

A HYBRID CONFERENCE AND INTERNET EVENT

The Eighteenth Population Health Colloquium

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“Health Systems Sustainability”

Ignazio R. Marino, MD, ScD

Professor of Surgery, Sidney Kimmel Medical College, Thomas Jefferson University
Senior Vice President for Strategic Affairs, Thomas Jefferson University & Jefferson Health



HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

DISCLOSURE

- I will be discussing uses of some medications.
- I have no actual or potential conflict of interest in relation to this presentation.
- Some of the following slides belong to Giuseppe Remuzzi, M.D. (Mario Negri Institute for Pharmacological Research, Bergamo, Italy).

The way health care is delivered has changed significantly in the past few decades.

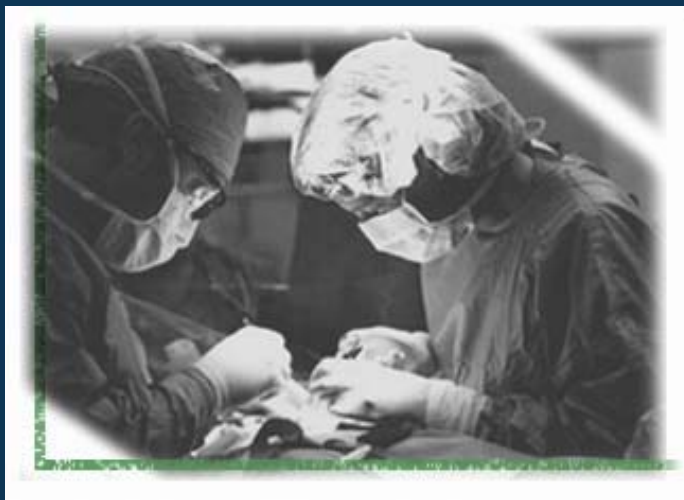
Some of these changes have improved patients' well-being and saved their lives.

Among the most notable changes:

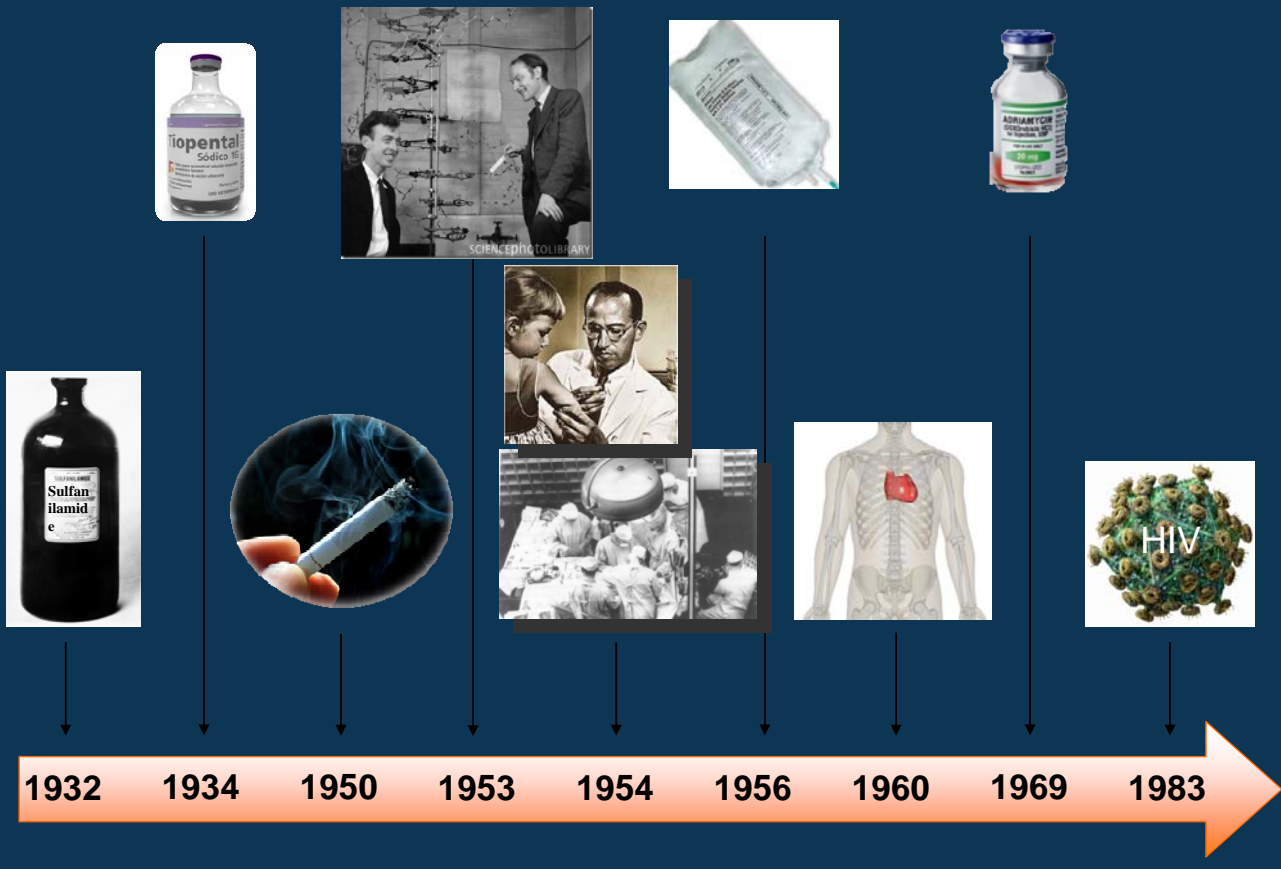
- laparoscopic and robotic surgery
- stents for heart surgery
- transplantation
- new drugs (e.g. statins)
- radiology and imaging technologies

ADVANCES IN DIAGNOSTICS

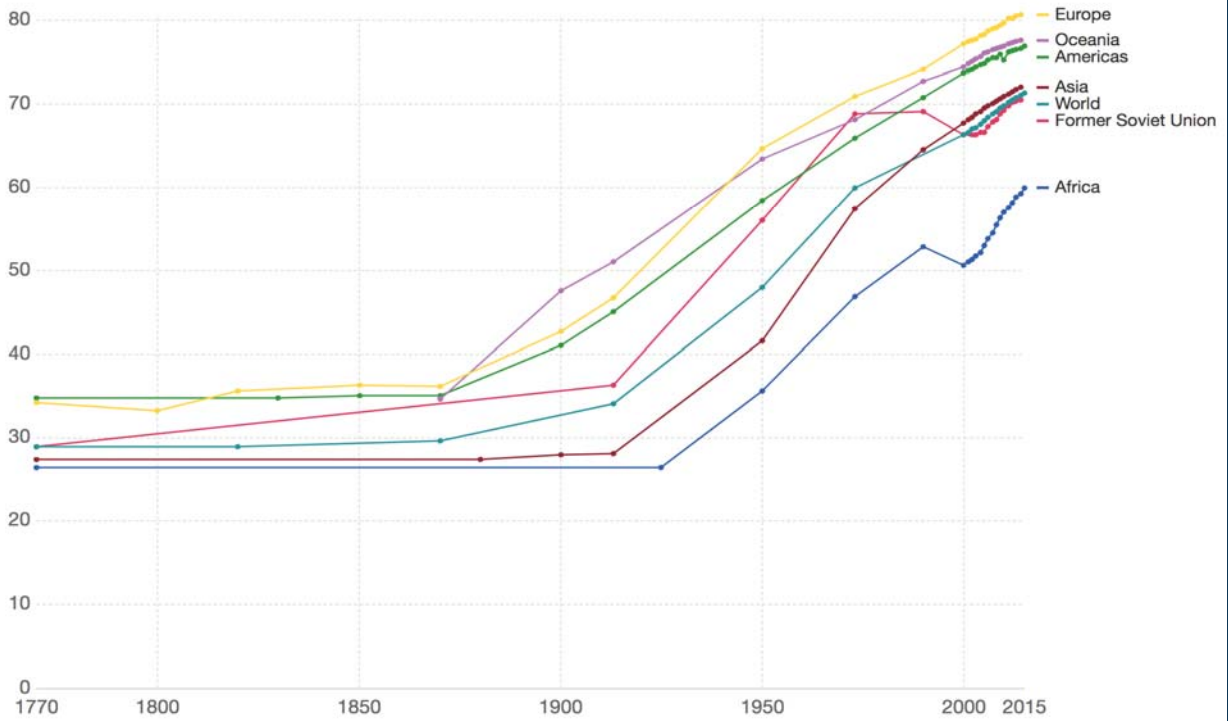
For decades, the only reliable method to diagnose abdominal malignancies was explorative laparotomy.



MEDICINE HAS CHANGED MORE IN THE PAST FEW YEARS THAN IN THE PAST 2,000 YEARS



Life expectancy globally and by world regions since 1770



Source: Life expectancy – James Riley for data 1990 and earlier; WHO and World Bank for later data (by Max Roser)

OurWorldInData.org/life-expectancy/ • CC BY-SA

RANKING OF AGE-STANDARDIZED DEATH RATE WORLDWIDE (2010)



Country ranked with best performer ranked 1

Murray CJL, *Lancet*, 2013



The New York Times

October 24, 2012

The Island Where People Forget to Die

By DAN BUETTNER



Residents of the island Ikaria in Greece, 30 miles off the western coast of Turkey, live long and healthful lives.

Clean air and water, but above all a diet rich of vegetables and legumes grown directly, saltless bread, local olive oil, goat cheese and fresh seafood might be responsible for their longevity.

In Ikaria people walk and no clock is working correctly.

RANKING OF AGE-STANDARDIZED DEATH RATE WORLDWIDE (2010)



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Murray CJL, *Lancet*, 2013

On July 5, 1948, the National Health Service (NHS) was launched with the proud expectation that it would make **the UK** the envy of the world.

The **Italian** National Health Service was established on December 23, 1978, founded on the principles of universal coverage and social financing through general taxation.

World Health Organization Ranking: The World's Health Systems

<i>1 France</i>	<i>16 Luxembourg</i>
<i>2 Italy</i>	<i>17 Netherlands</i>
<i>3 San Marino</i>	<i>18 United Kingdom</i>
<i>4 Andorra</i>	<i>19 Ireland</i>
<i>5 Malta</i>	<i>20 Switzerland</i>
<i>6 Singapore</i>	<i>21 Belgium</i>
<i>7 Spain</i>	<i>22 Colombia</i>
<i>8 Oman</i>	<i>23 Sweden</i>
<i>9 Austria</i>	<i>24 Cyprus</i>
<i>10 Japan</i>	<i>25 Germany</i>
<i>11 Norway</i>	<i>26 Saudi Arabia</i>
<i>12 Portugal</i>	<i>27 United Arab Emirates</i>
<i>13 Monaco</i>	<i>28 Israel</i>
<i>14 Greece</i>	<i>29 Morocco</i>
<i>15 Iceland</i>	<i>30 Canada</i>
	<i>.....</i>
<i>37 USA</i>	

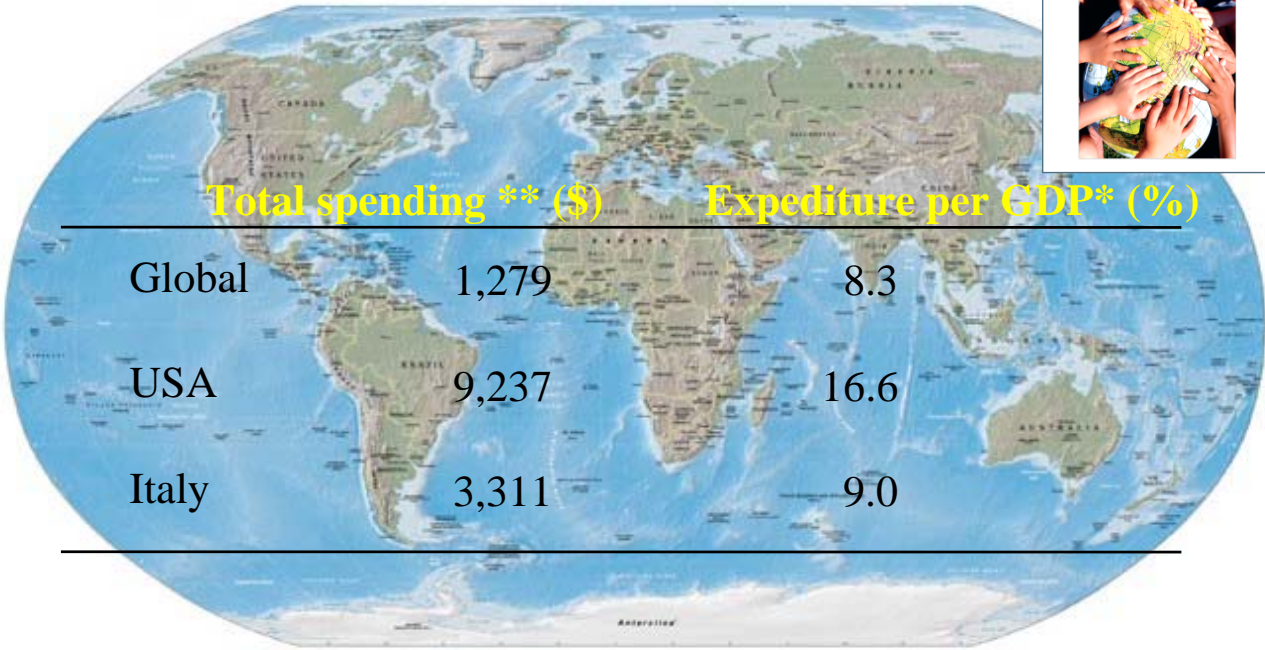
HEALTH SPENDING PER CAPITA (2014)

THE LANCET

December 15, 2012 - January 4, 2013

www.thelancet.com

The Global Burden of Disease Study 2010

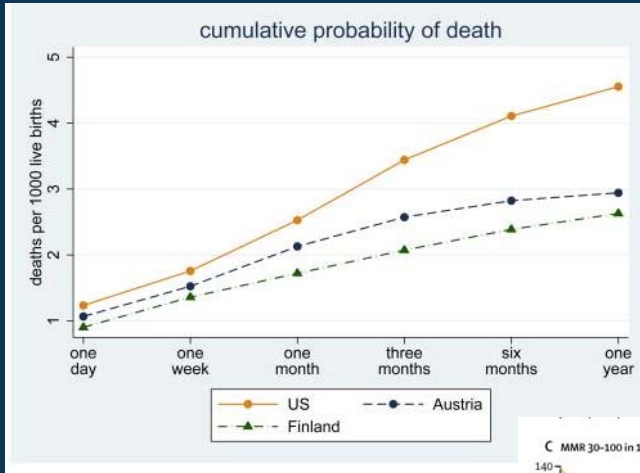


* GDP: Gross Domestic Product

** Range : \$ 33 Somalia - \$ 9,237 USA

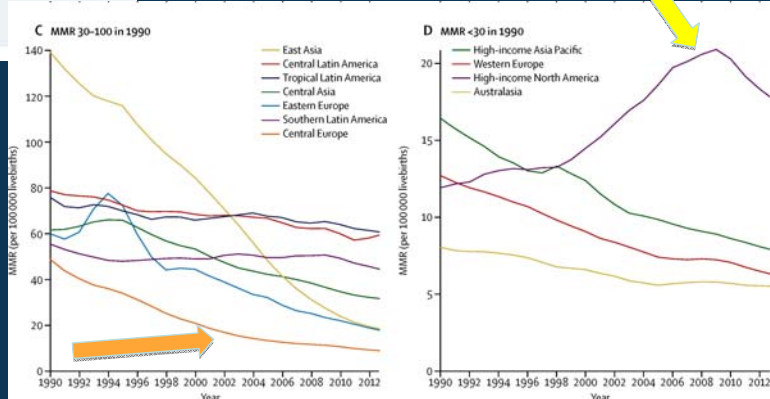
GBD Lancet, 2017

Why Is Maternal and Infant Mortality Higher in the United States than in Europe?



Chen A, Oster E, Williams H. Why Is Infant Mortality Higher in the United States Than in Europe? *American Economic Journal Economic Policy*. 2016;8(2):89-124.

Kassebaum NJ et al. Global, regional, and national levels and causes of maternal mortality during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. *The Lancet* 2014 384, 980-1004.



A CRUCIAL ETHICAL ISSUE

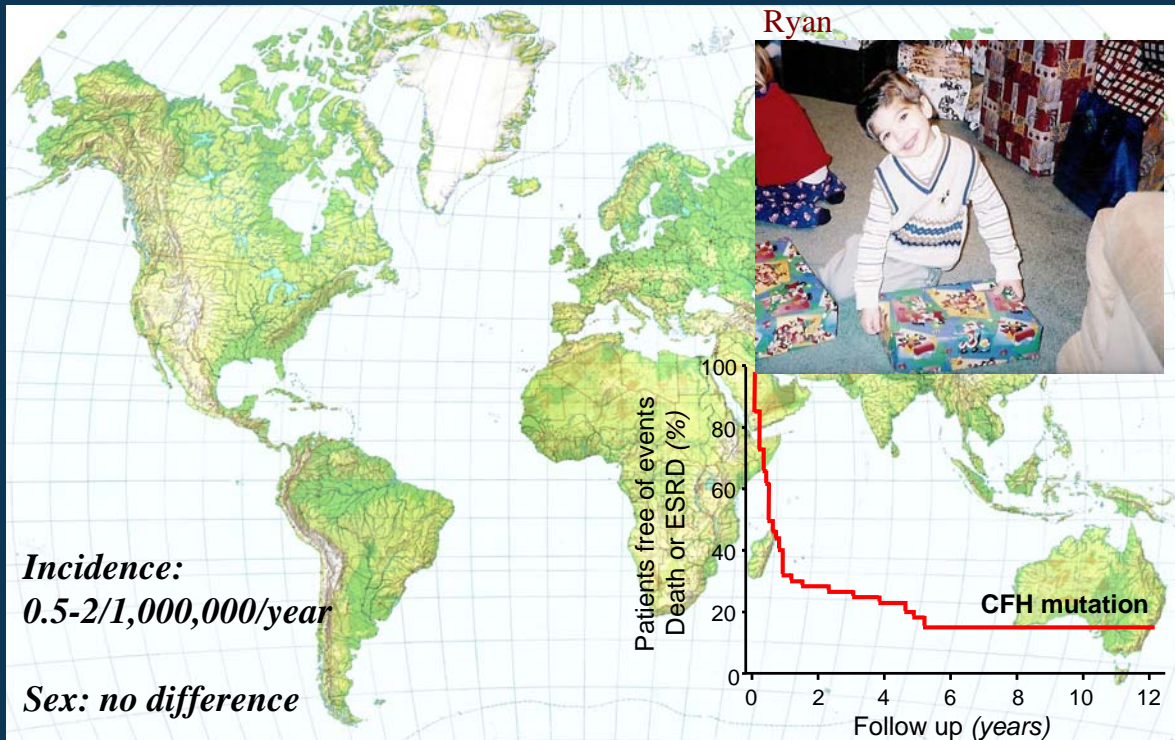
Health costs rise by the year.

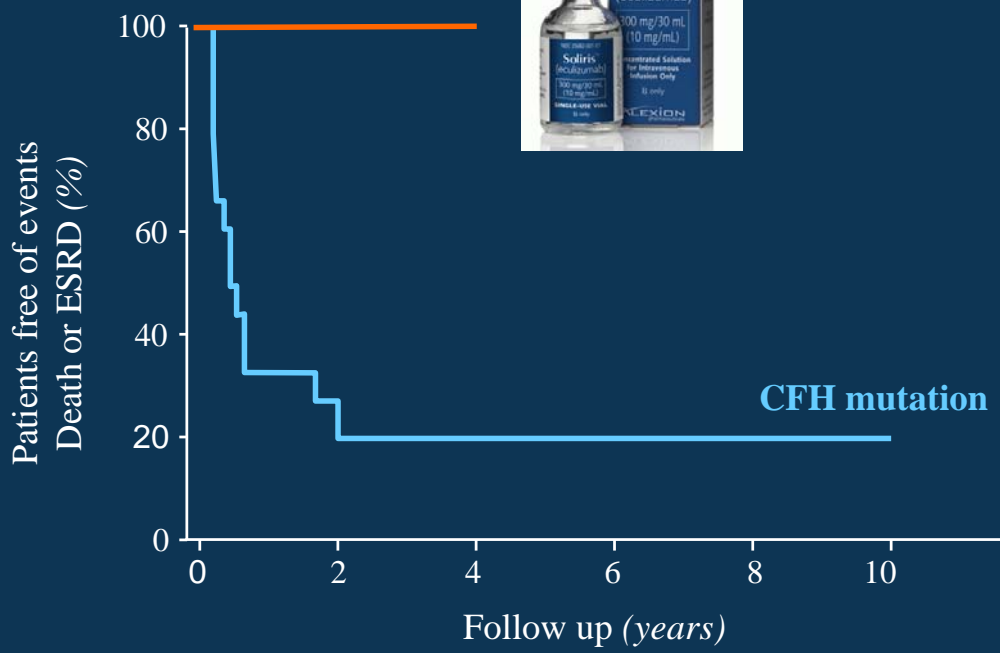
New drugs and new technologies also contribute to this.

Nowadays, elderly people who once had no options, get treated.

ATYPICAL HEMOLYTIC UREMIC SYNDROME

A multisystem disease of microangiopathic hemolytic anemia and thrombocytopenia with predominant but not exclusive renal involvement





Alexion produces Soliris for Atypical Hemolytic Uremic Syndrome and also for the life-threatening blood disease Paroxysmal Nocturnal Hemoglobinuria.

The drug costs approximately \$500,000 a year per patient.



BIANCA'S GRANDMOTHER

“Sadly, we have now reached a point where her care has nearly consumed all our financial resources, but not our resolve to care for her. This April 9, 2014 Bianca will have received her 7th dose of Soliris, and we may have enough for one more dose- thereafter all is uncertain..”

In our earlier conversations, you had kindly offered the possibility of us bringing Bianca to your clinic in Italy. I am writing to enquire if that offer is still open.

I fully understand that I am asking a lot of you. But I cannot sit by Bianca's side waiting for the health system in Australia to adequately respond to her critical health care needs”



“Many Americans have been asking why, if Gilead can afford to price Sovaldi at \$11-a-pill in Egypt, does it charge \$1,000 in the US. The answer is because it can”

Andrew Ward, Financial Times, July 31, 2014



\$84,000
The cost of a 12-week course of Sovaldi in the United States. This is approximately

\$1,000
per pill. In Egypt, which has the world's highest prevalence of hepatitis C, the same pill costs

\$11

Gilead's sales of the medicine after six months on the market

\$5.7bn

In 2015, for the first time in history, the US Senate Committee on Finance wrote to John Martin, CEO, Gilead Sciences, Inc., expressing “*serious concerns about the extent to which the market...is operating*”.

Among other issues, the pricing strategy for Sofosbuvir –HCV treatment- in non-U.S. markets contemplated significant lower prices than what would be set for U.S. patients.

The US are

-the richest Country in the world

- with the best hospitals

-the best doctors

-and the best biomedical research

1961 Artificial Kidney Center, Seattle, USA: A matter of life or death

A decision-making Committee composed of 7 lay people: a lawyer, a minister, a housewife, a state government official, a banker, a labor leader, and a surgeon decided who should live and who should die.

(They were called “**THE GOD COMMITTEE**”)

They considered the **patient's marital status**, net worth, nature of occupation, extent of education, **church attendance**, **number of kids** (the more, the better the chance of being chosen), and potential to resume work. **They struggled with the ultimate question of who should be saved: the person who contributes the most to society or the one whose death would impose the greatest burden on society**, in the form of children left without care or resources.

In 1972, president Richard Nixon signed a bill saying the government would pay for dialysis for anyone who needed it.

(Social Security Amendments of 1972)

Coverage (patients):

-1972 10,000

-2016 500,000 1 % of Federal Budget

Washington Post, May 15, 2017

“Essentially we have universal health care in this country, for one organ in your body – says John Oliver - it’s like your kidneys, and only your kidneys, are Canadian”



Are patient care and profit fundamentally incompatible?

How unfair can a health system get?

What are the alternatives?

Some wish for a National Health Insurance, covering everyone at all times, including for emergencies, chronic diseases, mental and dental health.

New York Times, May 23, 2017

Nearly 20 Million Have Gained Health Insurance Since 2010

New York Times, May 5, 2017

The Trumpcare Disaster

880 billion total

↓ 4 billion education

↓ 74 million poor, disabled and elderly

New York Times, May 2, 2017

Patients Who Rely on Obamacare Protections Are Worried

New York Times, February 27, 2018

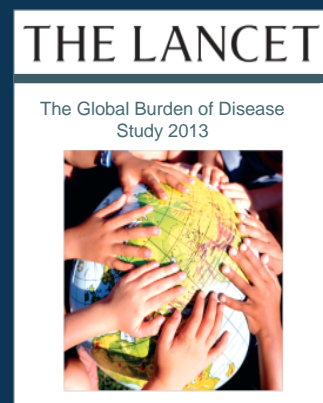
Twenty States Sue Federal Government, Seeking End to Obamacare



Top Italian Diseases

10 MAIN HEALTH RISK FACTORS IN ITALY FOR BOTH SEXES (2013)

1. Hypertension
2. Overweight
3. Smoking
4. High blood sugar on an empty stomach
- 5. Reduced kidney function**
6. Cholesterol
7. High salt diet
8. Alcohol consumption
9. Reduced physical activity
10. Osteoporosis



Mario is Italian, 48 and suffers from diabetes.

He needs dialysis and starts having eye problems.

Four hours of dialysis twice a week are enough for him.

Mario is the manager of a small company, where he still works on a daily basis.

Undergoing dialysis at the hospital would be inconvenient for him.

One day, he finds a private dialysis clinic near his house. It would be much more convenient for him to go there instead of to the hospital.

He asks his doctors and they tell him that he can undergo dialysis wherever he wishes. So he starts going to the private clinic.

One day he shows up again at the hospital and asks to be taken back.

“Of course, but why?” – ask the doctors.

“At the private clinic – answers Mario – they have me undergo 3 cycles of dialysis per week”

”But you just need two! They know that!”

Mario explains: ”Yes, they do, but they also want to get reimbursed for more procedures!”

This is sometimes the difference between for-profit and not-for-profit systems.

Anomalies happen everywhere.

Dr. Howard Brody (University of Texas) maintains that **waste in U.S. health care, defined as spending on interventions that do not benefit patients, amounts to at least 30% of the budget** — and this waste is a major driver of cost increases.

Avoiding waste could allow universal coverage in the US.

135 tests and treatments have been identified as unnecessary and often harmful.



The NEW ENGLAND JOURNAL of MEDICINE

Perspective
MAY 24, 2012

From an Ethics of Rationing to an Ethics of Waste Avoidance

Howard Brody, M.D., Ph.D.

Will U.S. physicians rise to the occasion, committing ourselves to protecting our patients from harm while ensuring affordable care for the near future?



- Health goes beyond the health system
- Education alone may not be enough, we need incentives to ensure adherence. Public policies (e.g. sugar and cigarettes tax) to facilitate good choices are necessary
- Engagement with industry to address conflicts of interest
- We need to communicate better to improve solidarity and achieve goals together for ourselves and future generations

R. Horton, The Lancet

