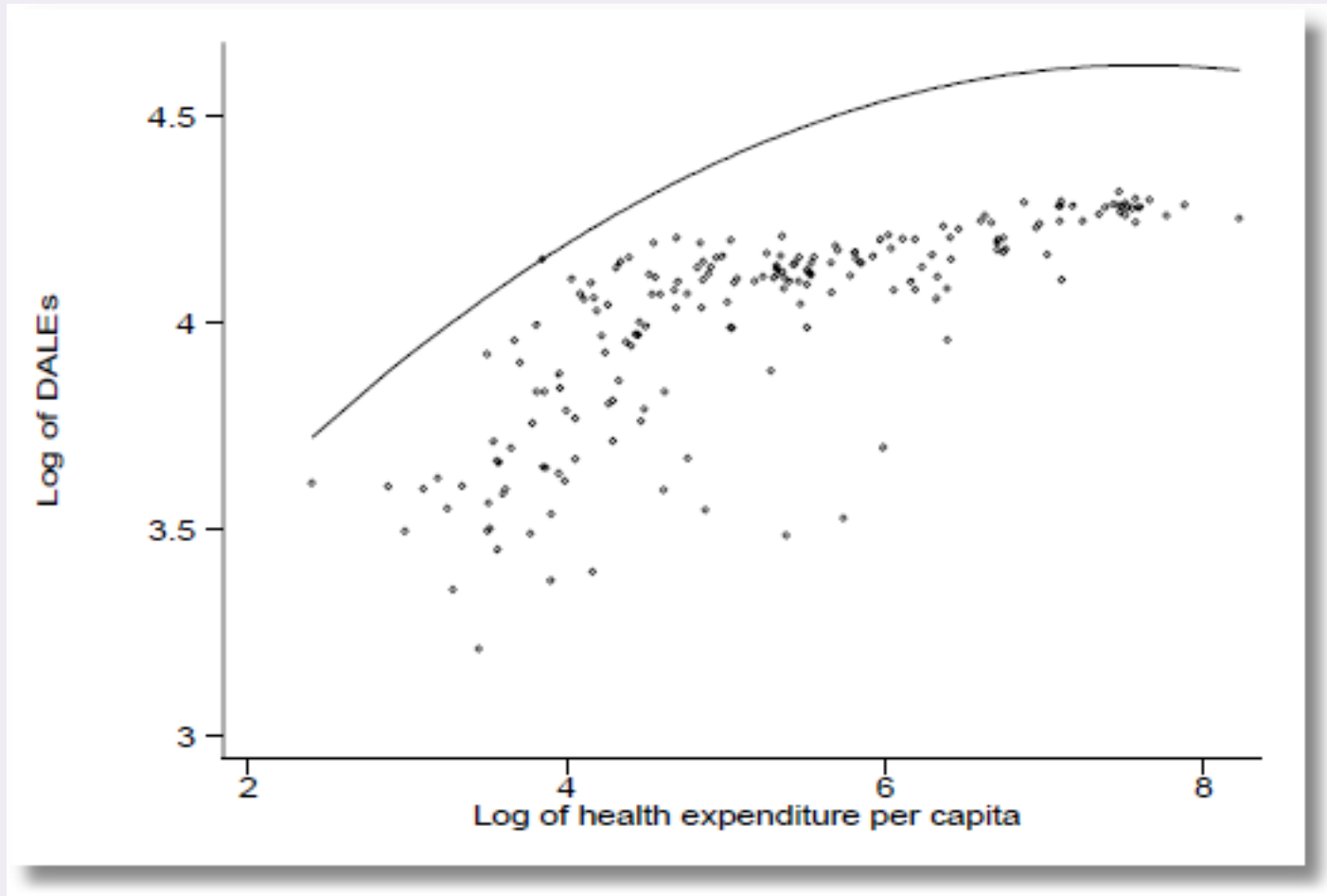
7

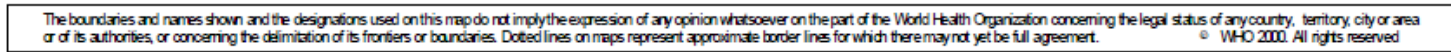
Implications of results: Increases in Health Expenditure and increases in Education are both associated with increases in health outcomes.

These are the policy levers in the analysis!



EIP/GPE/EQC
World Health Organization



[illegible]

Rank	Uncertainty Interval (80%)		Country	Performance Index
1	1	- 5	Oman	0.992
2	1	- 4	Malta	0.989
3	2	- 7	Italy	0.976
4	2	- 7	France	0.974
5	2	- 7	San Marino	0.971
6	3	- 8	Spain	0.968
7	4	- 9	Andorra	0.964
8	3	- 12	Jamaica	0.956
9	7	- 11	Japan	0.945
10	8	- 15	Saudi Arabia	0.936
11	9	- 13	Greece	0.936
12	9	- 16	Monaco	0.930
13	10	- 15	Portugal	0.929
14	10	- 15	Singapore	0.929
15	13	- 17	Austria	0.914
16	13	- 23	United Arab Emirates	0.907
17	14	- 22	Morocco	0.906
18	16	- 23	Norway	0.897
19	17	- 24	Netherlands	0.893
20	15	- 31	Solomon Islands	0.892
21	18	- 26	Sweden	0.890
22	19	- 28	Cyprus	0.885
23	19	- 30	Chile	0.884
24	21	- 28	United Kingdom	0.883
25	18	- 32	Costa Rica	0.882

71	65	- 76	Argentina	0.779
72	67	- 78	United States of America	0.774
73	61	- 86	Bhutan	0.773

**The U.S.
ranked 72 in
its efficiency
of delivering
disability
adjusted life
years.**

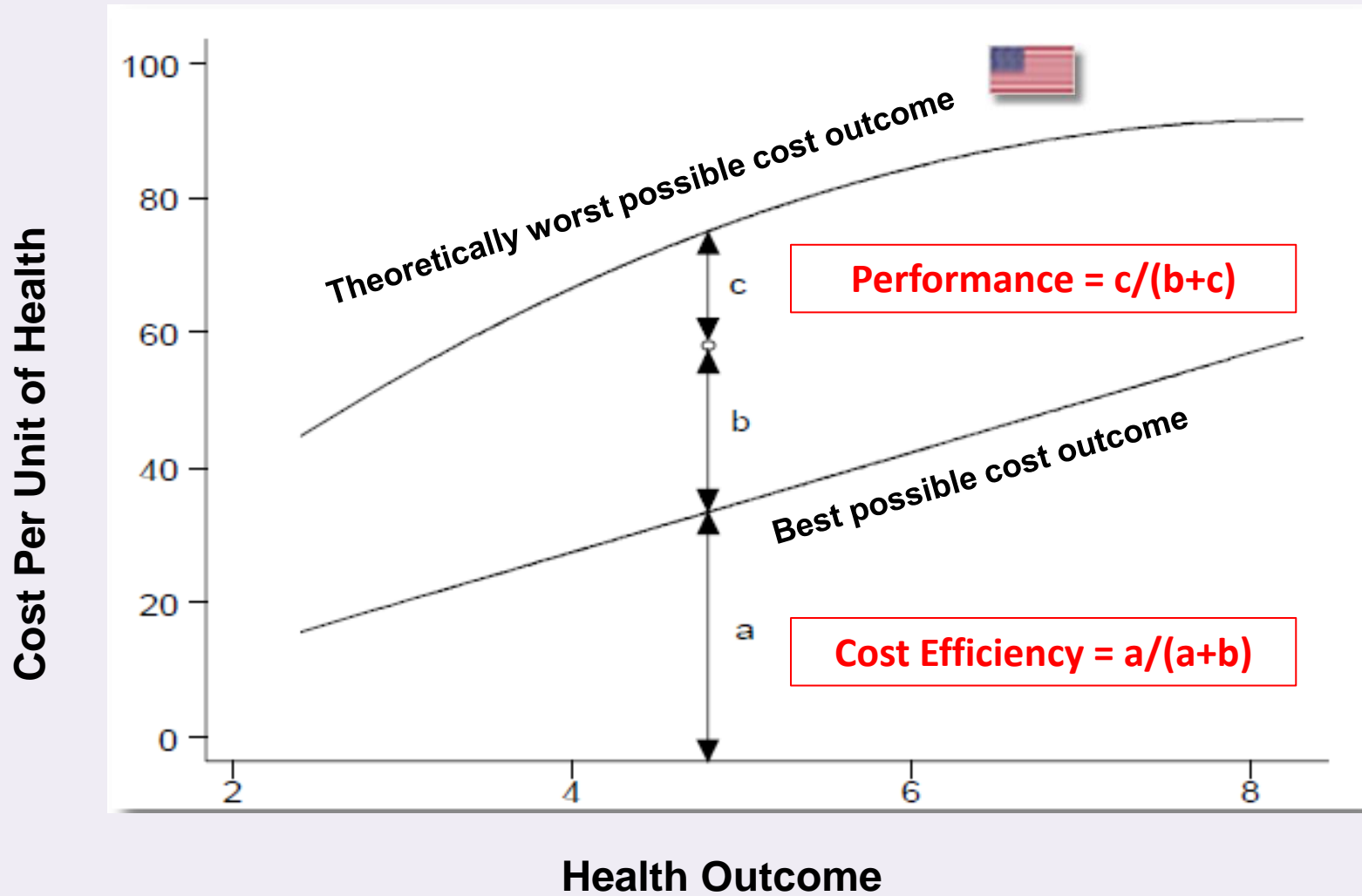
WHO made a political decision not to base the study on cost efficiency of delivering health goal attainment.

$$\text{Log(Expense}_i) = \delta + \gamma_1 (\text{logHealthOutcome}_i) + \gamma_2 (\text{logHealthOutcome}_i)^2 + v$$

We would need a benchmark for the worst you could do in delivering the healthcare that you actually delivered.

You could be the U.S.

A WHO Health Care Cost Based Performance Model



The results have long been debated, with critics arguing that the data was out-of-date, incomplete, and that factors such as literacy and life expectancy were over-weighted.

NOTE: The rankings are based on an index of five factors — health, health equality, responsiveness, responsiveness equality, and fair financial contribution. As noted above, all data is from 2000 or earlier and *these findings have been questioned.*

“These findings have been questioned.” What does that mean?



A meeting in New Orleans, 1/8/2001.



WORLD HEALTH ORGANIZATION

Meeting on Health System Performance Measurement
New Orleans, USA, 08 January 2001

GPE/EQC/HSPM/00.3

REPORT ON WHO MEETING OF EXPERTS

ON THE MEASUREMENT OF EFFICIENCY OF HEALTH SYSTEMS

AGENDA FOR WHO MEETING OF EXPERTS HELD IN NEW ORLEANS
8 JANUARY, 2001

K. Kalirajan (rapporteur)

Australian National University

Overview of Recent Developments for Measuring Efficiency

C.J.L. Murray, D.B. Evans, A. Tandon

World Health Organization

WHO's Measurement of Efficiency of Health Systems.

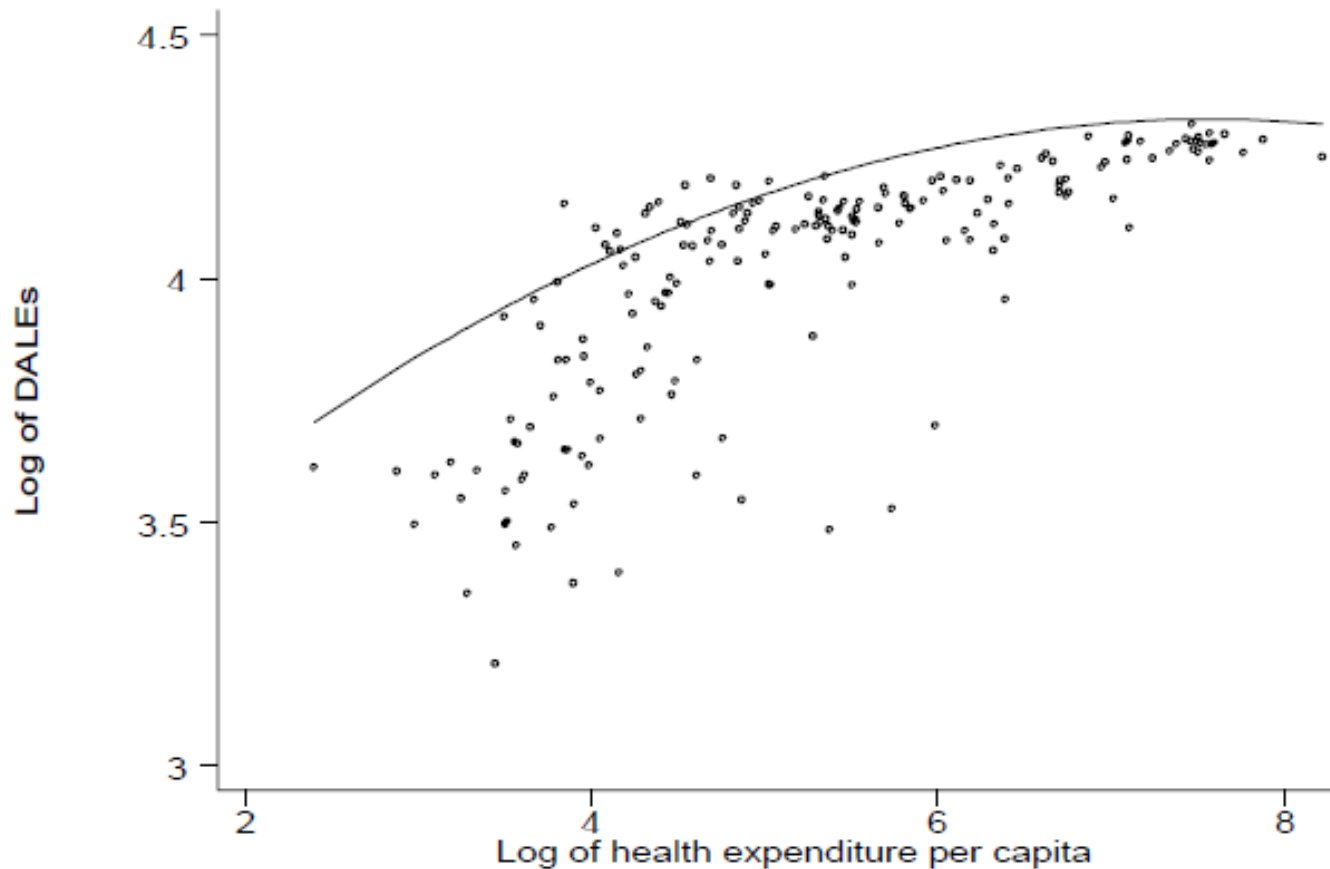
Coffee Break

S. Kumbhaker, University of Texas

W. Greene, New York University

C.A. Knox Lovell, University of Georgia

Different Methodology for Frontier Estimation



: Frontier Production Function for 191 countries 1997: Stochastic Frontier.

Observed Heterogeneity

The experts pointed out that one possible problem with the fixed effects approach is that the country-specific fixed effect might also include the influence of unmeasured determinants and not just efficiency. If there were missing explanatory variables, the form could overestimate the inefficiencies. On the other hand, if explanatory variables were included that were highly correlated with those already in the equation, the approach might well underestimate inefficiencies.

Are per capital health expenditure and education sufficient to explain the variation in health care attainment?

These variables were observed by WHO but not used in the study.

Z_{i1} = Gini measure of income inequality

Z_{i2} = World Bank measure of freedom and democracy

Z_{i3} = World Bank measure of government effectiveness

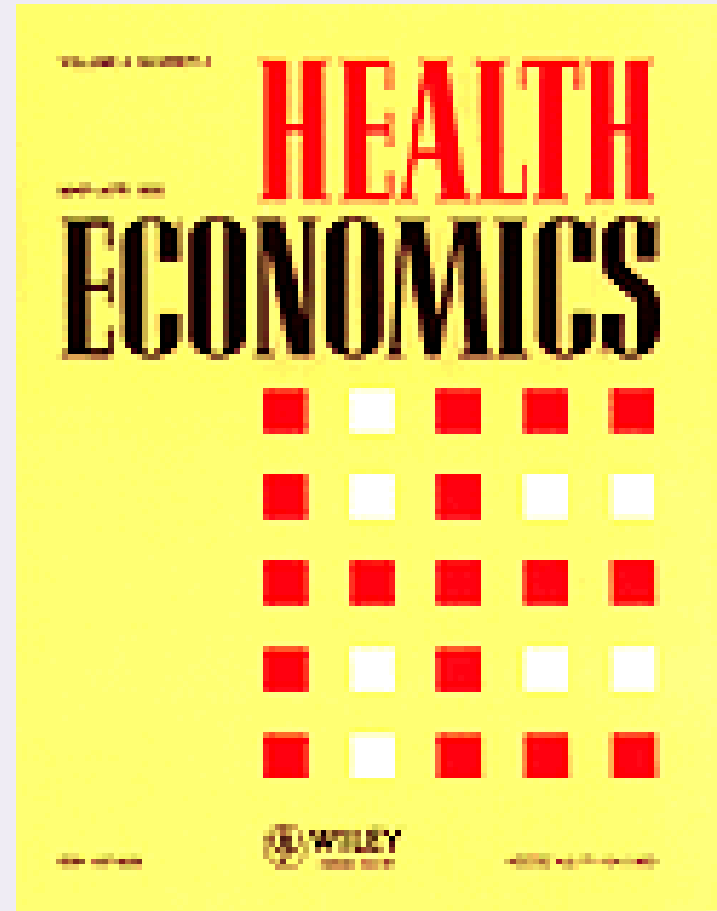
Z_{i4} = Location in tropics or temperate climate

$$Z_{i5} = \text{Population density}$$
$$Z_{i6} = \text{Public share of health care expenditures}$$
$$Z_{i7} = \text{Per capita GDP}$$
$$Z_{i8} = \text{World Bank region designation}$$

69

. If tropical countries show systematically lower achievement in health, because of the effects of many diseases concentrated near the equator, a variable indicating tropical location would raise the explanatory or predictive power. Similarly, if outcomes are worse with respect to equality in ethnically diverse countries, a variable reflecting that heterogeneity would explain the outcomes observed.

Distinguishing Between Heterogeneity and Inefficiency: Stochastic Frontier Analysis of the World Health Organization's Panel Data on National Health Care Systems, *Health Economics*, 13, 2004, pp. 959-980.



Greene's Aphorism: Ignoring heterogeneity does not make it go away.

Table 10: Country Ranks for the top 25 Countries in *ETML* Sample

	DALE		COMP	
Rank	Country	New Rank	Country	New Rank
1	Malta	7	France	15
2	Oman	27	Italy	11
3	Italy	10	San Marino	59
4	France	8	Andorra	58
5	San Marino	57	Malta	6
6	Spain	4	Singapore	8
7	Andorra	49	Spain	2
8	Jamaica	3	Oman	41
9	Japan	1	Austria	17
10	Greece	2	Japan	3
11	Monaco	61	Norway	10
12	Saudi Arabia	42	Portugal	32
13	Singapore	6	Monaco	69
14	Portugal	23	Greece	1
15	Austria	26	Iceland	21
16	Norway	32	Netherlands	7
17	United Arab Emir.	59	Luxembourg	30
18	Netherlands	12	Ireland	25
19	Sweden	19	United Kingdom	12
20	Costa Rica	18	Colombia	14
21	Cyprus	11	Switzerland	19
22	Chile	5	Belgium	22
23	United Kingdom	13	Cyprus	9
24	Iceland	36	Sweden	5
25	Switzerland	16	Saudi Arabia	79

The World's Best Health Care?

Noone knew what was actually ranked number 37. Noone actually knows what 'best' or 'good' healthcare is, or even what we mean by aggregate 'healthcare.'

But we all knew we didn't like being ranked 37th.

Is Health Care a Normal Good?

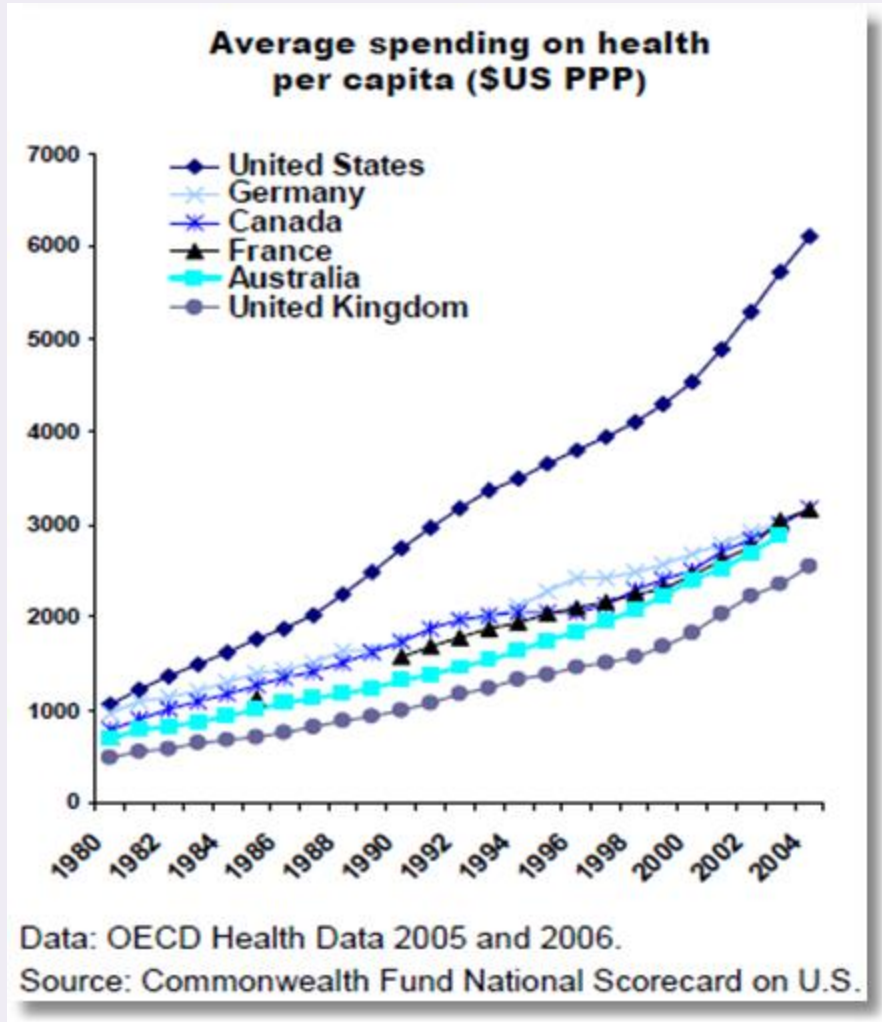
- The income elasticity of health expenditure exceeds 1.0

Newhouse 1.15 to 1.31.

Subsequent researchers using cross section and pooled time series-cross section data sets obtained similar results.

**Our own results based on the WHO data for 1997,
1.08 for the full sample and 1.23 for the OECD countries.**

- Do people want more healthcare as incomes rise?
 - Revelation of preferences
 - Sustained real increases in costs of delivering health care and no ability to substitute away from health care.
- Explains changes over time. Does not explain static cost pattern in the U.S.



Health Care Costs

Two different problems that require different solutions.

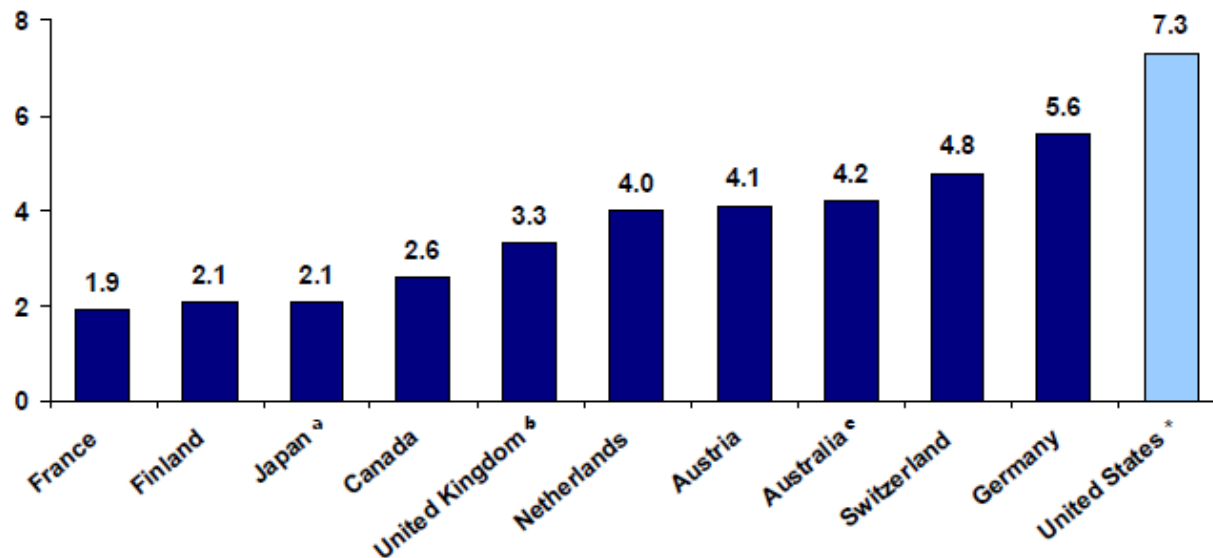
- **Expenditure Level**
- **Growth in Expenditures**

- **The cost of desired health care outcomes:**
The surgery requires professionals, capital, supplies, energy
- **Costs of unproductive health care purchases**
The cost of defensive medicine – redundant tests. Waste, fraud and abuse.
- **Transfers**
Transaction costs: Insurance, intermediaries, records, etc. etc.
Economic rent: The 10,000% markup on Tylenol. The enormous returns to investment in hospitals and in health insurance companies.

Transaction Costs

Figure 4. Percentage of National Health Expenditures Spent on Health Administration and Insurance, 2003

Net costs of health administration and health insurance as percent of national health expenditures



a 2002 b 1999 c 2001

* Includes claims administration, underwriting, marketing, profits, and other administrative costs; based on premiums minus claims expenses for private insurance.

Data: OECD Health Data 2005.

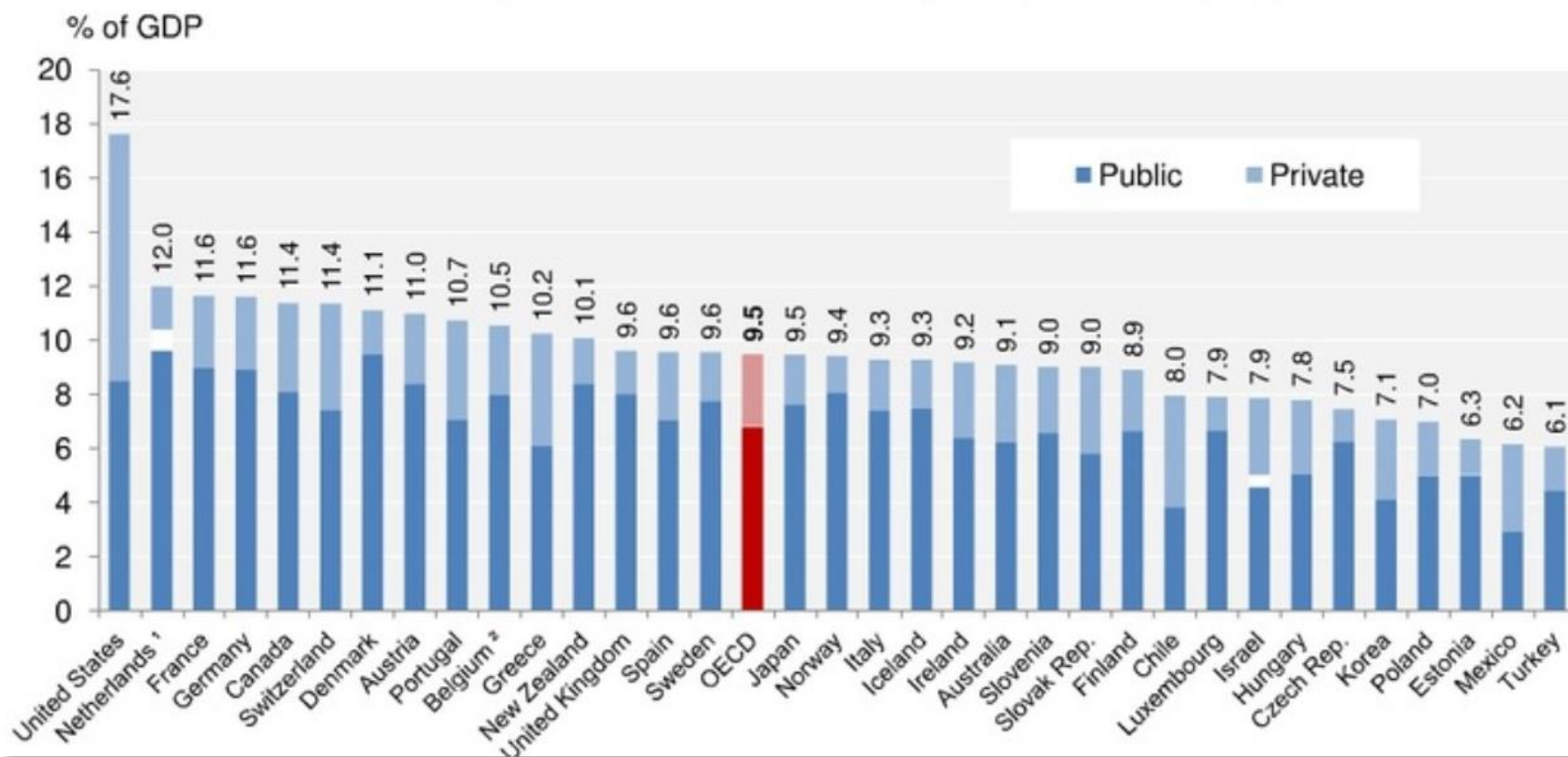
Source: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006.



Use Competition in the Market?

- Market Failures
 - Information asymmetry
 - Moral hazard
 - Supply constraints (why is it so hard to get into medical school?)
 - Regulatory capture. (Health care lobbying outpaces banking 4 to 1.)
- Unbalanced bargaining strength – the consumer has none. Medicare and the VA have some.
- Demand for an undesirable good
 - No surplus
 - No payoff to search

Total health expenditure as a share of GDP, 2010 (or nearest year)



Static Analysis

Having the government spend less on Medicare does not mean we will spend less as a nation.

Voucherizing Medicare – moving transactions to the unregulated sector.

Without modifications in the market structure, policies that move the government (Medicare) out of the market will likely increase spending in aggregate when transfers are included in the calculation.

Raising the eligibility age for Medicare is a decision to consume less health care.

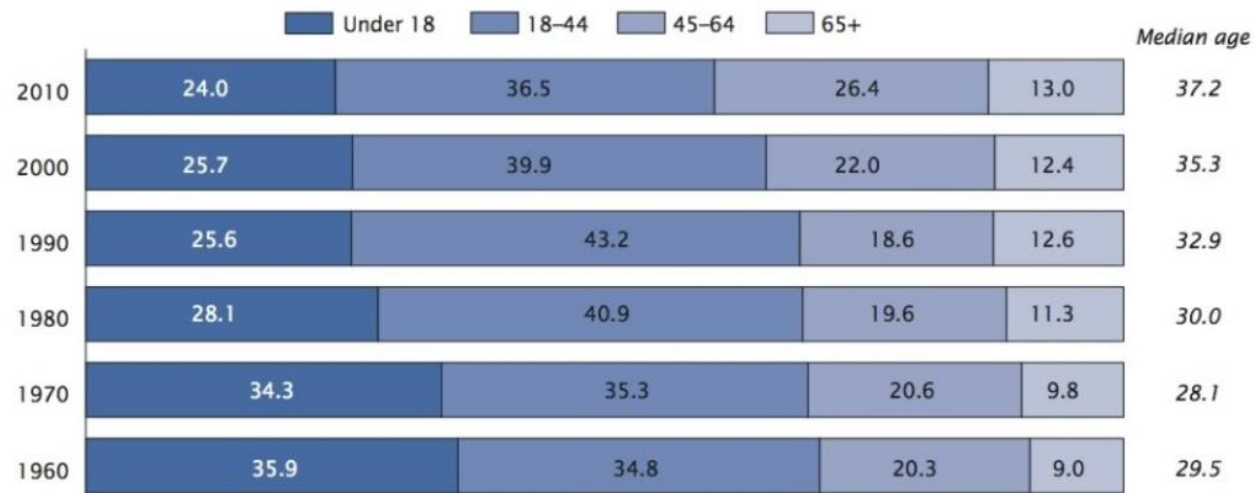
We will spend less if people buy less health care. That is a policy choice.

Dynamic Analysis

Rising Health Care Costs Follow Changes in the Composition of Demand for Health Care Services

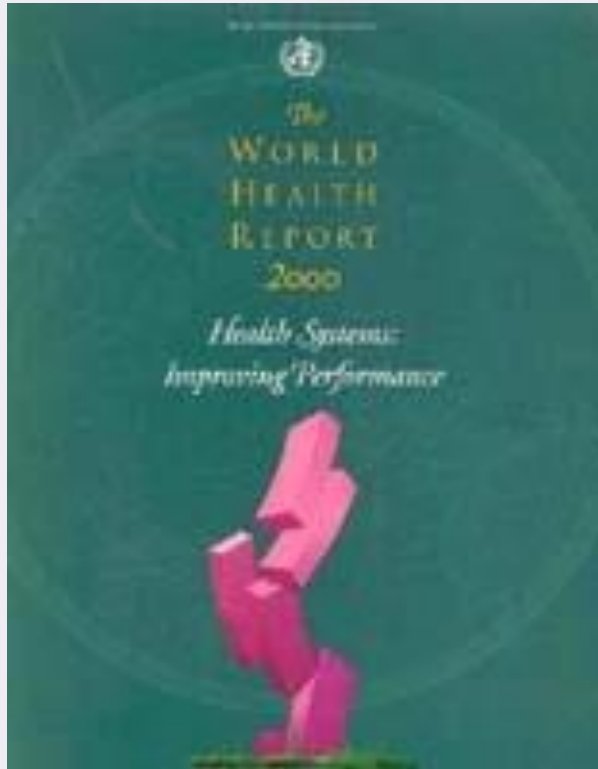
Figure 4.
Age Distribution and Median Age: 1960 to 2010

(In percent. For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/sf1.pdf)



Sources: U.S. Census Bureau, 2010 Census Summary File 1, Census 2000 Summary File 1, 1990 Census Summary File 2C, 1980 Census Summary File 2C, 1970 Census of Population, Vol. 1, Characteristics of the Population, Chapter B, Table 50, and 1960 Census of Population, Vol. 1, Characteristics of the Population, Chapter C, Table 156.

Long run trends will increase the cost of health care in every period.



In the millennial edition of its *World Health Report*, in 2000, the World Health Organization published a study that compared the successes of the health care systems of 191 countries. The results notoriously ranked the United States a dismal 37th, between Costa Rica and Slovenia. The study was widely misrepresented, universally misunderstood and was, in fact, unhelpful in understanding the different outcomes across countries. Nonetheless, the result remains controversial a decade later, as policy makers argue about why the world's most expensive health care system isn't the world's best.