The State of American Medicine 2018

Spoiler: It Is The Best, But We Could Do Even Better

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Intermountain Healthcare
Healing for life®

Disclosures

Neither I, Todd L. Allen, nor any family members, have any relevant financial relationships beyond what has been disclosed, to be discussed, directly or indirectly, referred to or illustrated with or without recognition within the presentation.

I have no ongoing financial relationships beyond my employment at Intermountain Healthcare.

Objectives

To broadly describe the state of healthcare policy and practice in America and Utah in 2018, and

To advocate for the inherent purpose and good in health and healthcare and to frame a path forward.

To gain perspective you must seek higher ground.

The mystery of human existence lies not in just staying alive, but in finding something to live for.

A common mistake that people make when trying to design something completely foolproof is to underestimate the ingenuity of complete fools.

What? Me worry?

And some of these are galaxies…

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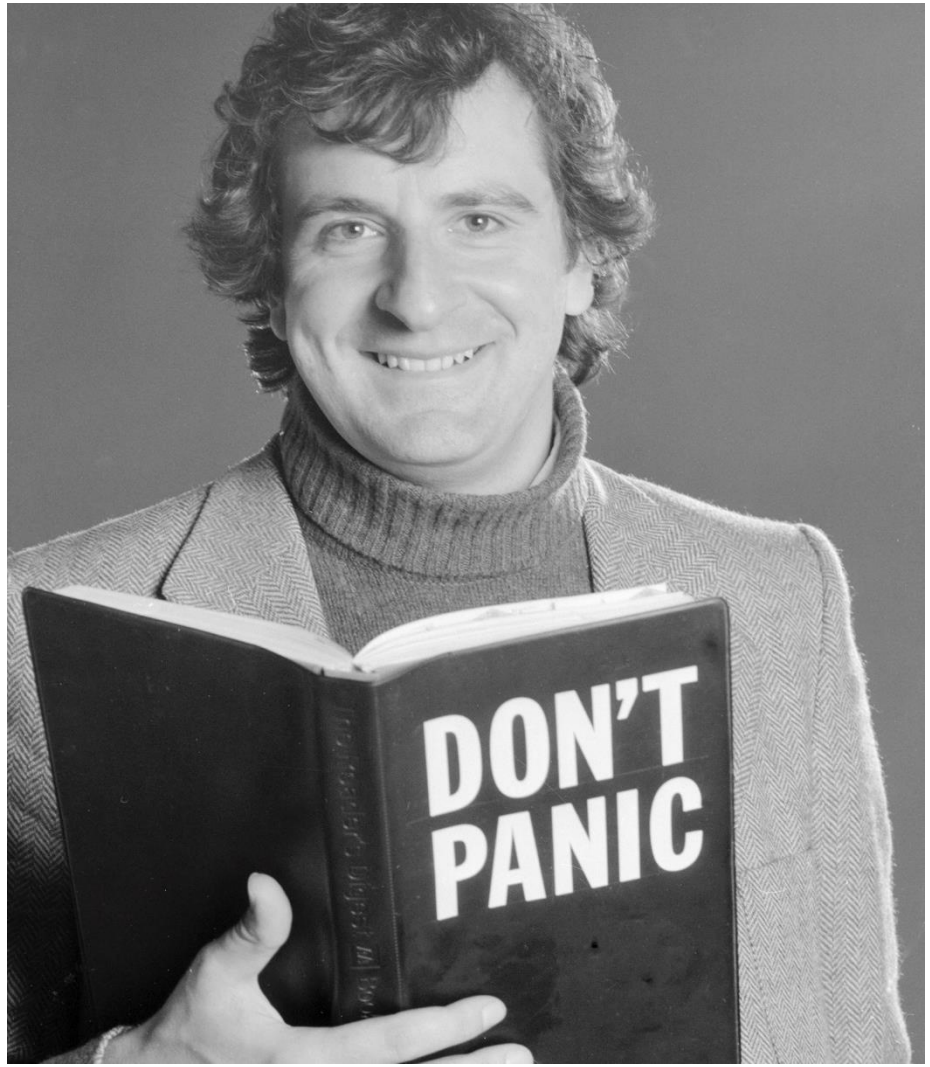

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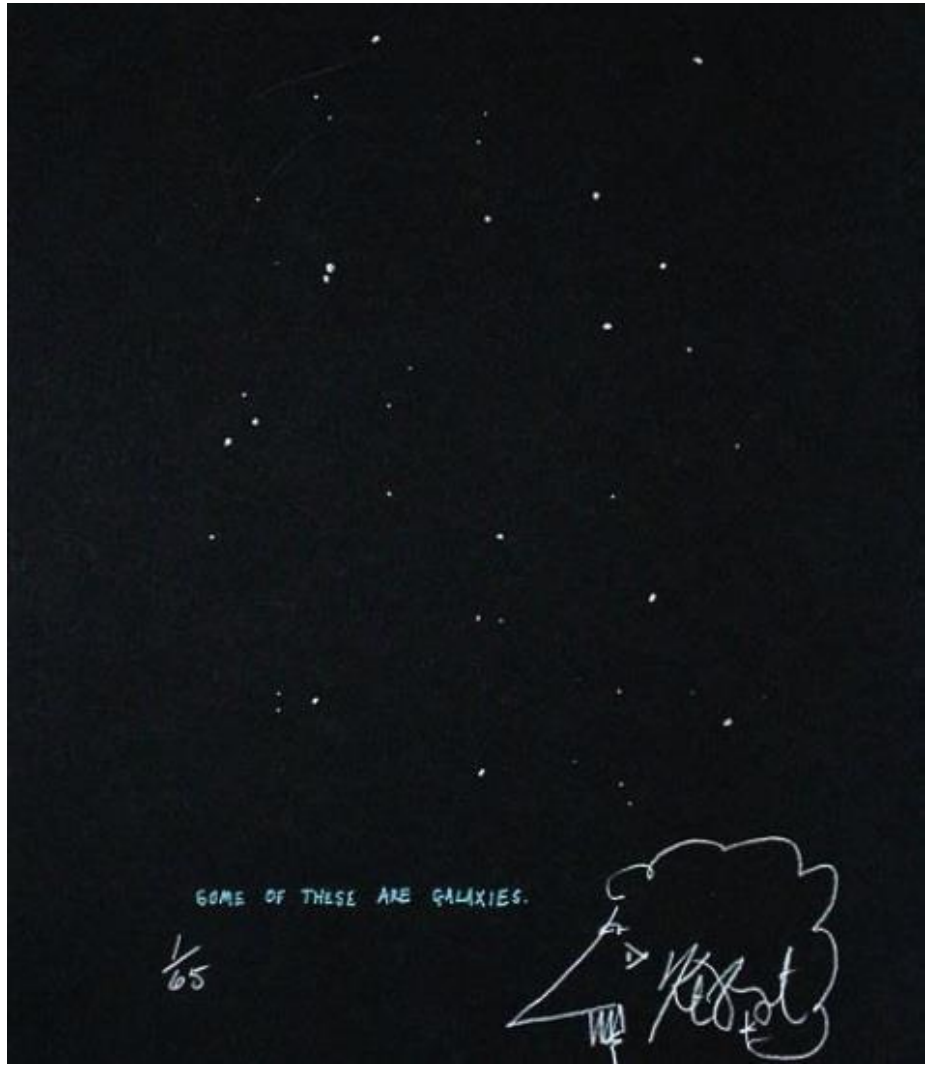
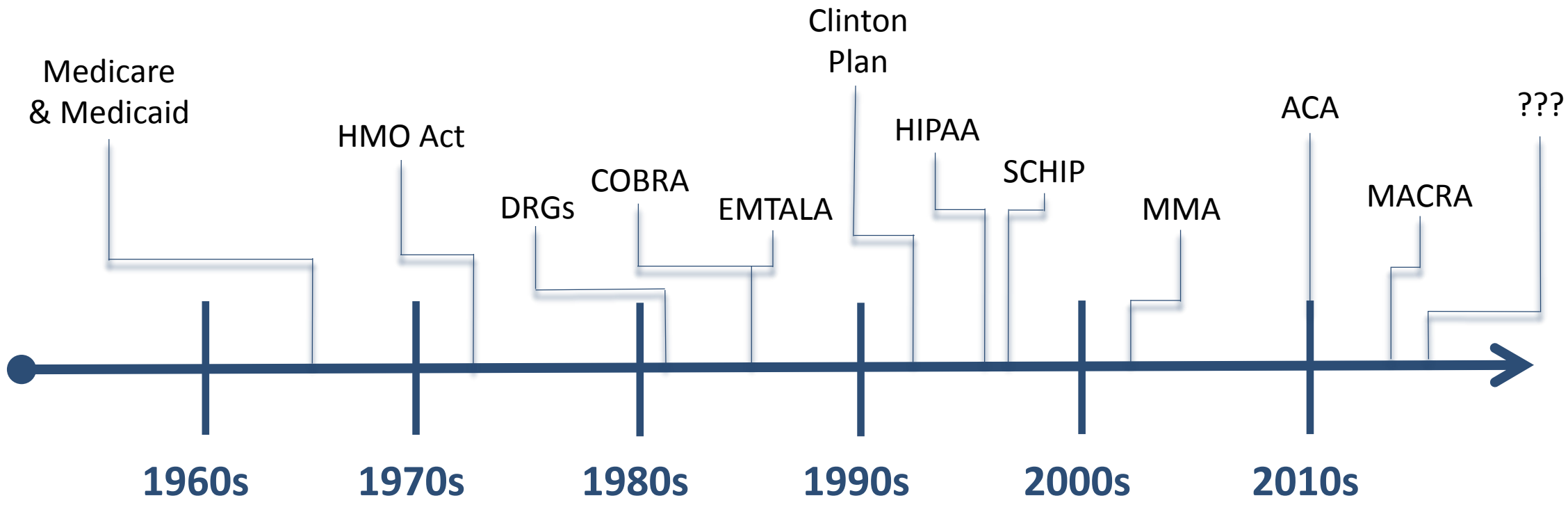


We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten. Don’t let yourself be lulled into inaction.

A Brief History of Health Care Legislation



Source: Leavitt Partners

The Emergence of Modern Medicine: 1860-1910

New high standards for clinical education

- Flexner Report: more than half of all U.S. "medical schools" shut down
- New model: hospital-based 2 year course of study (integrated clinical exposure)

Strict requirements for professional licensing

Clinical practice founded on scientific research

- Shift to germ theory, rather than "an imbalance of the 4 bodily humors," as the basis for understanding disease and its treatment
- Health care's first entry into "evidence-based medicine"

New internal organization for hospitals

Porter, R. The Greatest Benefit to Mankind: A Medical History of Humanity. New York, NY: W.W. Norton and Company; 1997.
Barry, JM. The Great Influenza: The Epic Story of the Deadliest Plague in History. New York, NY: The Penguin Group; 2004.
Starr, P. The Social Transformation of American Medicine. New York, NY: Basic Books (The Perseus Books Group; 1984.
Rosenberg, CE. The Care of Strangers: The Rise of the American Hospital System. New York, NY: Basic Books; 1987.

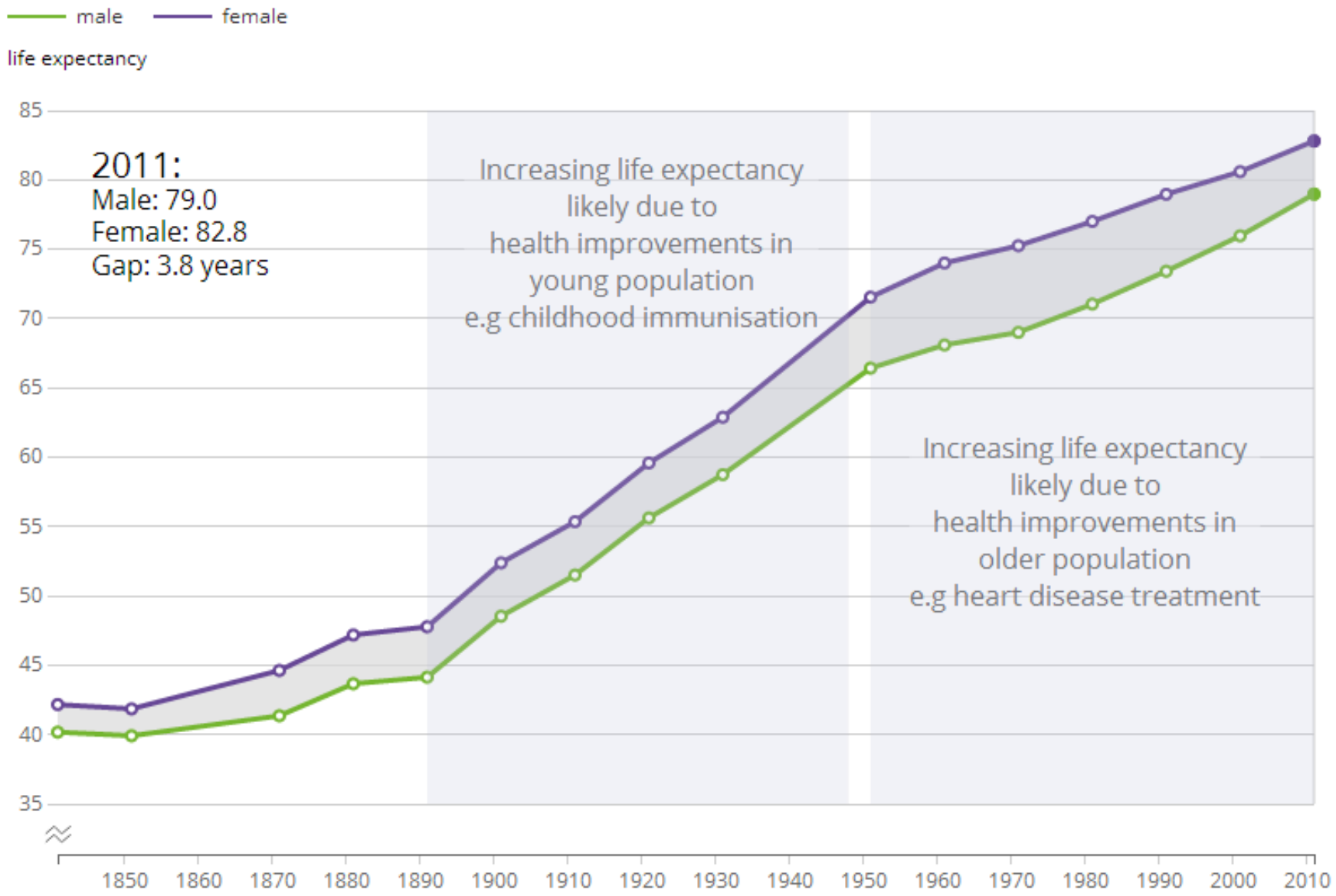
1912 : The 'Great Divide'

"... for the first time in human history, a random patient with a random disease consulting a doctor chosen at random stands a better than 50/50 chance of benefitting from the encounter."

Harvard Professor L. Henderson

(Harris, Richard. *A Sacred Trust*. New York, NY: New American Library, 1966)

Life Expectancy



We Live In An Age of Miracles

Human genome is fully available

Gene editing capabilities through CRISPR

Heart disease deaths down by 40% in a decade

Stem cell research and advancements

Minimally invasive surgical techniques

Targeted drug therapies for cancer

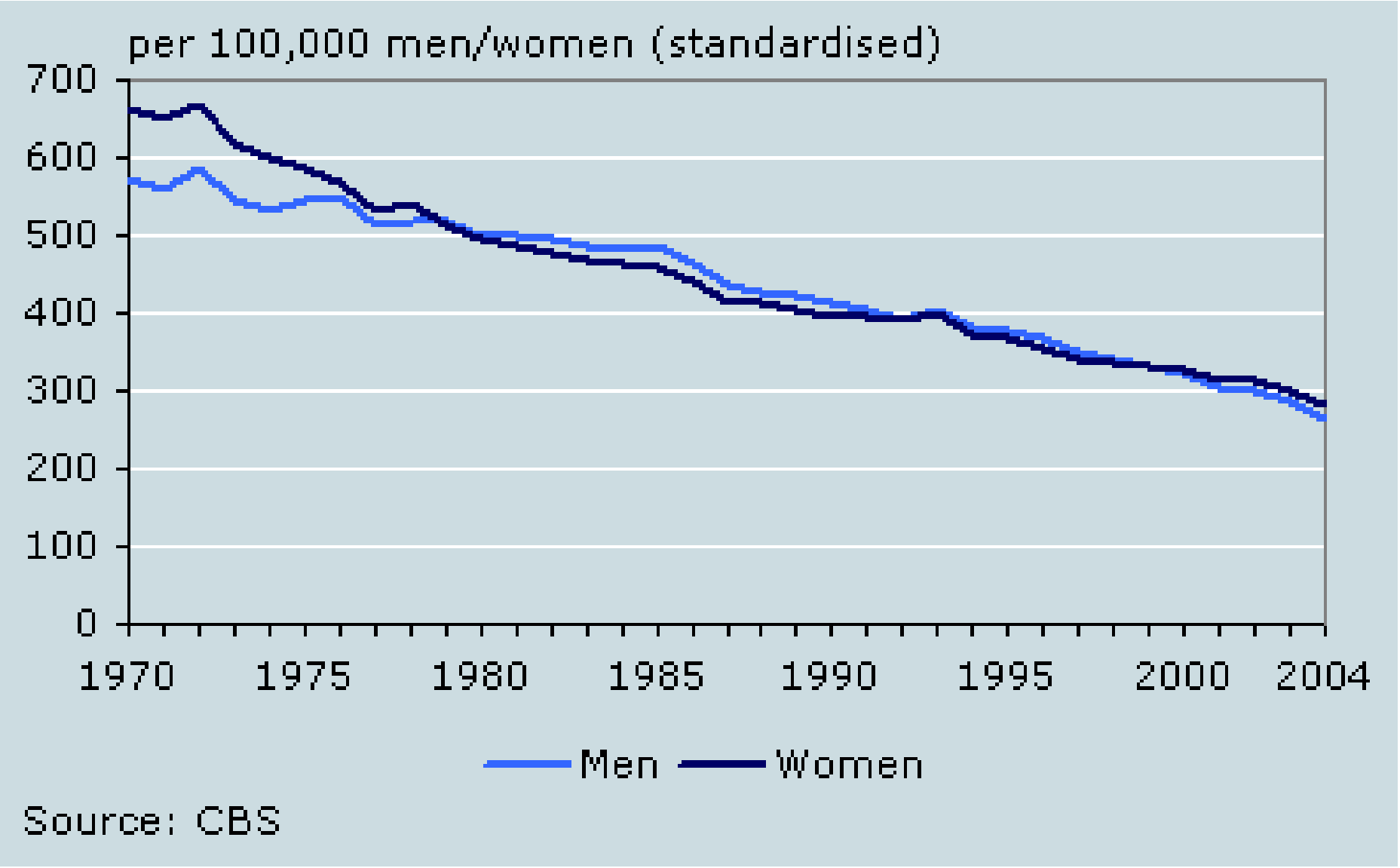
HIV/AIDS turned into a chronic disease

Successes against historically fatal illnesses and injuries

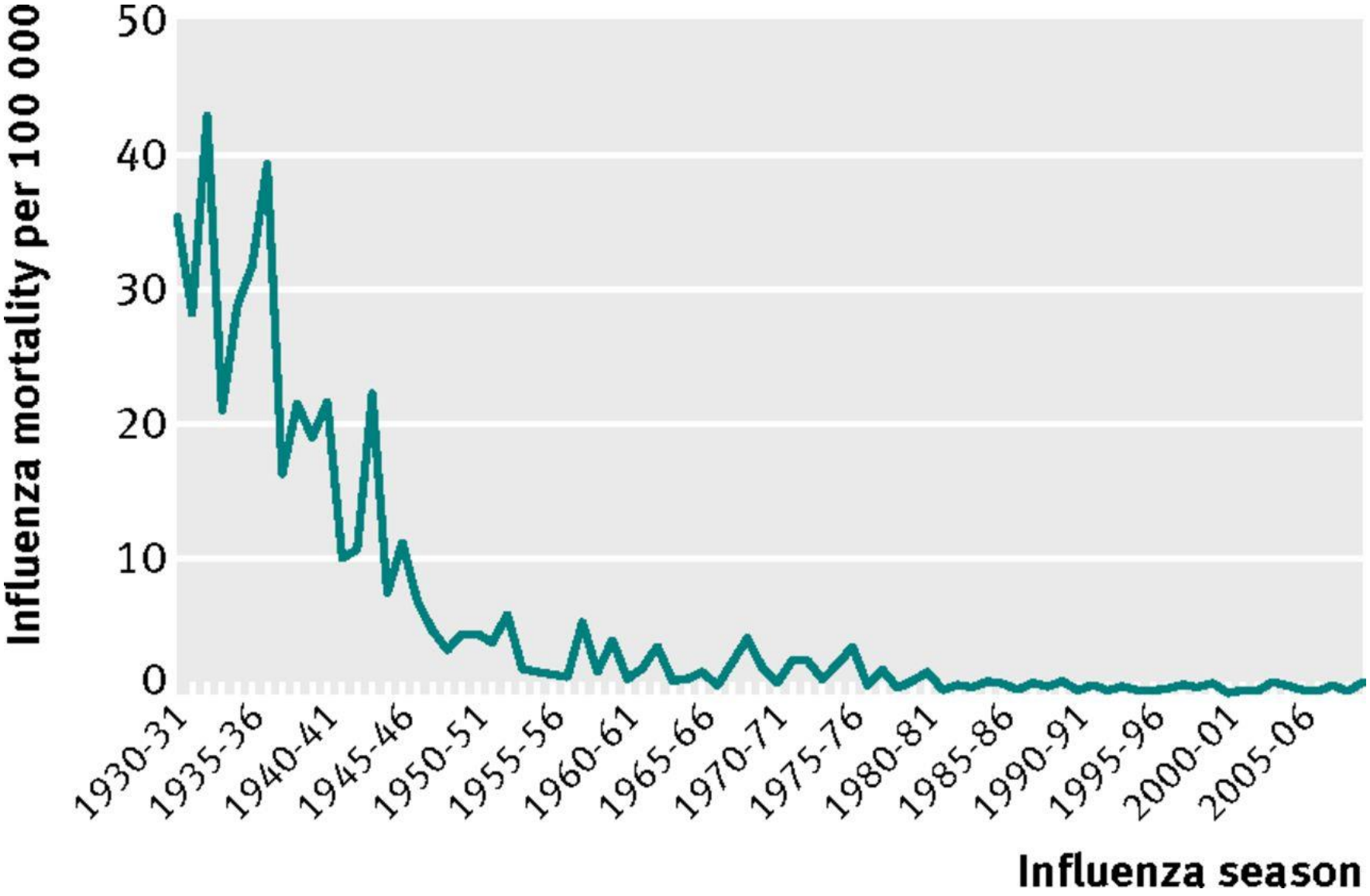
Electronic health records

Etcetera…

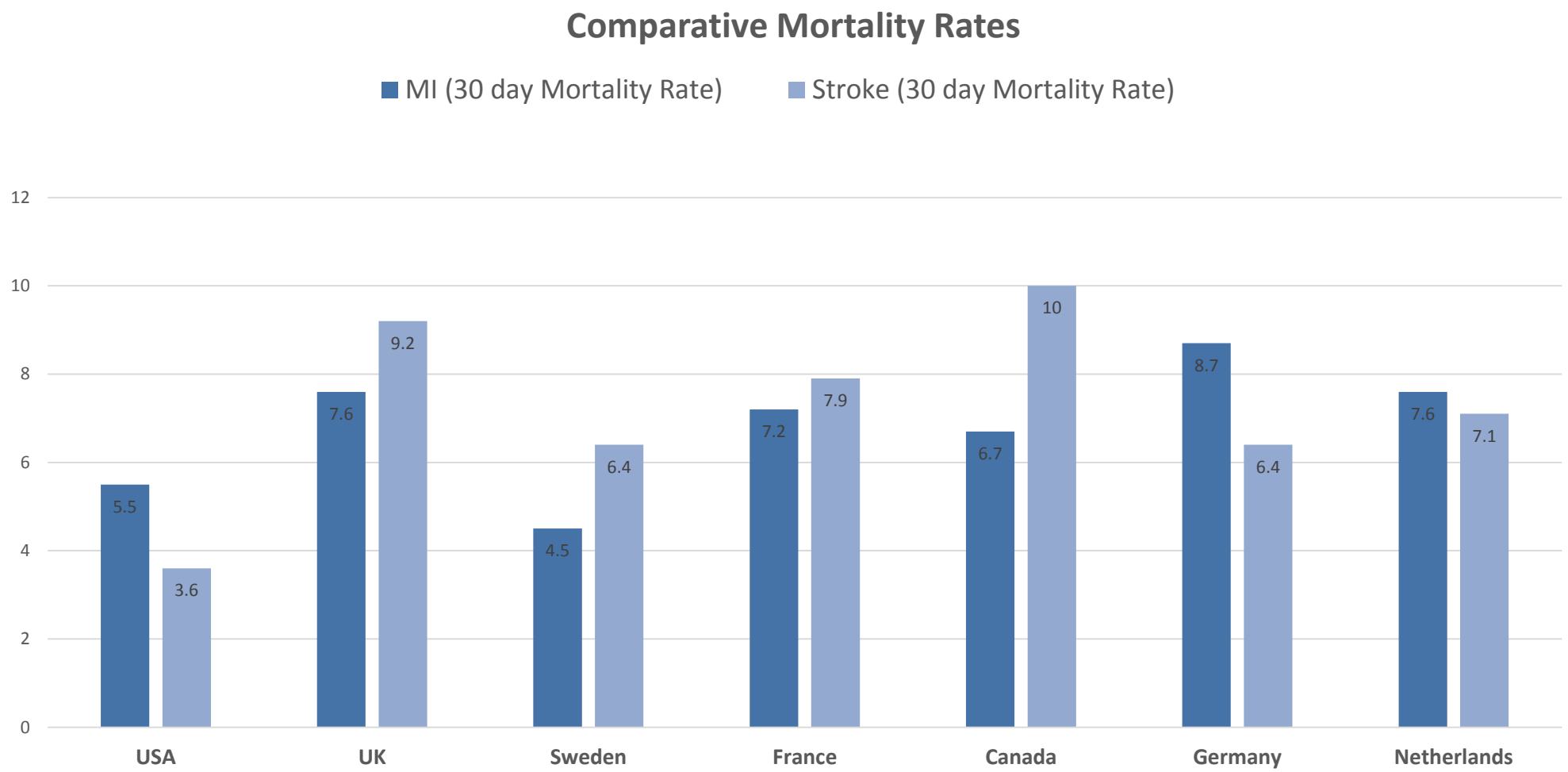
Mortality Due to Acute MI



Mortality Due to Influenza



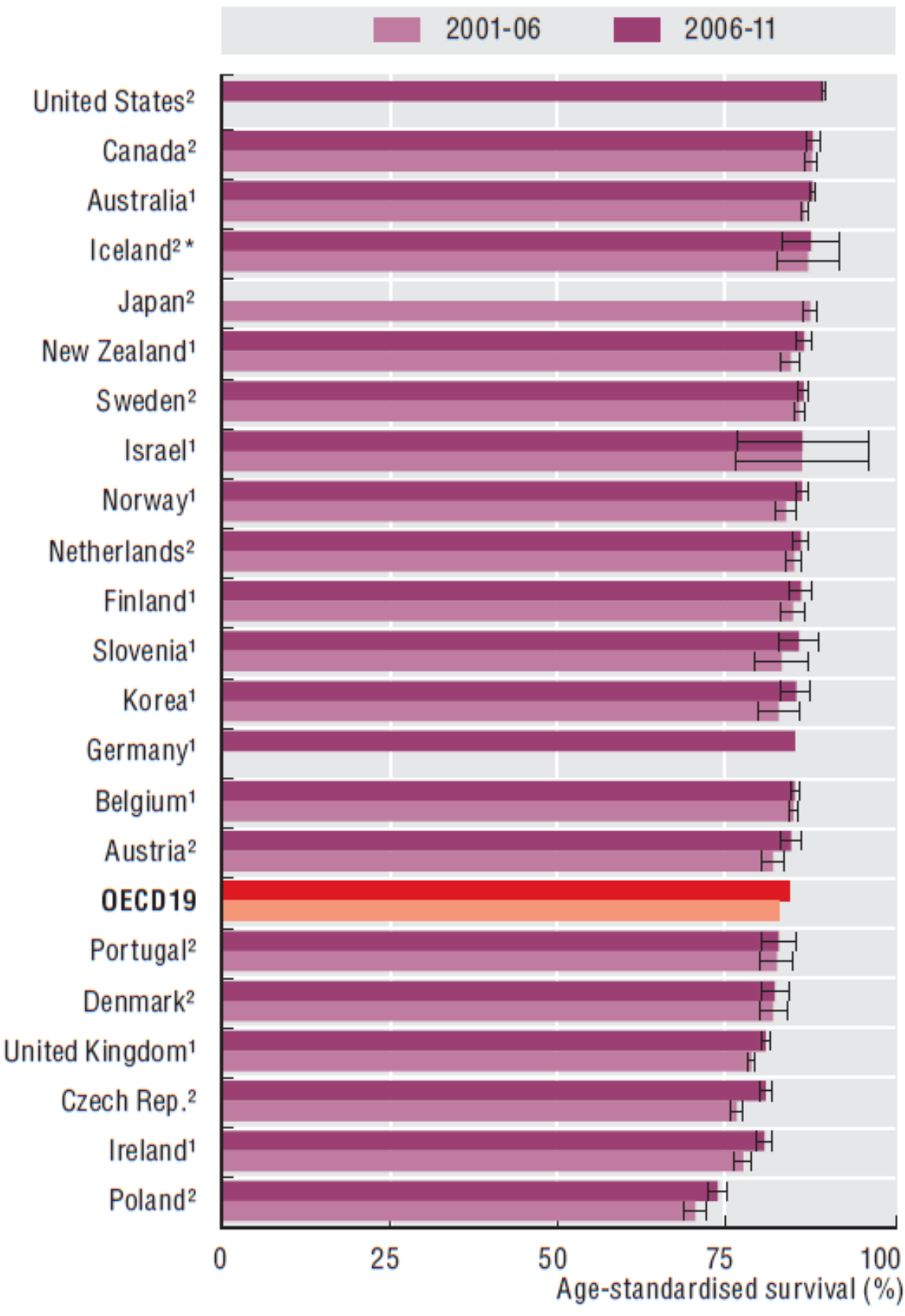
System Performance By Nation



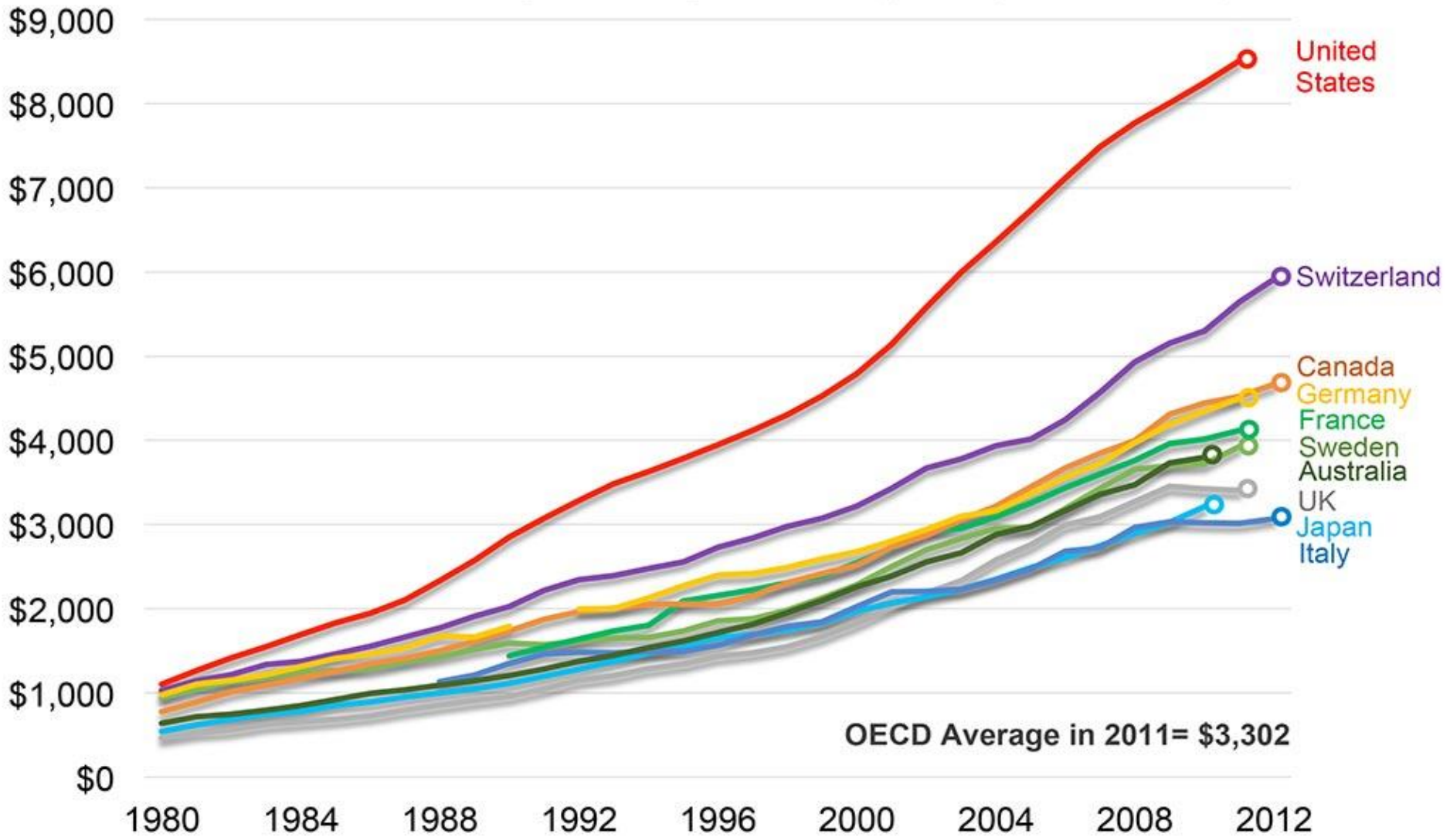
OECD iLibrary Health Data; http://www.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-2015_health_glance-2015-en;jsessionid=y5s27dtxsvvp.x-oecd-live-03; accessed 1/7/2018

Breast Cancer Survival

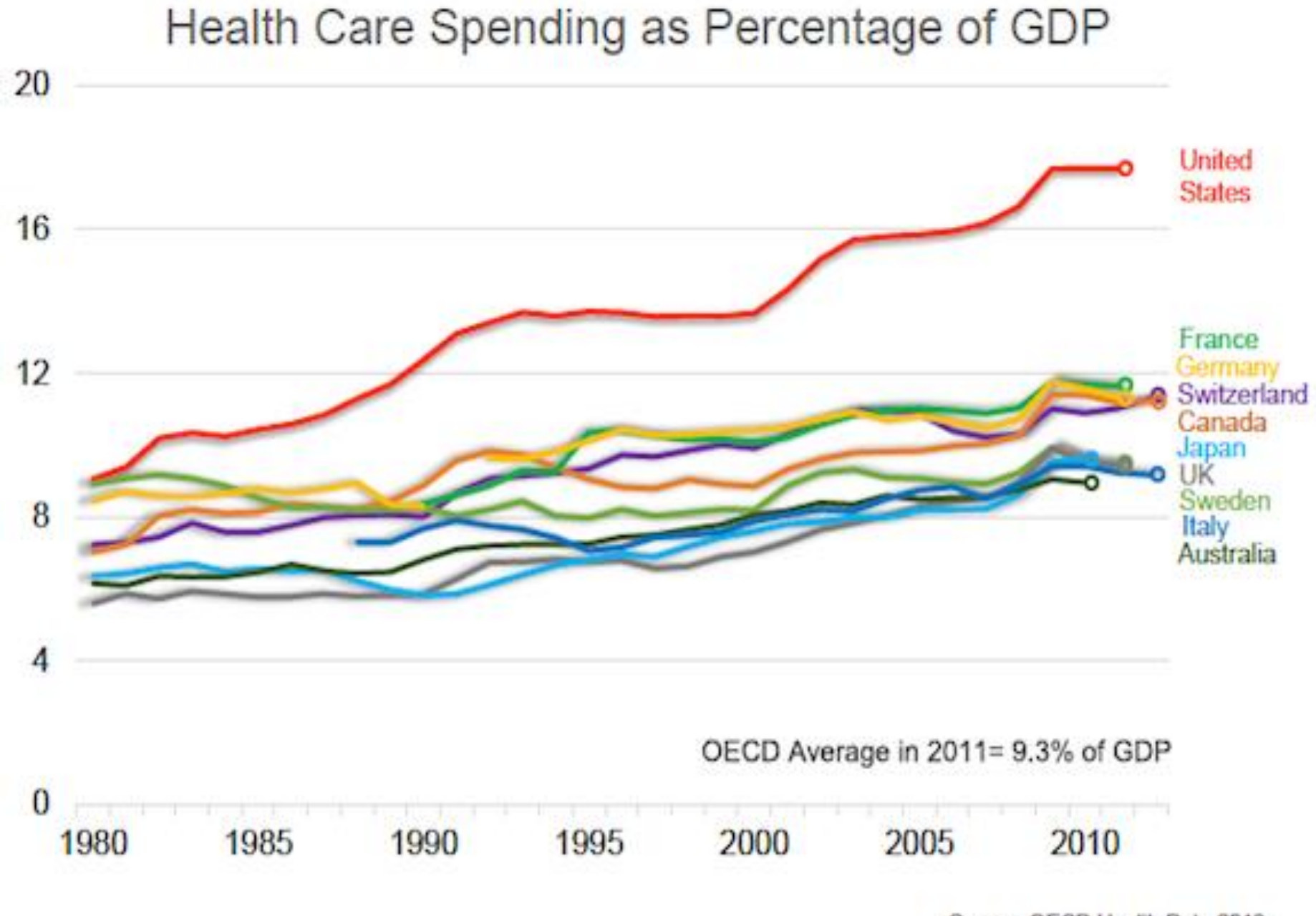
5.10.2. Breast cancer five-year relative survival, 2001-06 and 2006-11 (or nearest period)



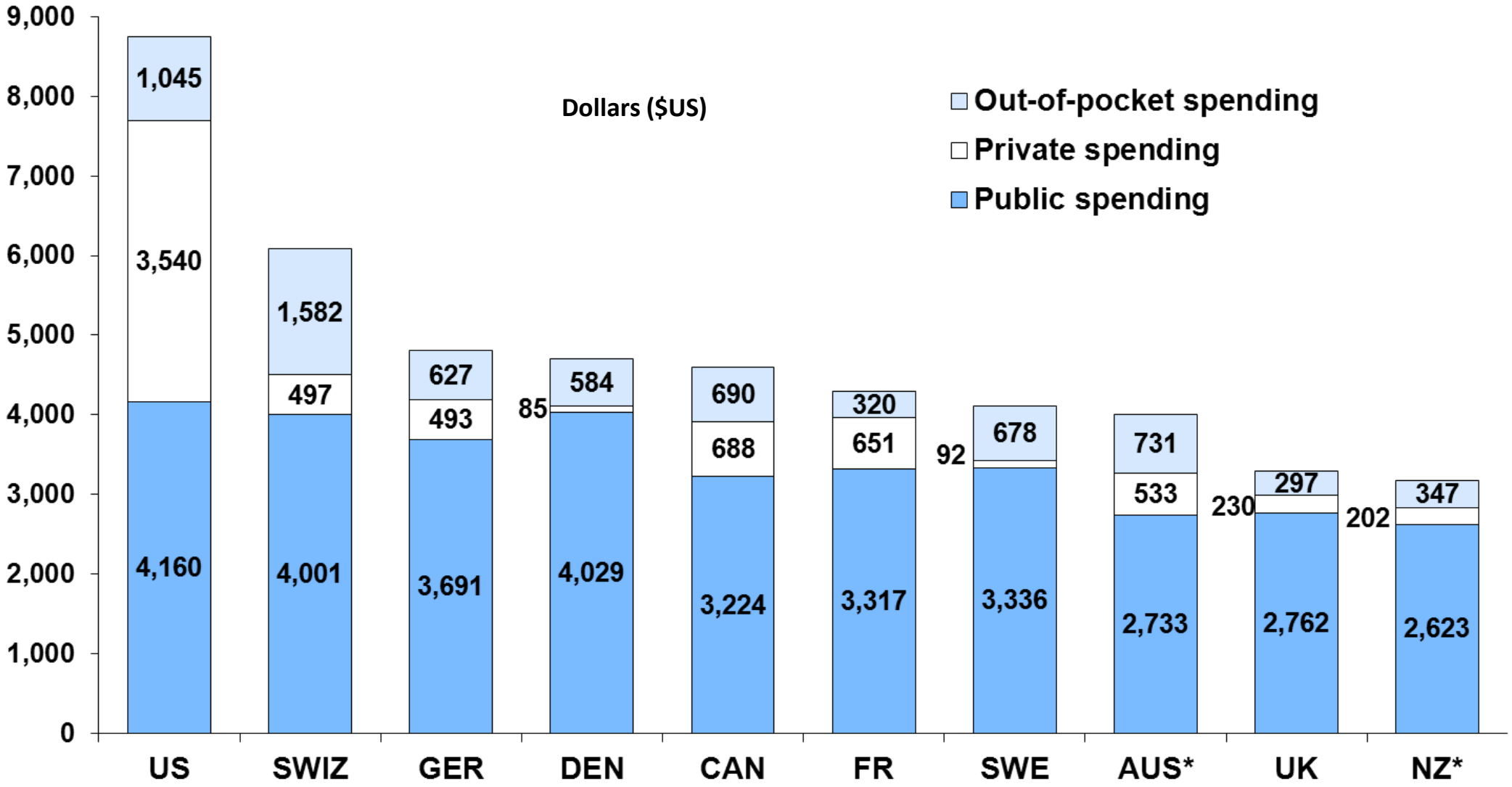
Health Care Spending Per Capita ($US PPP)



Soure: OECD Health Data 2013.
Data note: PPP = purchasing power parity.
Produced by Veronique de Rugy, Mercatus Center at George Mason University.

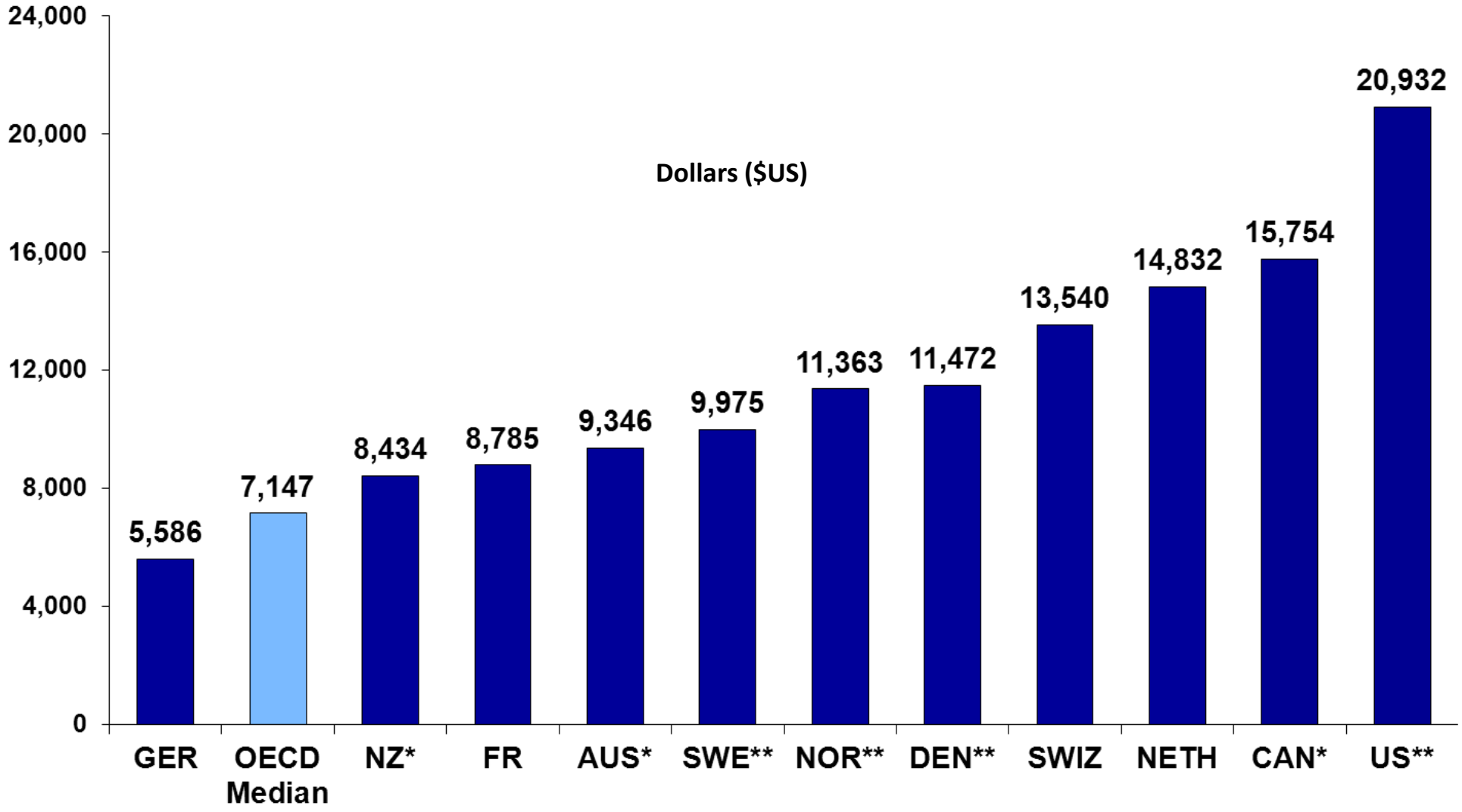

Health Care Spending as Percentage of GDP
20
16
12
8
4
0
1980
1985
1990
1995
2000
2005
2010
United States
France
Germany
Switzerland
Canada
Japan
UK
Sweden
Italy
Australia
OECD Average in 2011= 9.3% of GDP
Source: OECD Health Data 2013.
Produced by Veronique de Rugy, Mercatus Center at George Mason University.

Health Care Spending per Capita by Source of Funding, 2012: Adjusted for Differences in Cost of Living



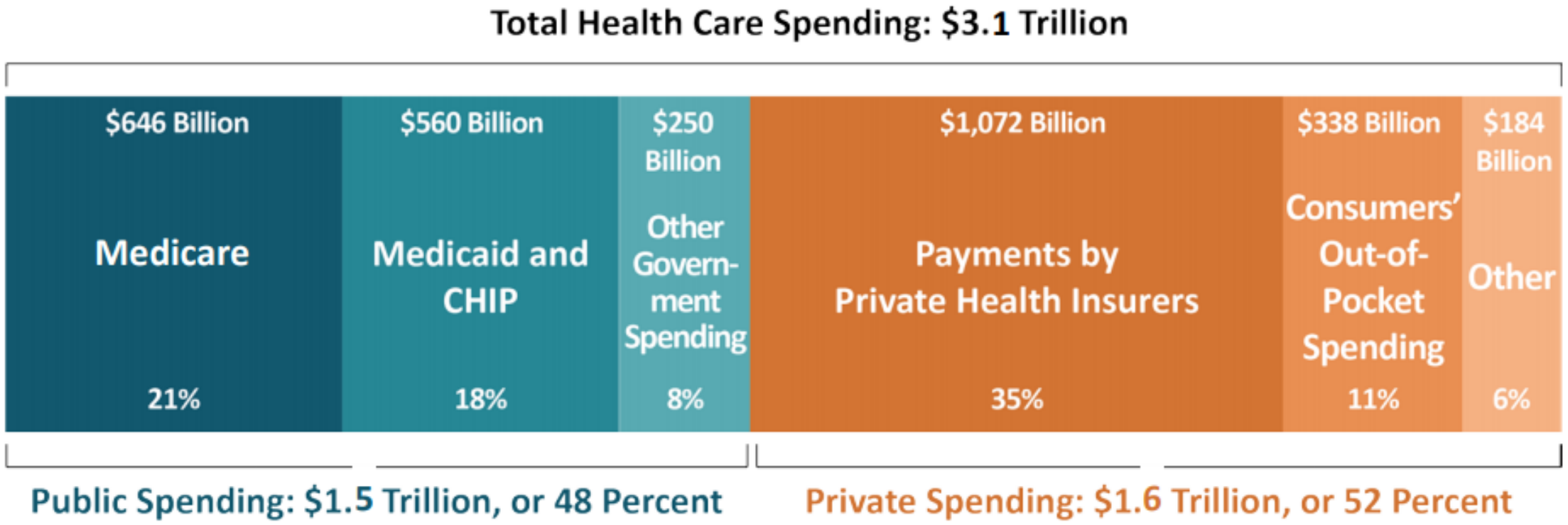
Source: Commonwealth Fund analysis of OECD Health Data 2014.

Spending per Hospital Discharge, 2012 Adjusted for Differences in Cost of Living



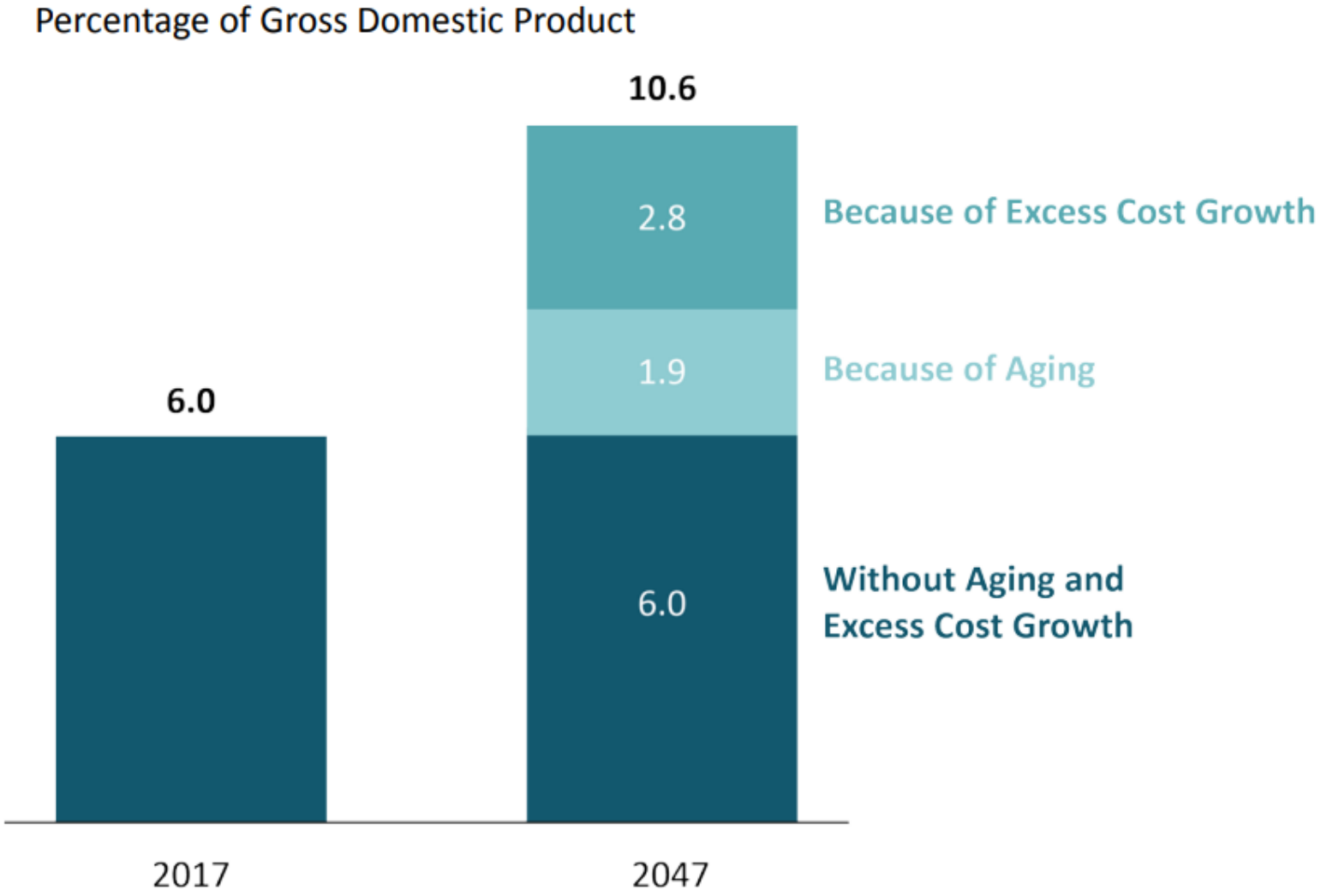
Source: Commonwealth Fund analysis of OECD Health Data 2014.

National Spending for Healthcare 2015



Source: https://www.cbo.gov/system/files/115th-congress-2017-2018/presentation/52913-presentation.pdf

Projected Spending Growth in Federal Health Programs



Source: https://www.cbo.gov/system/files/115th-congress-2017-2018/presentation/52913-presentation.pdf

There is no more money…

“How can the best health care in the world cost twice as much as the best health care in the world?”

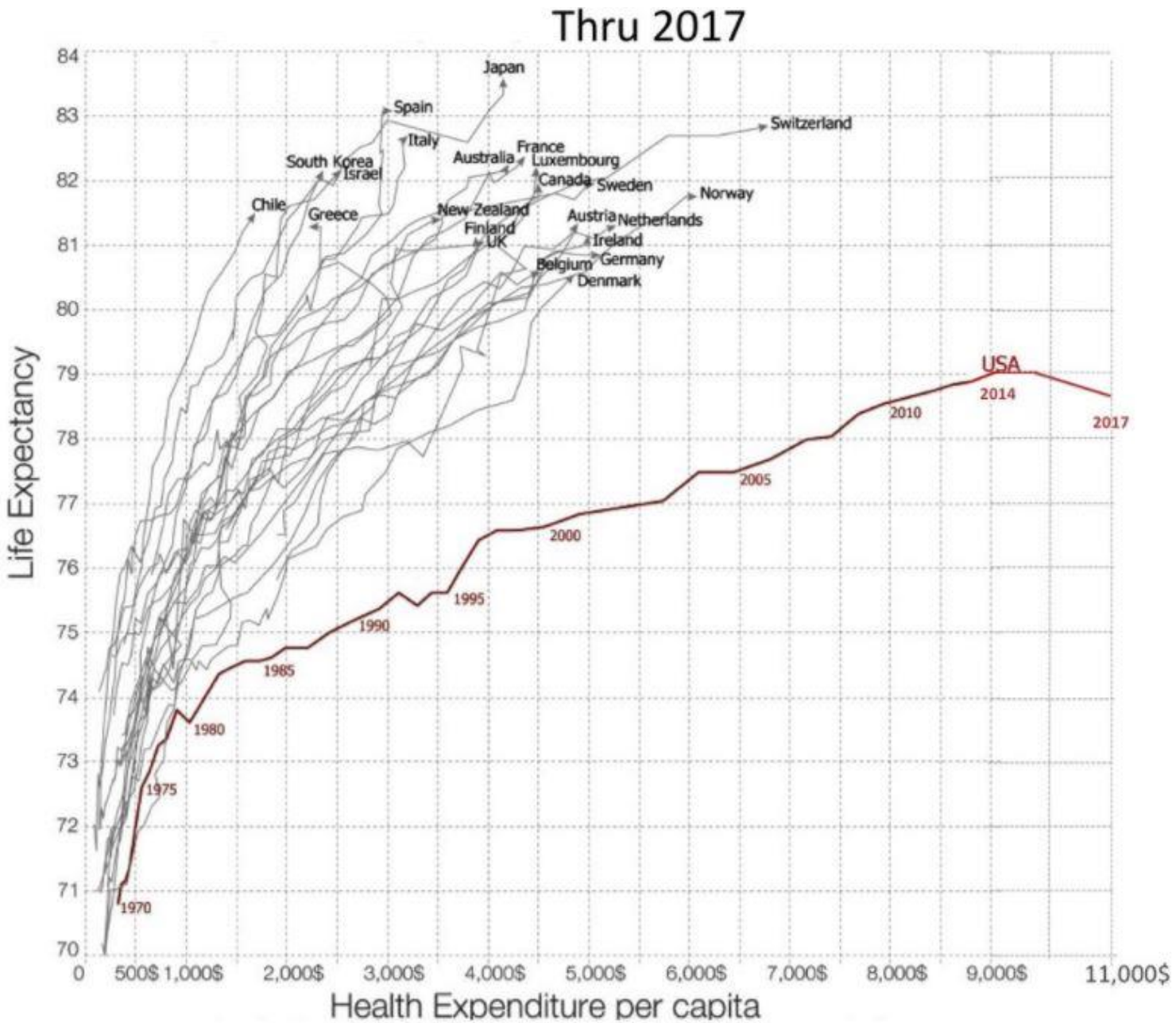
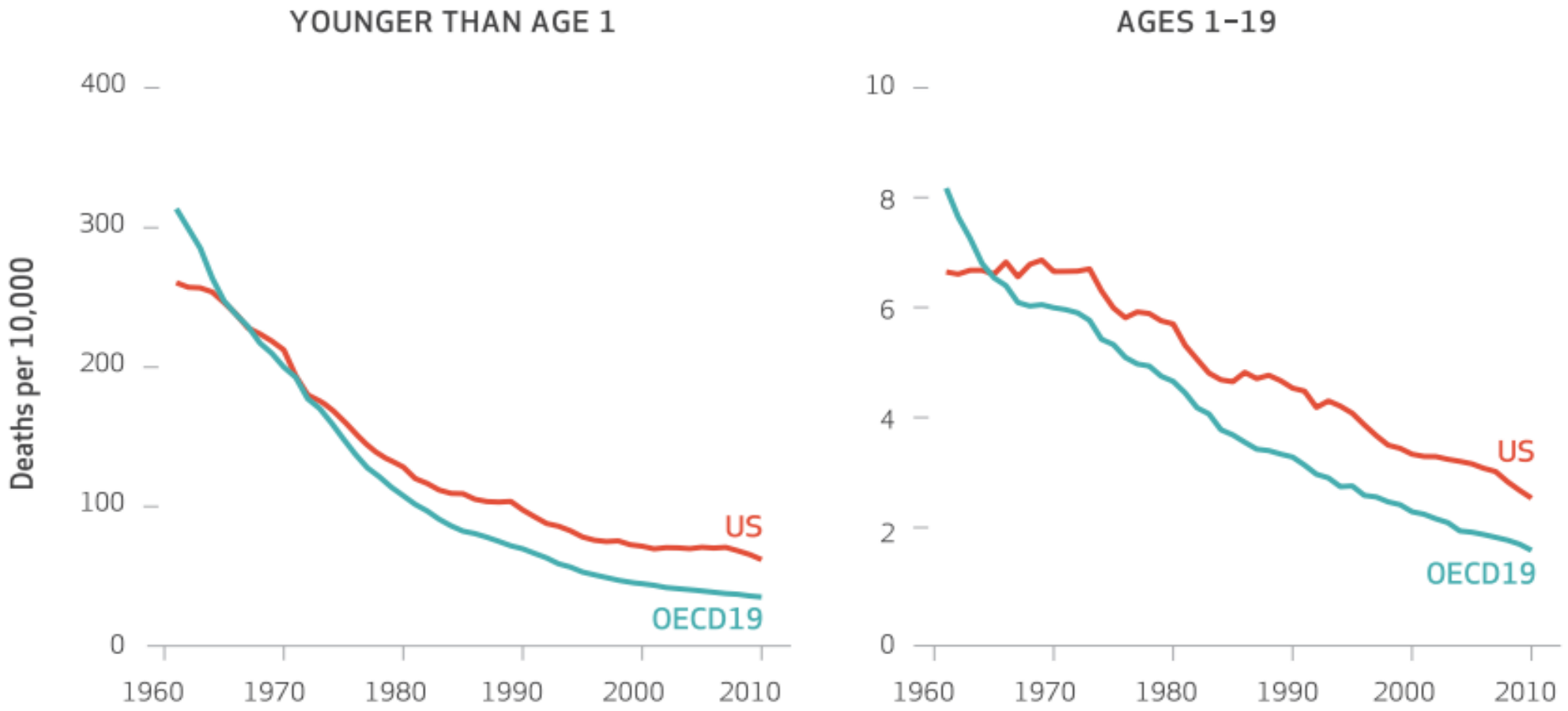

Thru 2017
Life Expectancy
Health Expenditure per capita
84
83
82
81
80
79
78
77
76
75
74
73
72
71
70
0
500$
1,000$
2,000$
3,000$
4,000$
5,000$
6,000$
7,000$
8,000$
9,000$
11,000$
Japan
Spain
Italy
Switzerland
South Korea
Israel
Australia
France
Luxembourg
Canada
Sweden
Norway
Chile
Greece
New Zealand
Finland
UK
Austria
Netherlands
Ireland
Belgium
Germany
Denmark
USA
1970
1975
1980
1985
1990
1995
2000
2005
2010
2014
2017

EXHIBIT 1

Child mortality in the US and the OECD19, by age group, 1960–2010

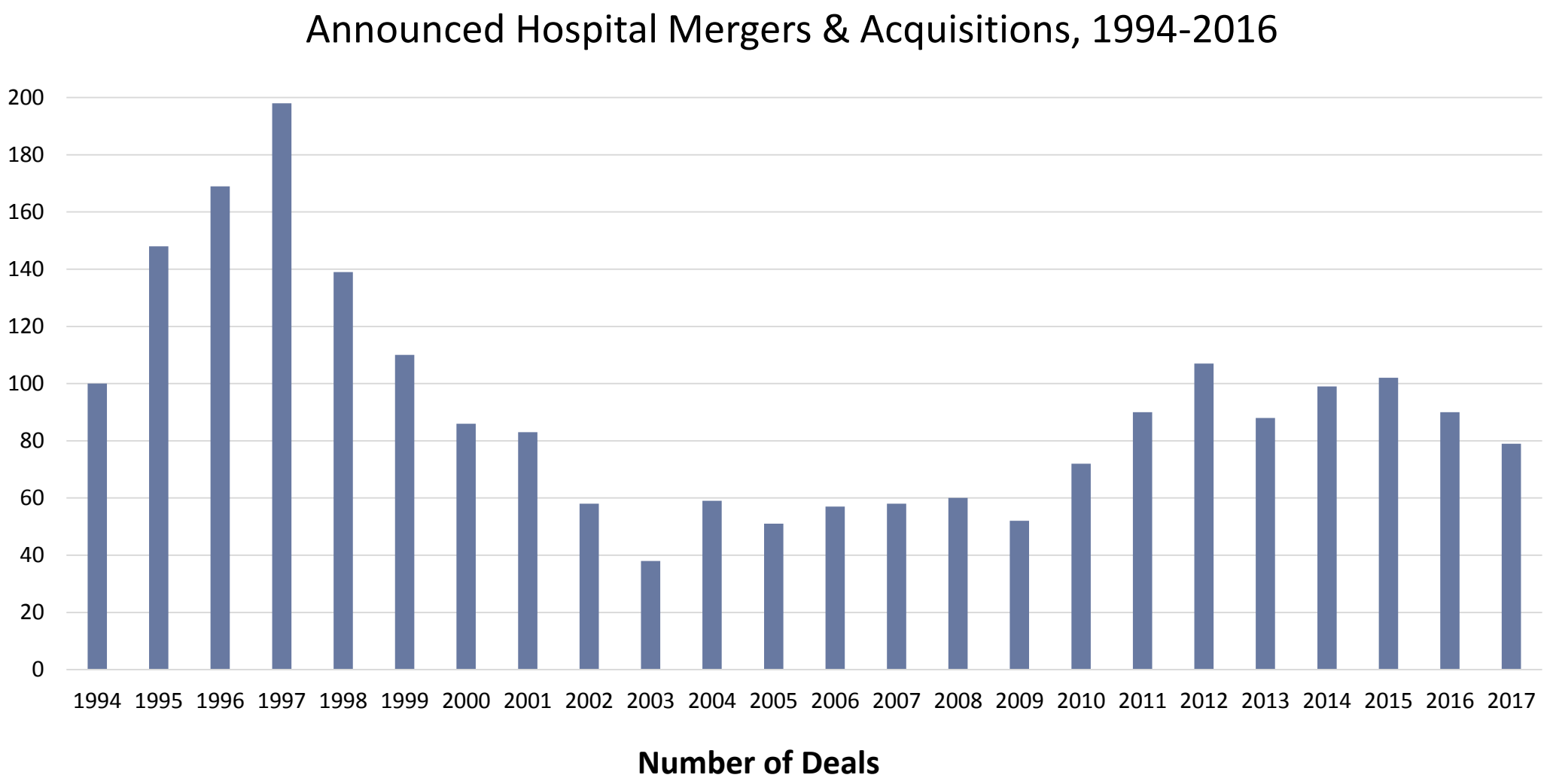


SOURCE Authors' analysis of data from the Human Mortality Database (University of California, Berkeley, and Max Planck Institute for Demographic Research). **NOTES** The OECD19 is a group of nineteen developed nations other than the US in the Organization for Economic Cooperation and Development. Results for children in the 1–19 age group are age-adjusted.

Thakrar AP. Health Affairs 2018; 37(1): 140-149.

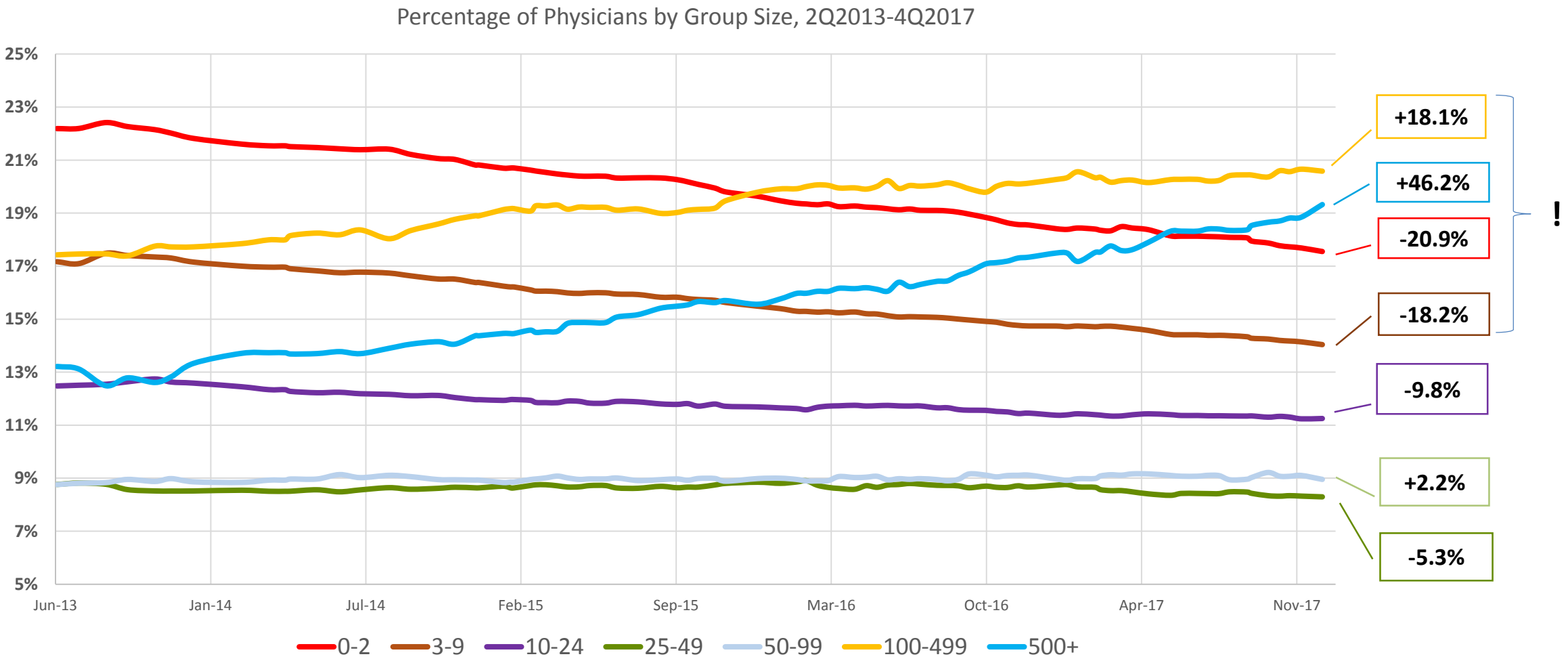
New Partnerships

Hospital Consolidation



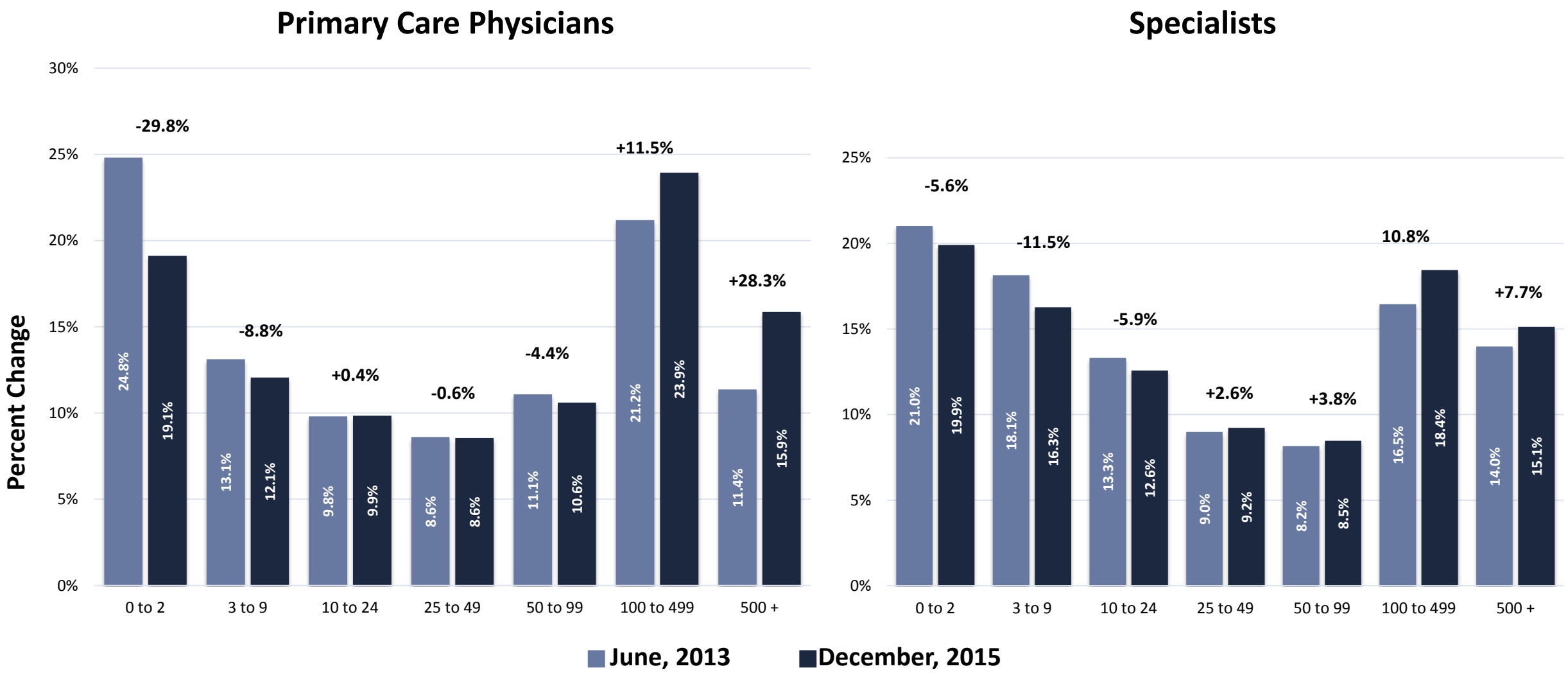
Sources: Booz & Company, Irving Levin Associates

Physician Consolidation



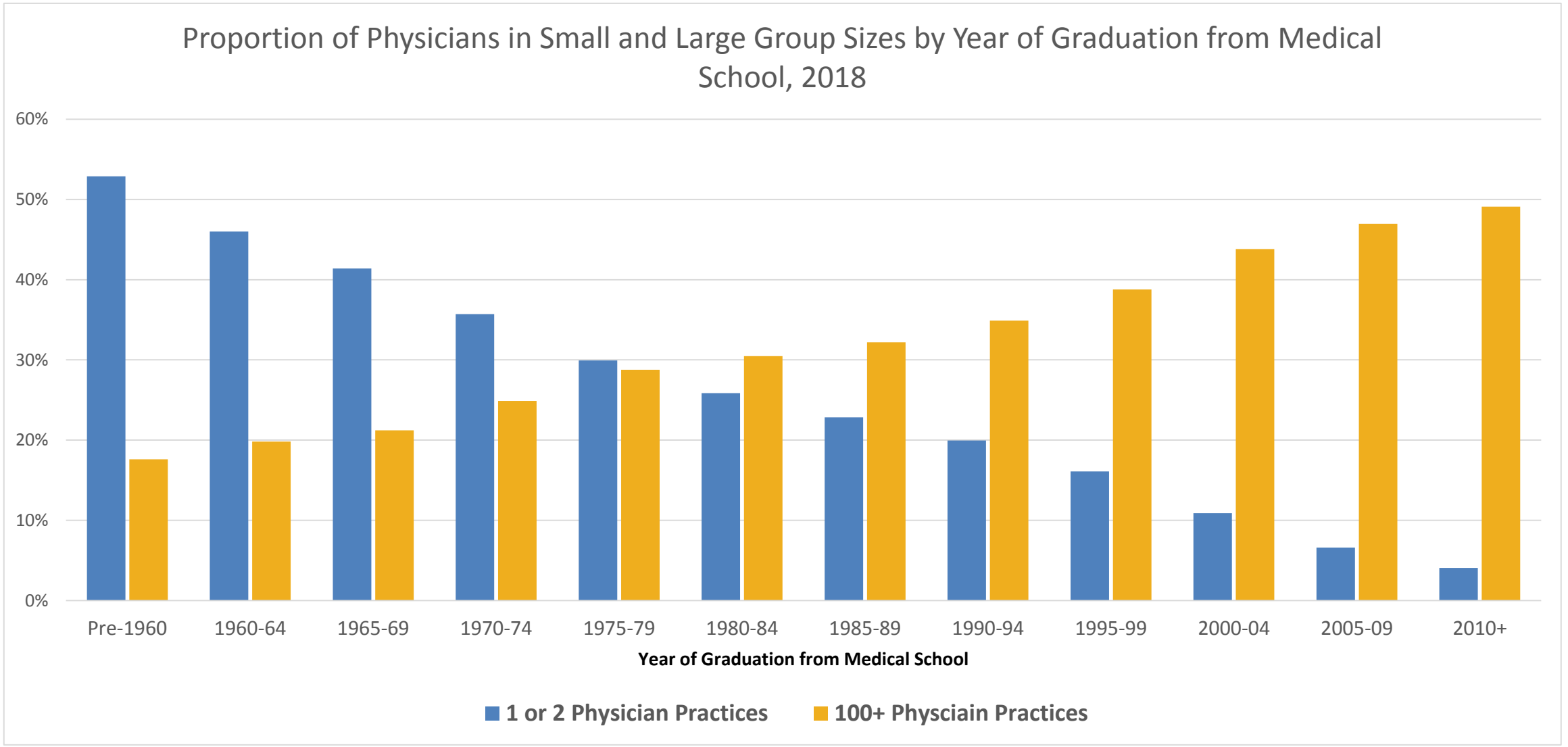
Source: Leavitt Partners Analysis of Medicare Physician Compare Data

Primary Care and Specialist Consolidation



Muhlestein DB, Smith NJ. Physician Consolidation: Rapid Movement From Small To Large Group Practices, 2013-15. Health Affairs. 2016 Sep;35(9):1638–42.

Generational Divide



Muhlestein, David, and Lia Winfield. "Preparing a New Generation of Physicians for a New Kind of Health Care." *NEJM Catalyst*, February 28, 2018. https://catalyst.nejm.org/preparing-new-generation-physicians-new-health-care/.

Themes

Policy

Stewardship

Quality

Safety

Happy Caregivers

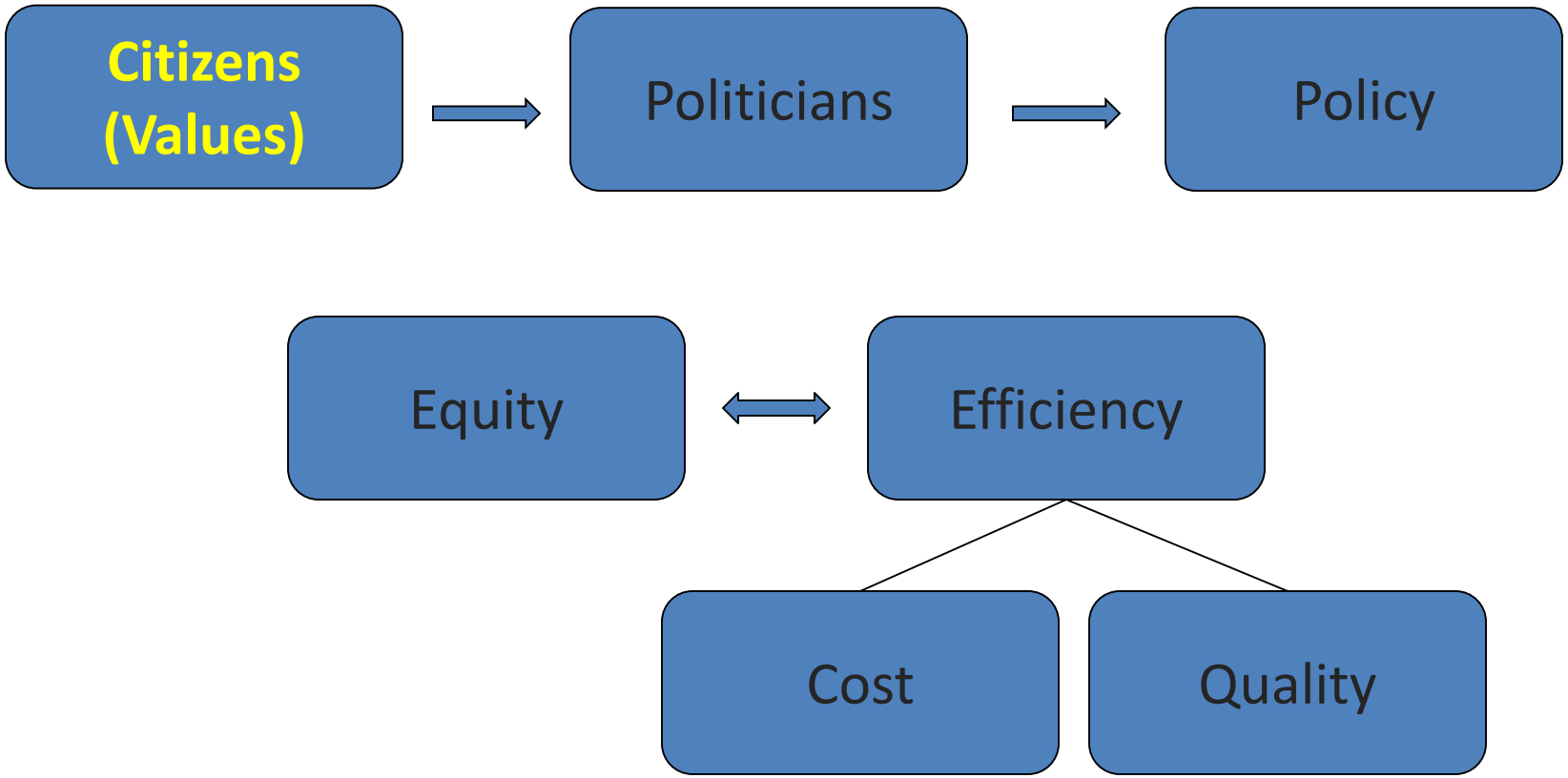
Access

Policy

A course or principle of action adopted or proposed by a government, party, business, or individual, or the rules of how we behave against a standard

Why is this man laughing?

What Does It Mean For The Work That We Do?



“America’s healthcare system has to change, and President Trump’s Administration recognizes that. This payment proposal takes important steps toward a Medicare system that puts patients in charge of their care and allows them to receive the quality and price information needed to drive competition and increase value.

“The rule also solicits feedback on further bold actions, which will be necessary to disrupt our existing system and deliver real value for healthcare consumers.”

April 23, 2018

The End of Fee for Service

CMS announced plan to link **90%** of all Medicare payments to “value” by the end of 2018.

Timeline has changed but not the fundamental goals or financial effects.

1. Burwell SM. Setting Value-Based Payment Goals - HHS Efforts to Improve U.S. Health Care. N Engl J Med. 2015 Jan 26.
2. http://www.bloomberg.com/news/articles/2015-01-26/time-on-obama-s-side-in-death-knell-for-health-fee-for-service

Continuum of Medicare Risk Models

Pay-for-Performance	Bundled Payments	Shared Savings	Shared Risk	Full Risk
• Hospital VBP Program • Hospital Readmissions Reduction Program • HAC Reduction Program • Merit-Based Incentive Payment System	• Bundled Payments for Care Improvement Initiative (BPCI) • Comprehensive Care for Joint Replacement (CJR) Model • Episode Payment Models	• MSSP Track 1 (50% sharing)	• MSSP Track 1+[1] • MSSP Track 2 (60% sharing) • MSSP Track 3 (up to 75% sharing) • Next Generation ACO Model (80-85% shared savings option)	• Next Generation ACO Model (full risk option) • Medicare Advantage (provider-sponsored)

Increasing Financial Risk

Transfer of (some portion of) Future Risk

From the Federal Government

to the States, insurance companies and healthcare organizations

From the States

to healthcare organizations, insurance companies and providers

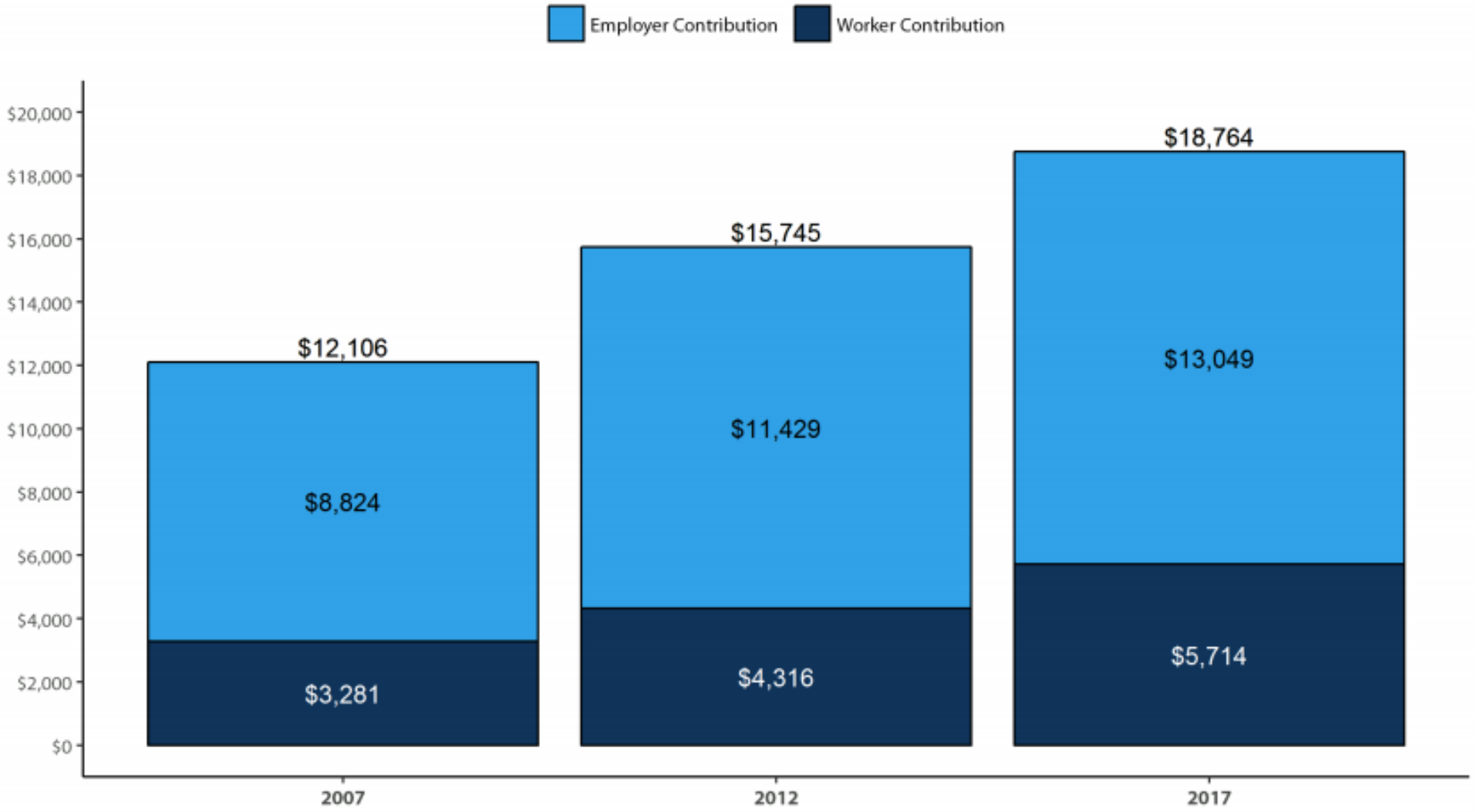
From healthcare organizations and insurance companies

to the providers and patients

Stewardship

Our professional obligation to make sure our patients can access our services tomorrow and that we leave medicine better than it was given to us.

Average Annual Health Insurance Premiums and Worker Contributions for Family Coverage, 2007-2017



NOTE: Since 2007, the average family premium has increased 55% and the average worker contribution toward the premium has increased 74%.
SOURCE: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 2007-2017

Strategy, Competition, and Transparency

Strategy: To understand and serve our customers in a way that is differential in the market and persists over time (tactics are not strategies)

Competition: Who do we compete with and over what

Transparency: make it easier to understand health choices

What is the right “unit of evaluation” to foster transparency and competition

To what end? How do consumers/patients react? How can they react?

Desai S. Association Between Availability of a Price Transparency Tool and Outpatient Spending. JAMA. 2016; 315(17):1874.
Kullgren J. A Census of State Health Care Price Transparency Websites. JAMA. 2013;309(23):2437.

High-Deductible Plans: Impact on Patients

A **$6,000** deductible is more than **10%** of average family income in the U.S.

More than **90% of families** never reach that deductible

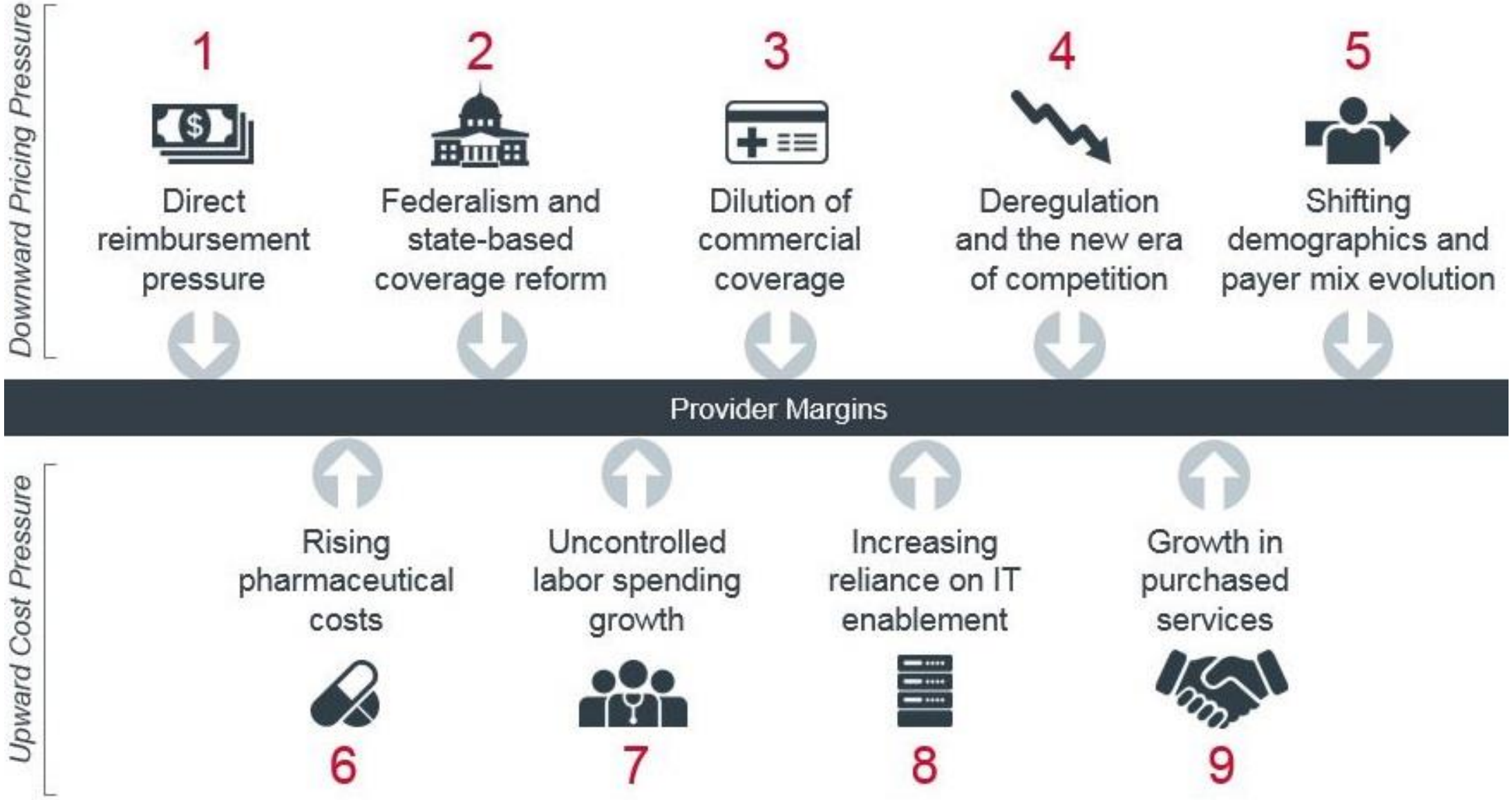
Most **pay for all** of the healthcare they receive

Healthcare Growth and Contraction

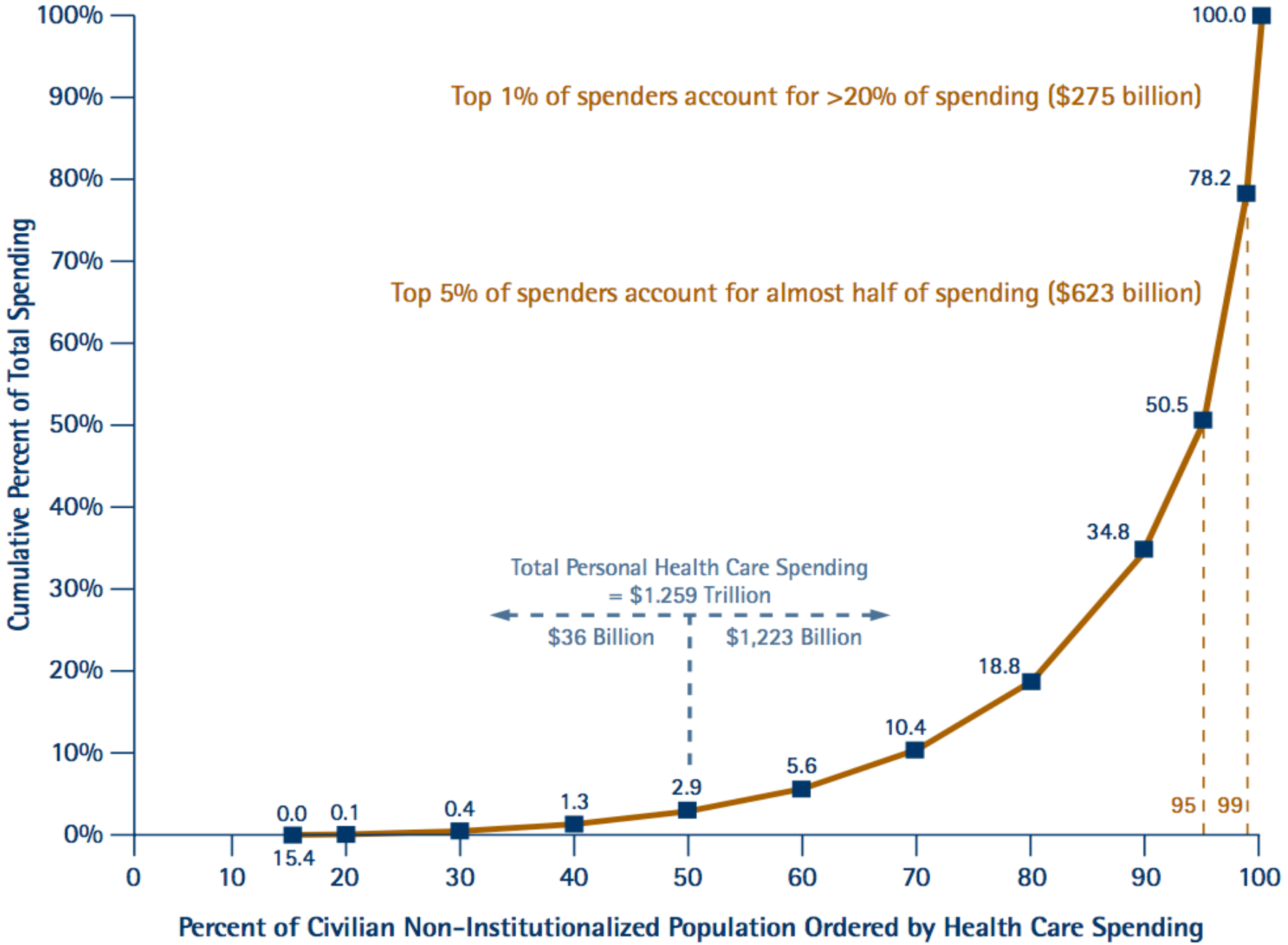
Healthcare employment in many markets has risen by 18.5% over the 5 years between 2012 and 2017 (an average of 3.7% per year); conversely…

A majority of next operating income is now coming from the outpatient arena, and…

Equivalent inpatient days, birth, surgeries, ED visits, and Urgent Care visits are down by about 2-3% each from 2016 to 2017



The median operating cash flow margin for nonprofit and public hospitals declined to 8.1% last year, falling below levels recorded during the 2008-2009 recession, according to a preliminary analysis released Monday by **Moody's Investors Service**. Advisory.com (April 30, 2018) accessed May 11, 2018


Top 1% of spenders account for >20% of spending ($275 billion)
Top 5% of spenders account for almost half of spending ($623 billion)
Total Personal Health Care Spending
= $1.259 Trillion
$36 Billion
$1,223 Billion
Cumulative Percent of Total Spending
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0
10
20
30
40
50
60
70
80
90
100
15.4
0.0
0.1
0.4
1.3
2.9
5.6
10.4
18.8
34.8
50.5
78.2
100.0
95
99
Percent of Civilian Non-Institutionalized Population Ordered by Health Care Spending

Quality

All the right care (no underuse), but

Only the right care (no overuse);

Delivered free from injury (no misuse);

At the lowest necessary cost (efficient);

Coordinated along the full continuum of care (timely, “move upstream”);

Under each patient’s full knowledge and control (patient-centered, “nothing about me without me”);

With grace, elegance and concern.

American health care

"gets it right"

54.9%

of the time.

McGlynn EA, Asch SM, Adams J, *et al*. The quality of health care delivered to adults in the United States. *N Engl J Med* 2003; 348(26):2635-45 (June 26).

Is This Still True?

From 2002 to 2013 (sample size; 20,679-26,509/year)

- Recommended medical treatment (36% to 42%; $P < 0.01$)
- Recommended counseling (43% to 50%, $P < 0.01$)
- Recommended cancer screening (73% to 75%; $P < 0.01$)
- Avoidance of inappropriate cancer screening (47% to 51%; $P = 0.02$)
- Avoidance of inappropriate medical treatments (92% to 89%; $P < 0.01$)
- Avoidance of inappropriate antibiotic use (50% to 44%; $P < 0.01$)

Levine DM et al. The Quality of Outpatient Care Delivered to Adults in the United States, 2002 to 2013. JAMA Intern Med. 2016 Dec 1;176(12):1778-1790.

Table 3. The Quality of Outpatient Care Delivered to Adults in the United States, 2002–2013

	2002 (n = 26 043)		2007 (n = 20 679)		2013 (n = 24 968)	
Recommended medical treatment composite	6034	36 (34-37)	6113	38 (36-39)	7486	42 (41-43)
Anticoagulation for atrial fibrillation	586	30 (27-34)	480	28 (25-32)	577	36 (31-40)
ACEi/ARB for heart failure	198	62 (57-67)	148	63 (60-67)	167	57 (50-63)
β-Blocker for heart failure	198	41 (35-47)	148	66 (62-71)	167	65 (58-72)
Salicylates and/or platelet aggregation inhibitors for CAD/MI	1195	23 (20-26)	1134	29 (27-32)	1416	31 (28-35)
β-Blocker for CAD/MI	1195	51 (48-54)	1134	61 (58-63)	1416	60 (56-63)
Statin for CAD/MI	1195	52 (49-56)	1134	57 (54-60)	1416	64 (61-67)
Statin for dyslipidemia	2433	76 (74-78)	3686	66 (64-67)	4899	72 (71-74)
ACEi/ARB for diabetes and hypertension	1121	64 (61-68)	1431	58 (56-61)	2031	58 (55-61)
Statin for CVA	302	34 (29-39)	314	45 (41-48)	394	57 (51-63)
Antiplatelet for CVA	302	27 (23-31)	314	32 (27-36)	394	35 (30-40)
Controller medication for poorly controlled asthma	258	71 (65-77)	177	61 (57-65)	263	59 (54-65)
Controller medication for poorly controlled COPD	185	26 (23-29)	154	33 (28-38)	253	35 (30-40)

Four Core Ideas

All productive work can be described as a process (or series of processes)

Every process produces three parallel outcomes

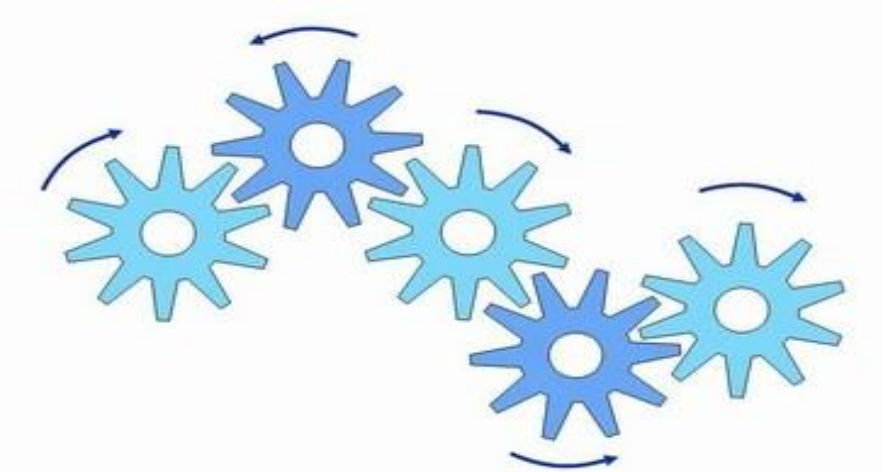
Fundamental knowledge must be incorporated (reality is different than theory)

All change happens at the level of the process

Process Management

Start with a knowledge of

- Processes
- Systems (processes interacting together)
- Human psychology
- Variation



And a system for ongoing learning

Build a rational system to **manage processes**

What you get is **quality improvement theory**

Safety

With respect to patient safety and avoidance of injuries, I do not know what is achievable, but I know that **zero** is the right goal.

Diagnostic Error and Safety

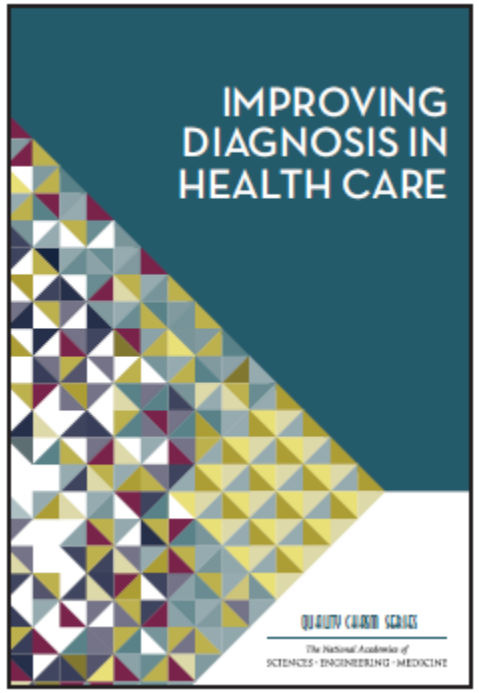
Defined as “the failure to (a) establish an accurate and timely explanation of the patient’s health problem(s) or (b) communicate that explanation to the patient.”

Diagnostic errors stem from many causes (system problem)

Our culture may discourage transparency

There is innately poor feedback as to how the diagnostic process proceeds

This impedes learning and improvement



A Learning Healthcare System

Learn from every patient: Each patient's health experience can be captured as data and analyzed for purposes of improving individual and population health.

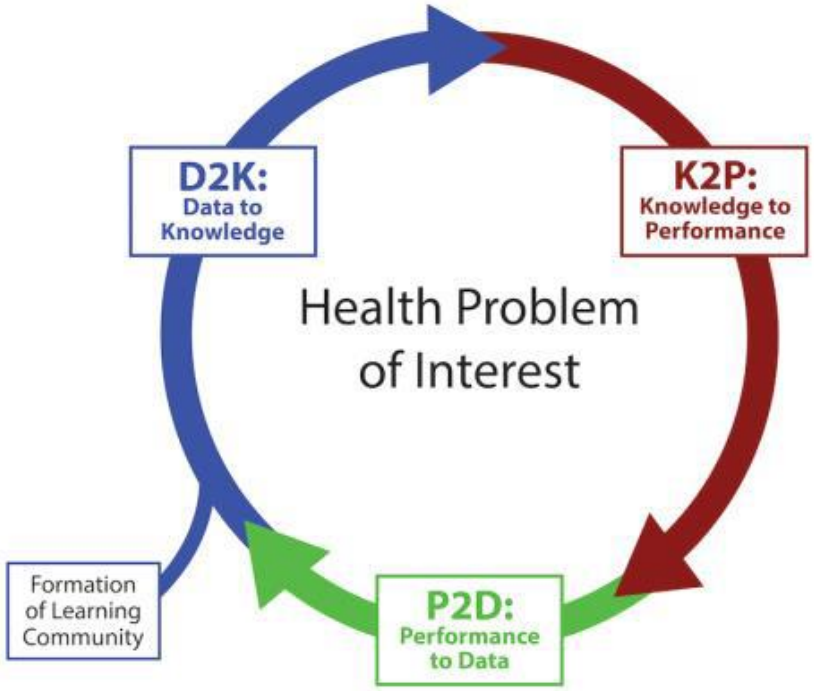
A system problem needs a system solution: Interventions aimed at individual people will not succeed nearly as well as interventions addressing organizational and cultural contexts that shape how people work together.

Shorten by orders of magnitude the latency between creation of new knowledge and its application to care: Analyses of data that generate new insights must, in addition to publication in journals, be directly applied to efforts to improve health behavior and care practice.

The LHS: Two Core Ideas Behind Variation Research and Analysis

You have to standardize in order to innovate, and

Then you can apply the rigorous measurement tools developed for clinical research to routine care delivery performance and learning



Organized Care

How could we create a system that:

Consistently documents the **best medical outcome** at the lowest possible cost (value) under each patient's control (patient centered care)

Learns from every case (Generates scientifically reliable knowledge from routine practice which fills the evidence gap while simultaneously validating new treatments)

Creates a **life-long** residency training while in practice (Organization-level capacity to (1) identify critical new knowledge (2) blend it into daily workflows (3) package it for rapid learning and (4) push it out to all who need it)

Generates **true transparency** (anytime a clinician says "in my experience" the really mean "in my measured experience")

Addresses **innate clinical complexity** (Shared Baselines)

Engaged and Happy Caregivers

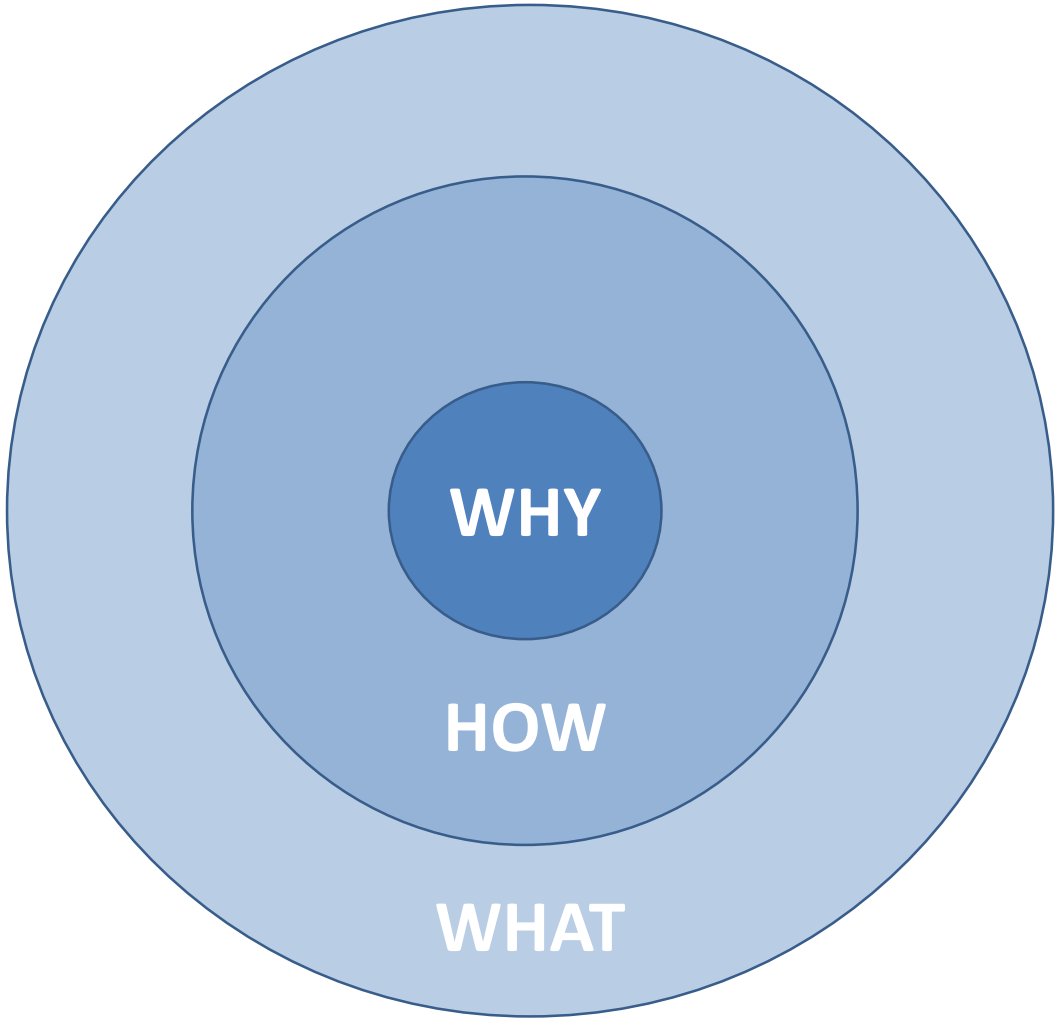
The values of the healing professions remain central to humanity, as they always have. We cannot allow the inexorable march of technology to diminish that truth.

Joy is one of healthcare's greatest assets

Joy is not the absence of burnout, it is about building resilience, and connections to meaning and purpose

Joy is a crucial component of the science of quality improvement and was considered by Deming to be a fundamental right of workers

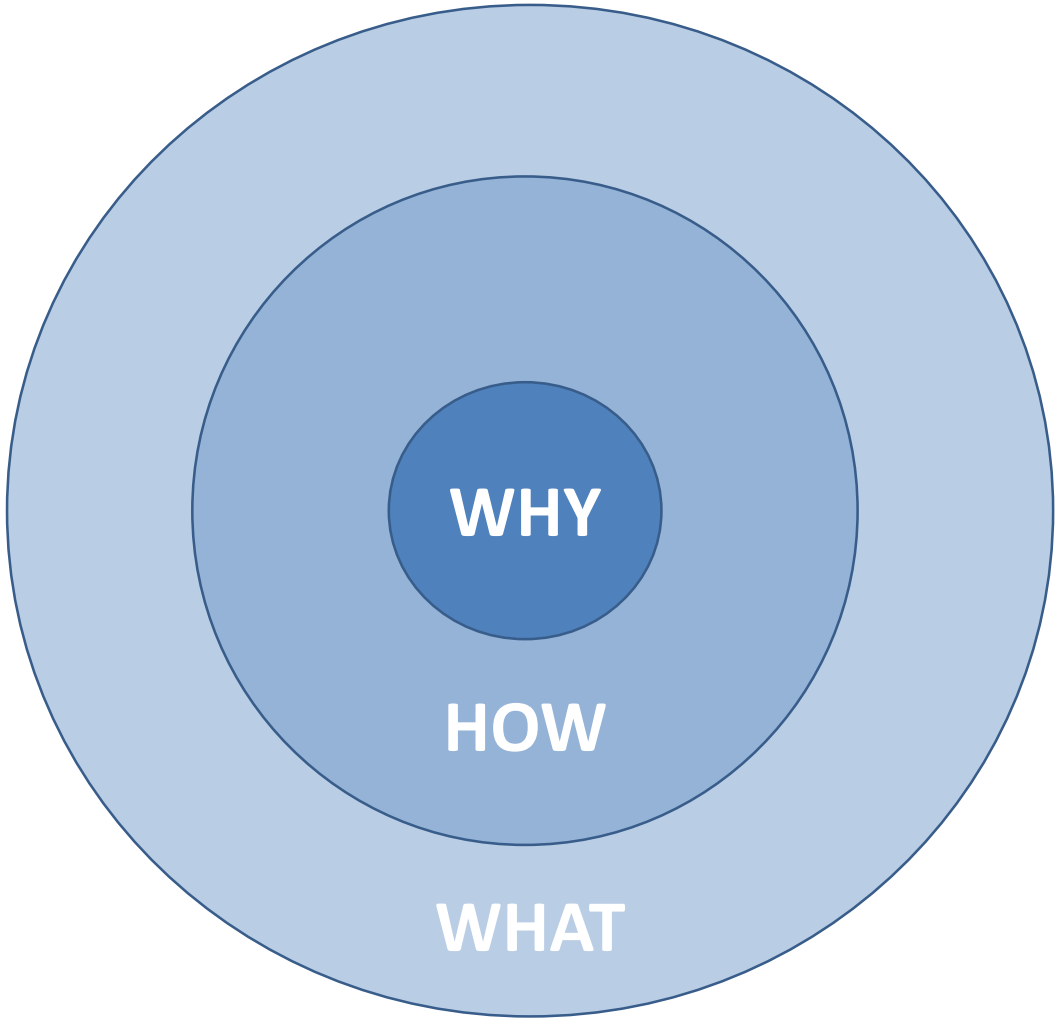
"You cannot give what you do not have."



Source: Simon Sinek https://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action#t-283167
http://www.ihi.org/resources/Pages/IHIWhitePapers/Framework-Improving-Joy-in-Work.aspx

Four steps for leaders to build joy:

1. Ask your staff and colleagues what matters to them,
2. Identify impediments to joy in work in your local context and environment,
3. Commit to a systems approach to making joy in work a shared responsibility at all levels of your organization.
4. Use improvement science to test approaches to building joy in work.



Physical and psychological safety

Meaning and purpose

Choice and autonomy

Recognition and rewards

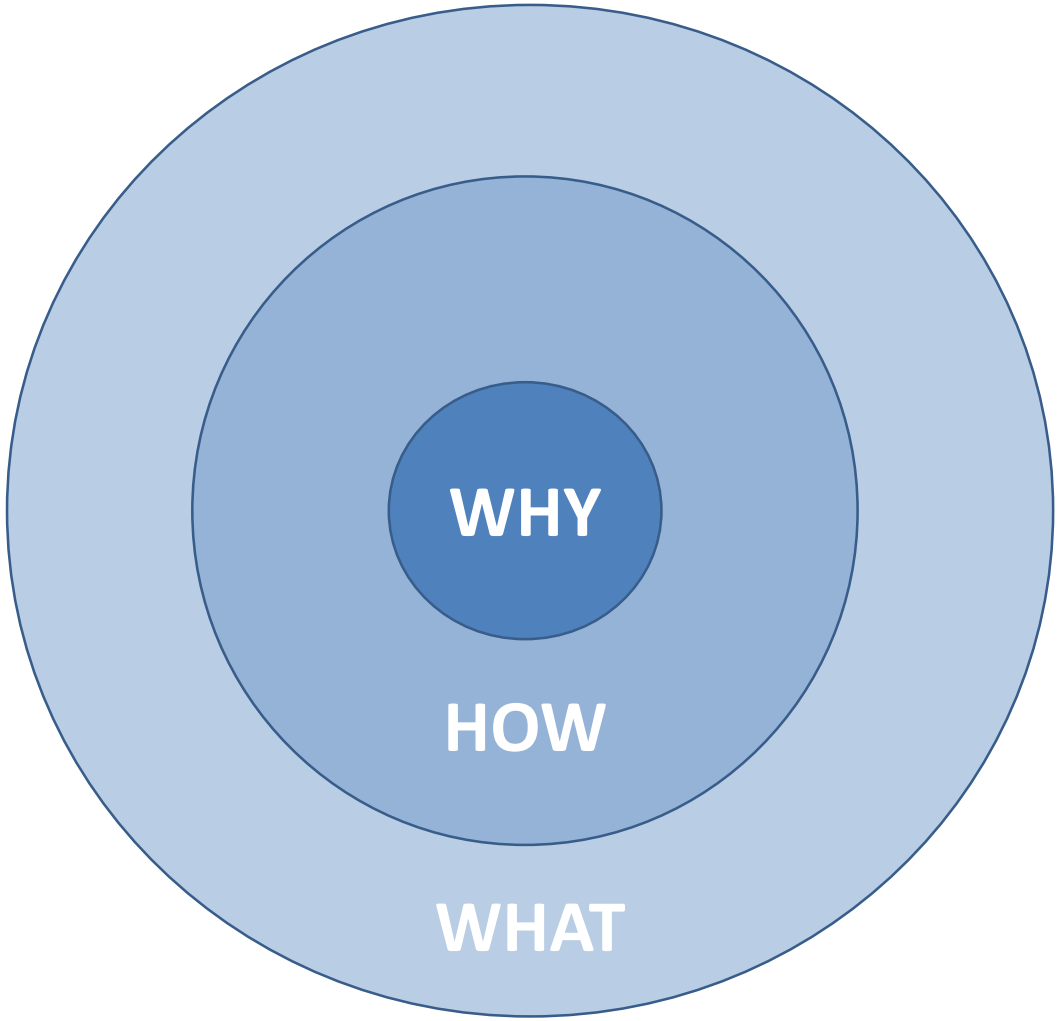
Participative management

Camaraderie and teamwork

Daily improvement

Wellness and resilience

Real-time measurement



Skyler B. Gardner

April 24, 1988 – March 31, 2018

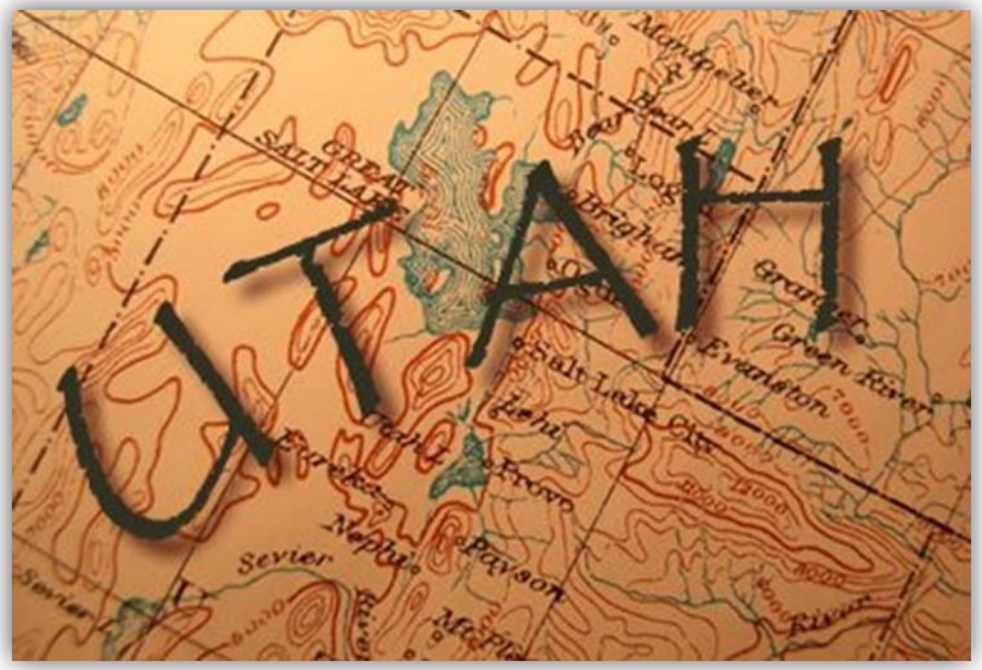
Zero Suicides

Utah's suicide rate is 14.3 per 100,000 citizens (14th worst in the nation)

There remains an insidious connection between discrimination, opioid misuse, and suicide

Male physicians are 1.4 times as likely to die by suicide than men in the general population

Female physicians are 2.3 times as likely to die by suicide than women in the general population.



Pride and Joy in Work

The values of the healing professions

Mastery

Autonomy (professional)

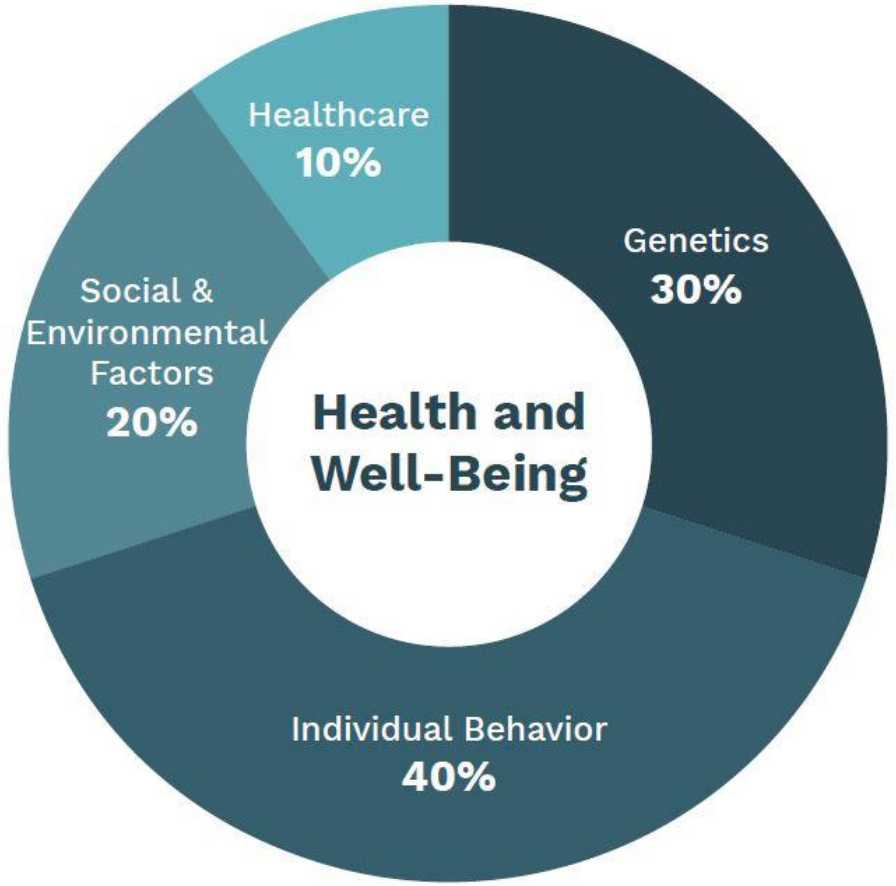
Purpose

Access

Redefining the *supply* of “medicine” to match the modern need; that is to say can our patients get to our caring and our curing?

Social Determinants of Health

Neighborhood
Poverty
Access to healthy food options
Education
Social support and isolation
Intimate partner violence
Housing
Employment
Racism
Access to health and healthcare



Schroeder SA. We Can Do Better – Improving the Health of the American People. NEJM. 2007; 357:1221-8

Conclusion

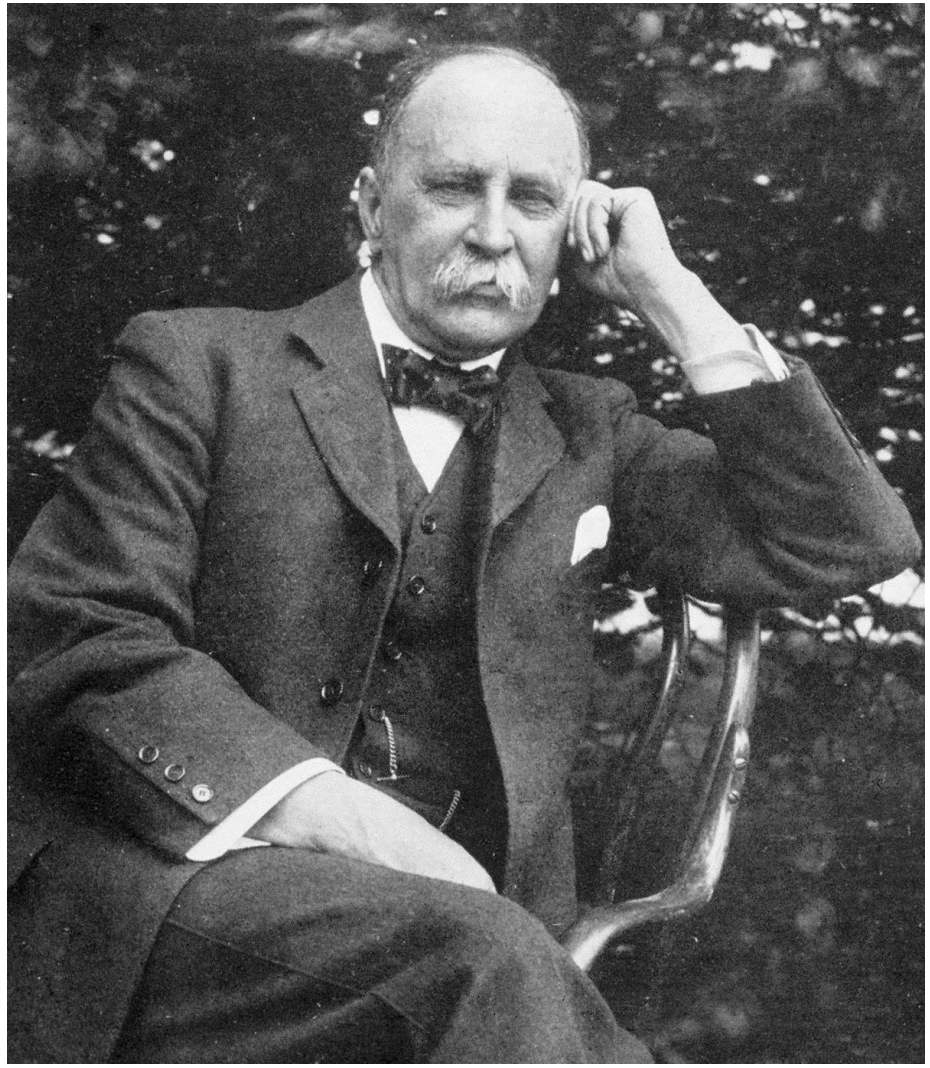
We know how to do this

- We are in the midst of transformative change
- The change must be predicated on the innate values of the healing professions
- Much of this is new; even the term Evidence Based Medicine was only introduced in 1993
- Governments cannot actually reach the bedside or clinic space and so they will pull the levers that they can
- The Science of Improvement (focus on core work processes, aligned providers, system organization, timely accurate and relevant data, aligned financial incentives) has only been known for 40 years as well
- It starts at the interface of health and healthcare

"I am sorry for you, young men and women of this generation. You will do great things. You will have great victories, and standing on our shoulders, you will see far, but you can never have our sensations. To have lived through a revolution, to have seen a new birth of science, a new dispensation of health, reorganized medical schools, remodeled hospitals, a new outlook for humanity, is not given to every generation.“

Sir William Osler

At the opening of the Phipps Clinic in England, near the end of his career. Cited in Reid, Edith Gittings. The Great Physician: A Life of Sir William Osler. New York, NY: Oxford University Press, 1931 (p. 241).



Questions and Comments

https://intermountainhealthcare.org/about/transforming-healthcare/institute-for-healthcare-delivery-research/