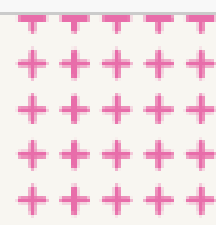


Cornell University

The Quality of Medical Care in the United States

PUBPOL 2350

November 7, 2022



SOCIAL IMPACT: **BRIDGING THE GAP IN COMMUNITY PARTNERSHIPS**



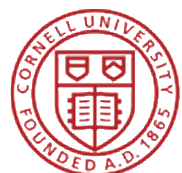
09 NOVEMBER, 2023
4:30 - 5:30 PM
MVR 1157



**GRACE
ZIELINSKI**

COMMUNITY HEALTH
COORDINATOR OF CCE

Grace's work focuses on student community partnerships between Cornell and Tompkins County to address SDOH. Join us as we discuss her views on healthcare and how they have evolved through her professional journey. Pizza will be provided!



COFFEE & CONVERSATIONS: PUBLIC HEALTH AT CORNELL

**NOV 8
2023**

5:00PM - 6:00PM
Warren Hall B51

Join Cornell Public Health faculty and students for coffee and snacks, and dive into the dynamic world of public health!

Register and you'll automatically enter a raffle to win exclusive Cornell Public Health merch!

**DON'T MISS OUT
ON THIS EXCITING
OPPORTUNITY TO
CONNECT, LEARN,
AND WIN!**

REGISTER:



Cornell University

BLOOD DRIVES FOR *NOVEMBER*

Scan here to sign
up to donate!



 Cornell
Red Cross Club
@cornellredcross

Biotech G10 1-6 PM

THURSDAY

2

SUNDAY

29

MONDAY

30

RPCC 218 1-6 PM

THURSDAY

9

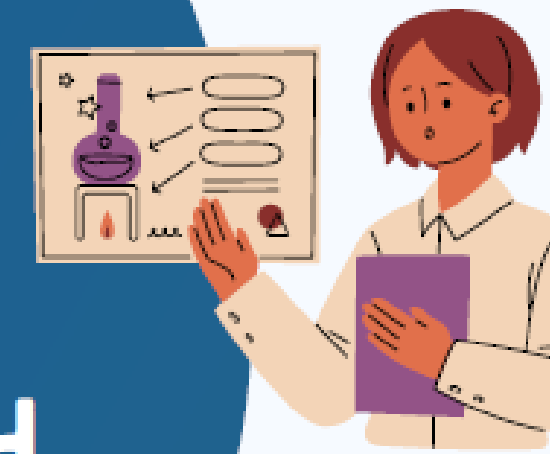
FRIDAY

10



THE COLLEGE OF HUMAN ECOLOGY'S DEAN UNDERGRADUATE
ADVISORY COUNCIL PRESENTS...

CORNELL HUMAN ECOLOGY UNDERGRADUATE RESEARCH CAREER FAIR



**JOIN US FOR A SHOWCASE OF HUMAN
ECOLOGY-FOCUSED RESEARCH.**

**TALK TO LAB REPRESENTATIVES +
LEARN ABOUT AVAILABLE RESEARCH
POSITIONS WITHIN HUMAN ECOLOGY.**

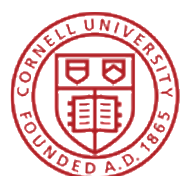
**WHEN :
NOVEMBER 7, 2023
TUESDAY**

**WHERE:
MVR COMMONS**

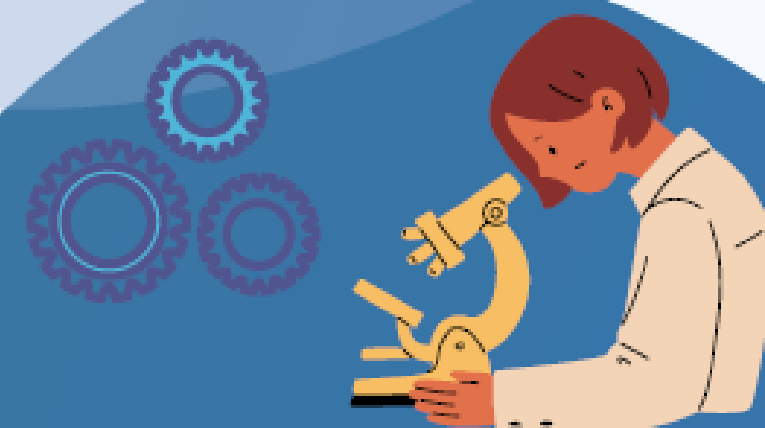
**PERFECT TO DEVELOP A FOUNDATION FOR
YOUR RESEARCH CAREER.**



**PLEASE RVSP USING THE QR CODE
PROVIDED. LIMITED SPOTS AVAILABLE**



Cornell Univers





BIG RED THON DANCE MARATHON

Big Red Thon is Cornell's largest student-run non-profit organization!

We raise funds for Children's Miracle Network Hospitals, specifically Upstate Golisano (right here in New York!) to help provide kids with lifesaving treatments and the best quality care.

Every year, we host an annual **DANCE MARATHON** at Barton Hall as our main fundraising event, with games, prizes, food, and more! Your participations and contributions go directly to Upstate Golisano, so sign up now to show your support and save your spot at the event!

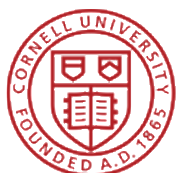


REGISTER FOR THE EVENT!

**WHEN: SATURDAY, NOVEMBER
11TH, 2-7PM**

**WHERE: BARTON HALL (CENTRAL
CORNELL CAMPUS)**

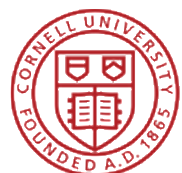
**EMAIL US AT
BIGREDTHON@GMAIL.COM**



Cornell Univ

Today's Topics

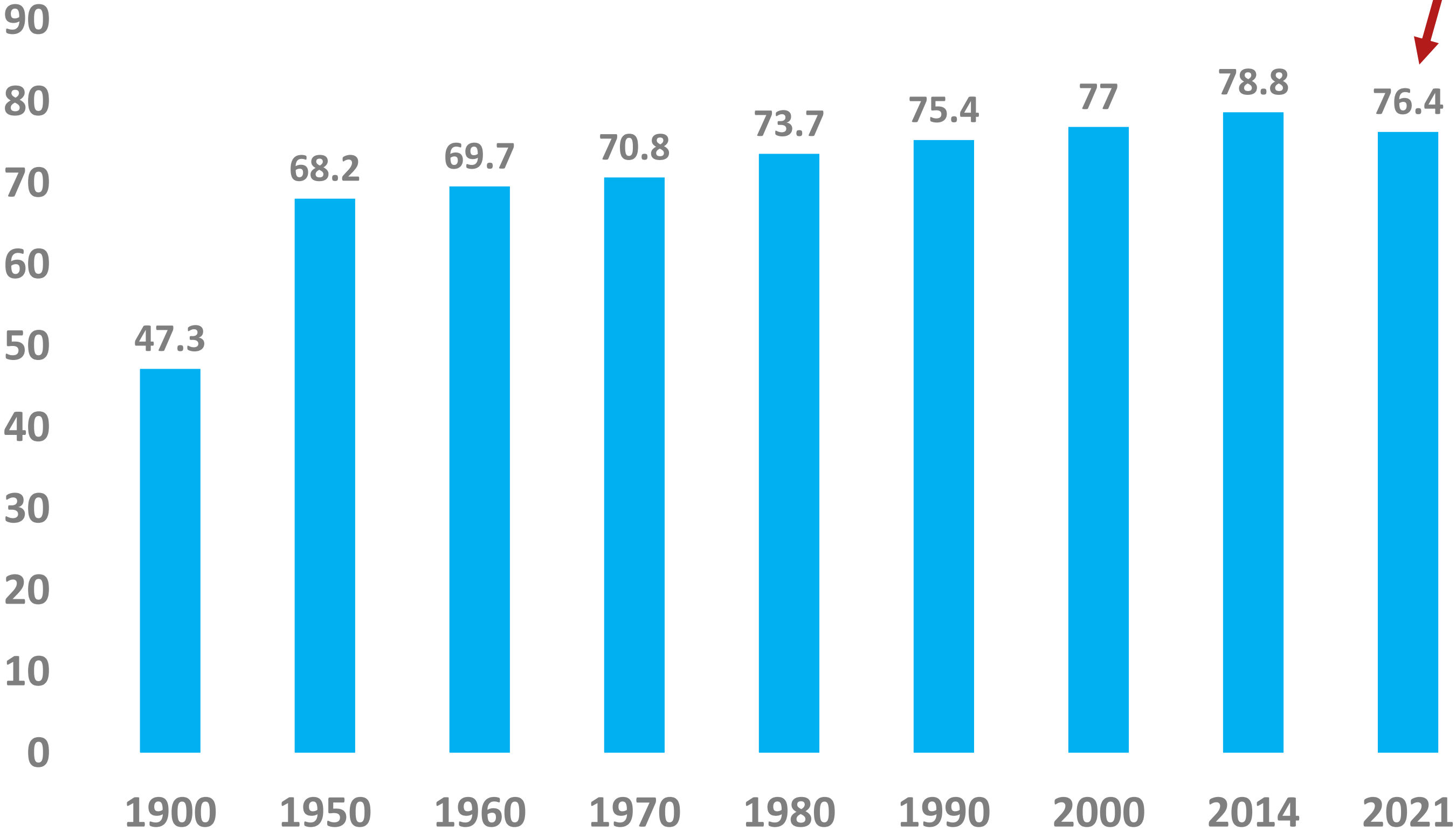
- 1. Current State:** Review the good and bad news regarding the quality of medical care in the United States
- 2. Analysis:** Investigate 4 reasons why quality is worse than it should be given how much we spend on medical care in the U.S.
- 3. Policies:** Discuss policies that could improve the quality of medical care



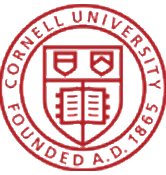
First, the Good News: Our Health System Has Contributed to Longevity

Fell by 2.4 years due to COVID (vs. 0.6 years in other high-income countries)

Life Expectancy at Birth in the U.S.

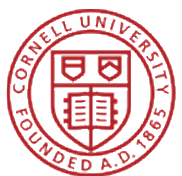


8.2 year Increase over a 71-year period



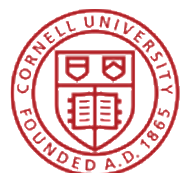
Video

**But, service quality is often
lacking in the
U.S. health care system**



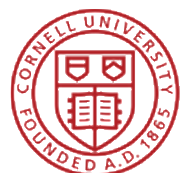
The Bad News: a 2000 Institute of Medicine (IOM) Report Highlighted Questionable Medical Quality

- Utah, Colorado, and NY studies:
 - Adverse events (see next slide for examples) occurred in 3% to 4% of hospital admissions
 - Adverse events resulted in death 7% - 14% of the time
 - Over 50% of events due to a *preventable* medical error
 - Translates into 44,000 - 98,000 preventable deaths per year in U.S. due to medical errors occurring in a hospital
- An “outcome” measure
- Hospital deaths (an “outcome” quality measure) due to preventable medical errors are the 8th leading cause of death in the U.S
 - Equivalent to a 747 airplane crashing every day

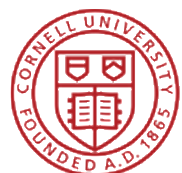


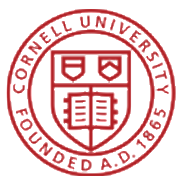
Examples of Adverse Hospital Events

- Decubitus ulcer (bed sores)
- Allergic reaction to a prescription drug
- Post-operative hemorrhage and hematoma
- Post-operative pulmonary embolism and deep vein thrombosis
- Post-operative sepsis (infection of the blood)
- Iatrogenic pneumothorax



Dennis Quaid video



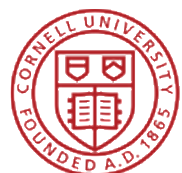


Bad News: 2nd Important Study (RAND study)

- Between 1998 and 2000, 6,700 patients' medical records were compared against 439 indicators of quality care for 30 health conditions (i.e., evidence-based medicine, or recommended care for a disease)
- **Conclusion: only 55% of patients were receiving the recommended care**

Examples:

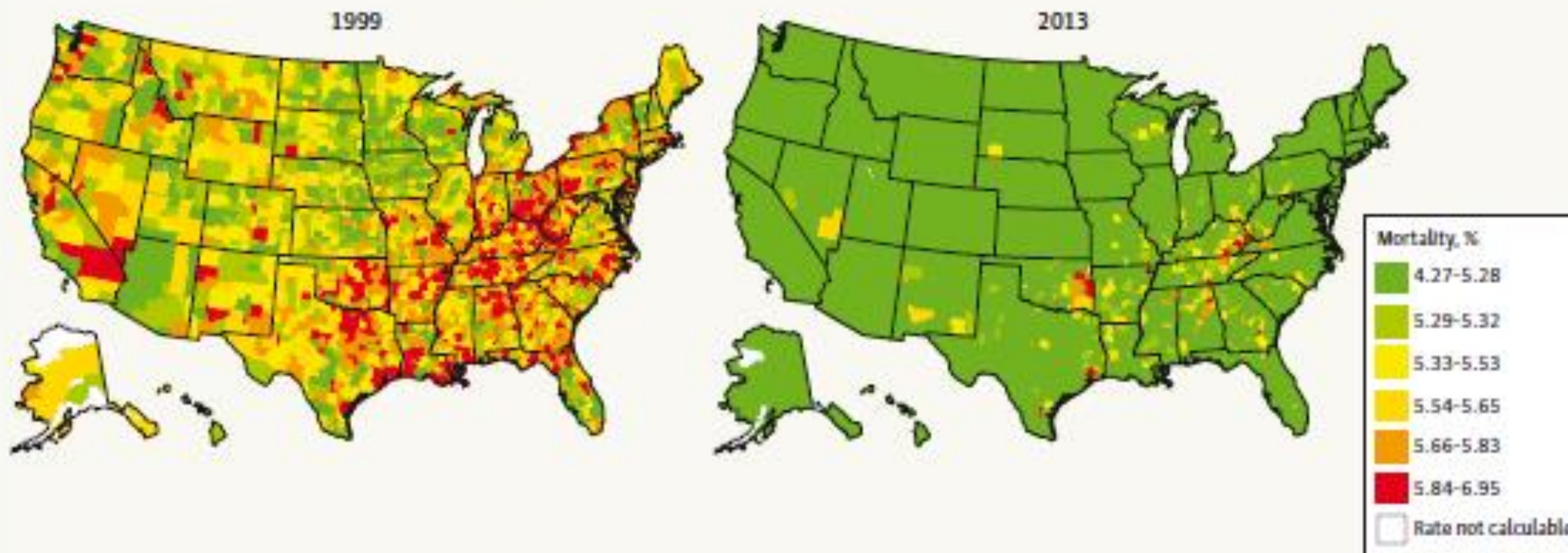
- only 24% of diabetics received 3 hemoglobin tests over a 2-year period
 - only 38% of appropriate patients had been screened for colorectal cancer every 5 years
- } “Process” measures
- Authors repeated the study in 2007 for children: only 47% of 2-year olds received recommended medical care



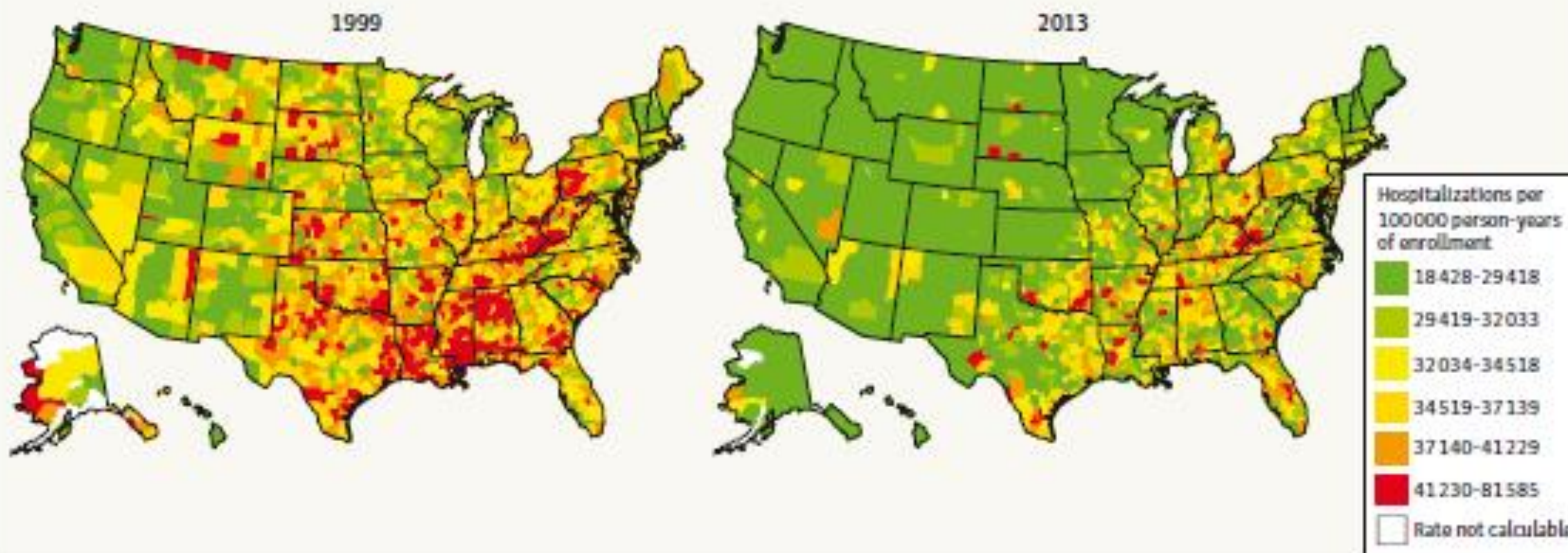
The U.S. Health Care System Has Made Progress Since Those Studies

Figure 2. Maps Showing Trends in Risk-Standardized All-Cause Mortality and Hospitalizations Among Fee-for-Service Beneficiaries for Individual US Counties, 1999-2013

A Risk-standardized all-cause mortality by US county



B Risk-standardized hospitalizations per 100 000 person-years of enrollment in Medicare fee-for-service by US county



Hospitalization rates and mortality rates fell for Medicare beneficiaries, 1999 - 2013

Source: Krumholz et al., JAMA, July 28, 2015.

Discussion

Is a physician's risk-adjusted mortality rate or readmission rate a valid measure of quality?
Will reporting them publicly improve quality?

Why or why not?



Proposed Definition of Quality: Mortality Rate of a MD's Patients

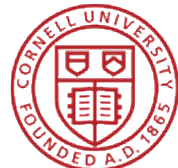
Surgeon Data								
	Surgeon Data 2008-2009 (Two Years Combined)							
	Number of Cases			Mortality		Readmissions		Post-Surgical Length of Stay
	2008	2009	Total	In-Hospital	30-Day	7-Day	30-Day	
McCurry, Kenneth R.								
CABG without Valve	41	0	41	⊙	⊙	⊙	⊙	7.5
Valve without CABG	7	0	7	NR	NR	NR	NR	NR
Valve with CABG	13	0	13	NR	NR	NR	NR	NR
Total Valve	20	0	20	NR	NR	NR	NR	NR
McGregor, Walter E.								
CABG without Valve	0	61	61	●	●	⊙	⊙	5.8
Valve without CABG	0	11	11	NR	NR	NR	NR	NR
Valve with CABG	0	18	18	NR	NR	NR	NR	NR
Total Valve	0	29	29	NR	NR	NR	NR	NR
Mehta, Sanjay M.								
CABG without Valve	69	76	145	⊙	⊙	⊙	⊙	4.6
Valve without CABG	31	20	51	⊙	⊙	⊙	⊙	5.7
Valve with CABG	18	32	50	⊙	⊙	⊙	⊙	5.9
Total Valve	49	52	101	⊙	⊙	⊙	⊙	5.8
Metcalf, Randy K.								
CABG without Valve	157	134	291	⊙	⊙	⊙	●	7.5
Valve without CABG	14	11	25	NR	NR	NR	NR	NR
Valve with CABG	32	27	59	⊙	⊙	●	⊙	11.8
Total Valve	46	38	84	⊙	⊙	●	●	10.4

Not
rated;
too
few
cases

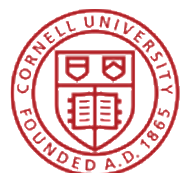
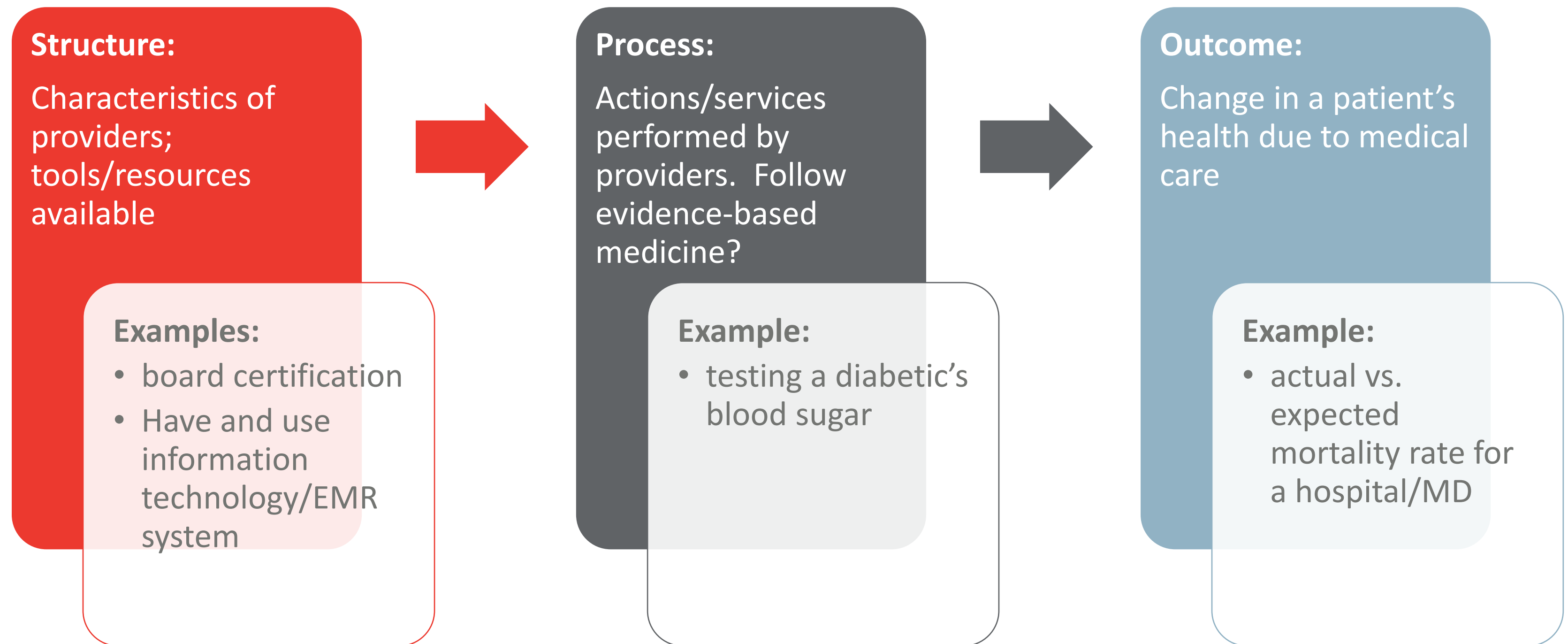
Better
than
expected

Same as expected

Worse than expected



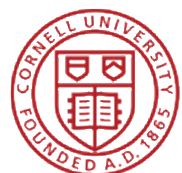
Structure-Process-Outcomes Framework For Measuring Medical Quality



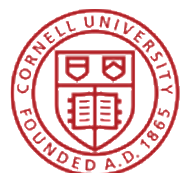
Challenges With Quality Definition and Measurement

- Ultimately, we care most about health outcomes (e.g., can we walk without pain? Did we survive a stroke?)
- However, sometimes physicians and hospitals provide all the “correct” medical care (i.e., evidence-based medicine) but the patient still does not have a good health outcome, due to chance or factors beyond a provider’s control.
- Therefore, measuring processes has appeal – did physicians and hospitals provide the recommended/correct care that was under their control?
- Although there is no guarantee that following the correct processes will necessarily produce a good outcome, it should on average.
- Finally, there are some structures (e.g., using electronic medical records) that make it easier for physicians/hospitals to provide recommended care (i.e., computerized decision support).

Conclusion: all 3 definitions have some merit

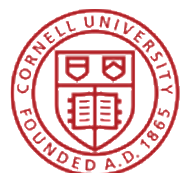


**WHY is the quality of medical
care in the United States, by
traditional measures, worse
than it should be?**



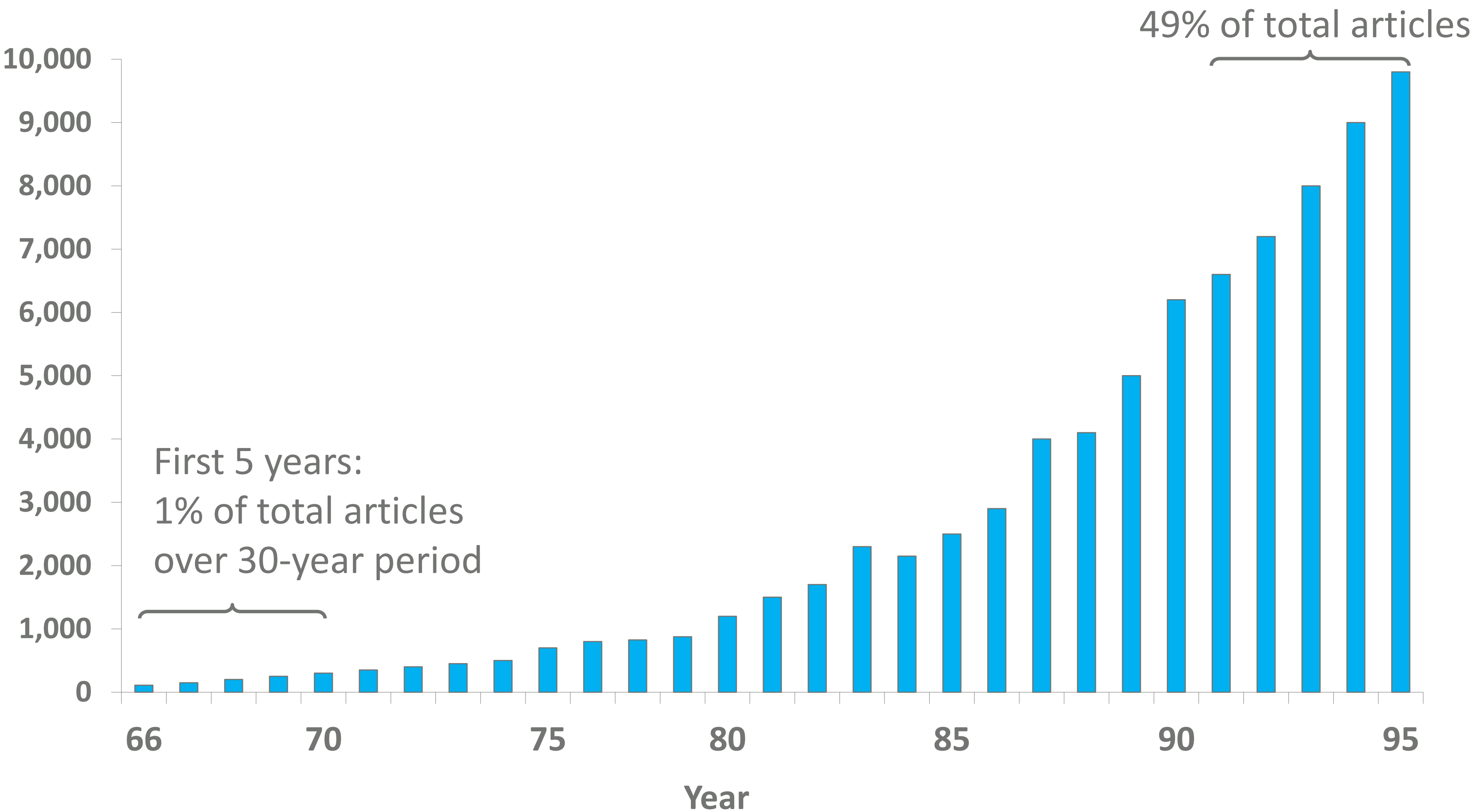
Institute of Medicine's Four Underlying Reasons for Inadequate Quality of Medical Care

1. Growing complexity of medicine
2. Increase in chronic conditions among patients
3. Little financial incentive for physicians/hospitals to invest time and money to improve quality
4. Failure to exploit the revolution in information technology

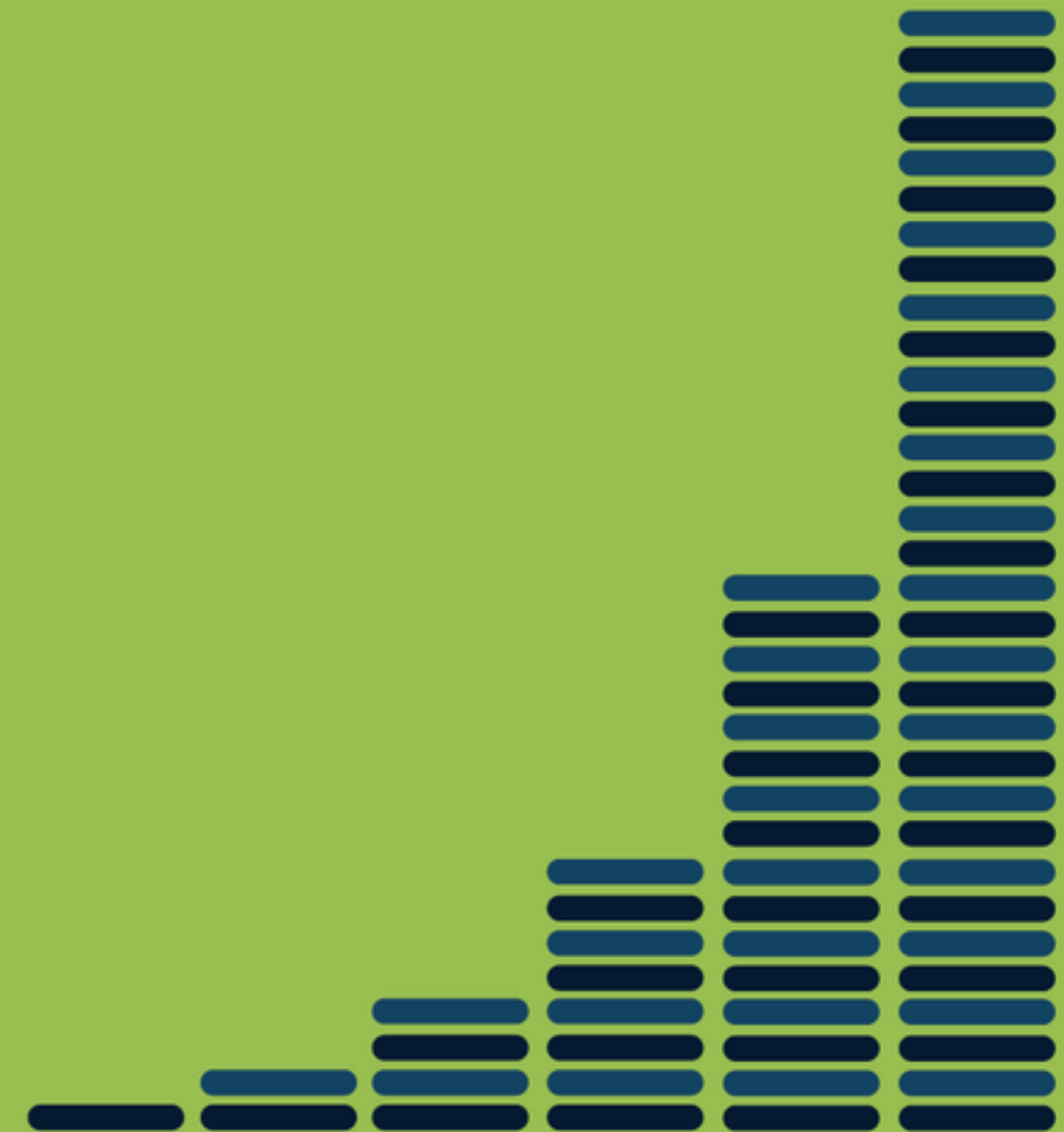


The Medical Evidence Base is Expanding Rapidly

of Articles Published Based on Randomized Controlled Trials

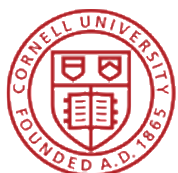


Medical data
is expected
to double
every 73 days
by 2020.



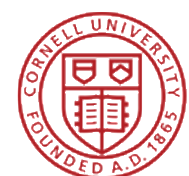
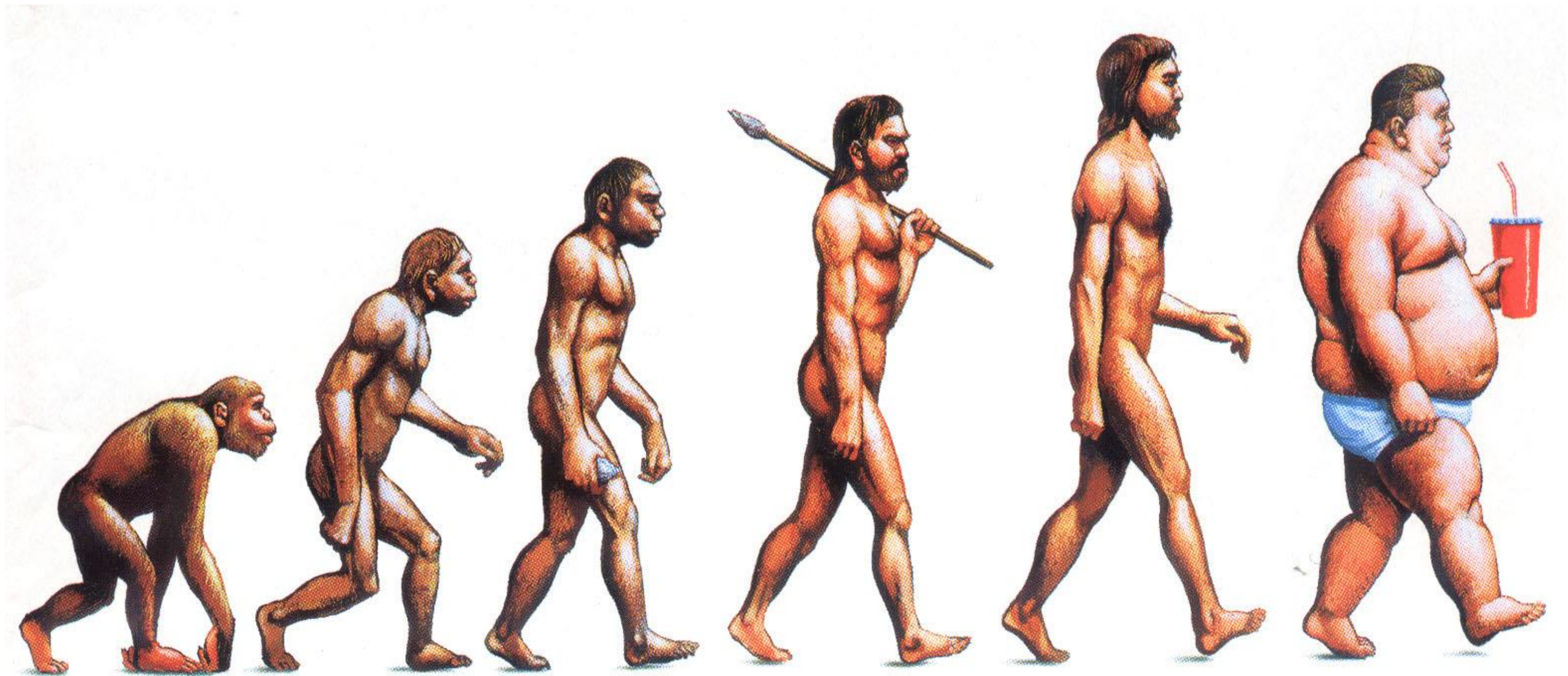
Source: University of Iowa, Carver College of Medicine, 2014

IBM Watson Health

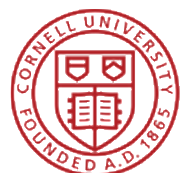
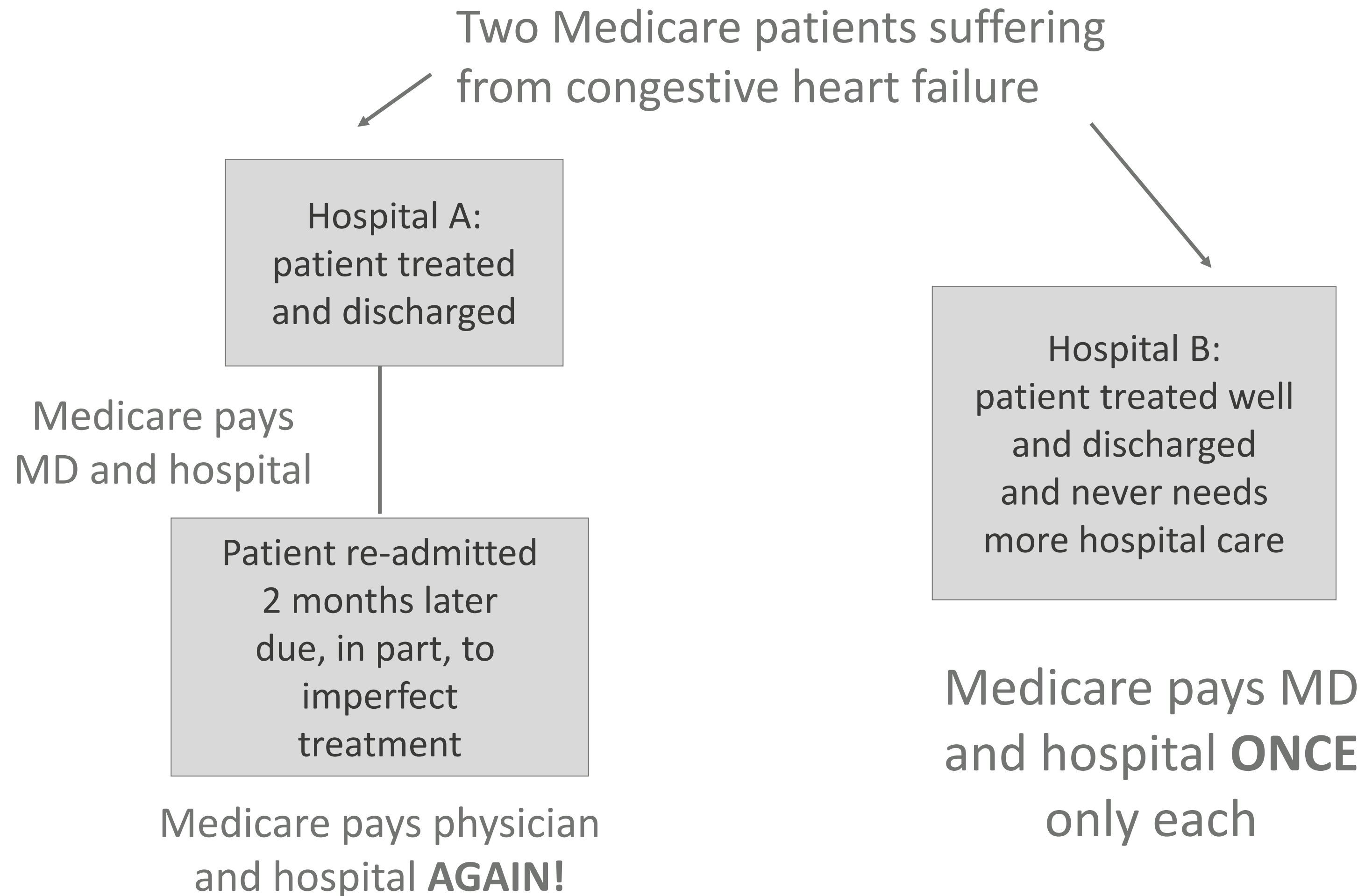


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It is More Difficult to Treat Patients Who Have Multiple Chronic Diseases, and More Patients Now Do Than Before

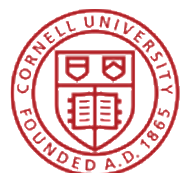


Historically, the Financial Incentives for Providers to Improve Quality Have Been Weak



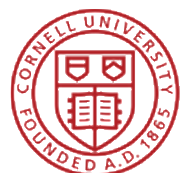
Hospital Readmissions Result in Substantial Extra Payments for Medicare

- About 20% of Medicare patients (2 million per year) used to be re-admitted to a hospital within 30 days of discharge.
- Medicare considers re-admissions “a prime symptom of an overly expensive and uncoordinated health care system.”
- Used to cost Medicare \$18 billion in additional hospital payments.
- Because of the ACA, hospitals with high re-admission rates are now being penalized by Medicare (we will review on Thursday), and readmission rates have fallen substantially.



It's Hard for MDs and Hospitals to Improve Quality. Without Financial Incentives to Do So, Providers Might Not Try (Hard)

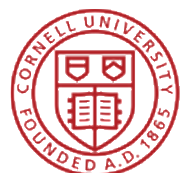
- A physician panel rated the technical skill of 20 bariatric surgeons who submitted a representative video of one of their laparoscopic gastric bypass surgeries.
- A panel categorized each MD as high- or low-skilled; see examples of high- and low-skilled surgeons from video.
- The authors combined ratings with detailed data on over 10,000 patients treated by these 20 physicians
- Procedures by high-skill MDs were 39 minutes shorter, on average (across all 10,000 surgeries).
- % of patients who experienced complications: 5.2% among high-skill MDs vs. 14.5% among low-skill.
- High-skilled MDs' patients less likely to develop wound infections, pneumonia, or internal bleeding.



How Can the Quality of Medical Care Be Improved?

Policy #1: Health Care IT to the Rescue

“Today, no one clinician can retain all the information necessary for sound, evidence-based practice. No unaided human being can read, recall, and act effectively on the volume of clinically-relevant scientific literature.”



PEOPLE & PLACES: KAISER PERMANENTE


[preferences](#) | [getting started](#) | [updates](#) | [FAQs](#) | [user guide](#) | [glossary](#) | [contact us](#)

The Panel Support Tool

[Return to list](#) | [Copy MRN to Clipboard](#) | [Mark as Reviewed](#) | [No Follow-up](#) | [No remarks](#)
[Print detail for clinician](#)
[Print handout for patient](#)

Name: DEMO1010365834
 MRN: 10365834
 Age: 64 Sex: M
 Date of birth 12/18/45

Home: 123-4567 Work: 123-4567
 Last PC Visit: 8/24/09
 Next PC Visit:
 Last Reviewed:

PCP: DEMO DOC1

Last THA:

kp.org
INACTIVE

DM	CVD	CHF	HTN
Y	Y	Y	Y
CKD	Asth		Gap
1-2			14

Utilization Profile

Last Discharge: 9/27/02
 CRNRY ATHRSCL NATVE VSSL
 Last ER Visit:
Preventive Care
 Last Flu Date:
 Last H1N1 Date:
 Last Pneumo: 5/9/98
 Last Td: 5/5/06
 Last TDap:
 Last Colorectal: FOBT on 3/2/09

Patient Vitals

** Last BP 133 / 66 on 8/24/09
 Pulse 65 on 8/24/09
 Weight: 175.0 Height 72.0
 BMI: 23.7 8/24/09
 Ten Year Cardiac Risk: %

Panel Support Tool Caregaps:

Therapeutic Care Gaps:

ACE/ARB - RE-START? for HF (if Syst Dysf), DM nephrop, CVD risk
 Beta Blocker - RE-START CARVEDILOL or METOPROLOL SR if Syst Dysf (HF pt).
 Statin - RE-START at min SIMVA 80 based on last LDL 179 24-AUG-09 Possible interaction: AMLODIPINE
 BP Meds - BP goal <=129/79. HIGH RISK PT with HTN dx. On 2 BP meds. Last 2 or 3 BPs >=130/80. Last: 133/66

Chronic Condition Monitoring Care Gaps:

DM eye screen OVERDUE -over 2 yrs ago
 HBA1C DUE SOON Last: 10.6 25-AUG-09.

Preventive Care Gaps:

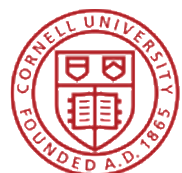
Flu Shot due
 Active Tobacco Use: Advise quitting today

** LDL	179	8/24/09
HDL	26.0	4/24/09
TRI	187	4/24/09
CHOL	224	4/24/09
** A1C	10.6	8/25/09
** FBG		
ALT	33	8/24/09
** CRE	1.1	8/24/09
BUN	9	8/24/09
** GFR	71.9	8/24/09
** ALB/CRE		
** PRO/CRE	1.8	4/24/09
HGB	17.1	8/24/09
HCT	49.8	8/24/09
NA	135.0	8/24/09
K	4.4	8/24/09
TSH	1.43	4/21/09

**Hover over the result to see trended results if available

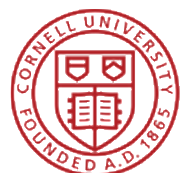
Most recent KP pharmacy dispense of each drug within certain drug classes in last 12 months . Bolded = dispensed in last 3 months

METOLAZONE TAB 5MG Date: 11/28/09 Daily Dose: 5.0
FUROSEMIDE TAB 40MG Date: 11/25/09 Daily Dose: 80.0
 AMLODIPINE BESYLATE TAB 5MG Date: 4/27/09 Daily Dose: 5.0
 DIGITEK TAB 0.125MG UD Date: 4/24/09 Daily Dose: 0.1
 CARVEDILOL TAB 3.125MG Date: 4/21/09 Daily Dose: 6.3
 FUROSEMIDE TAB 20MG Date: 4/21/09 Daily Dose: 20.0
 LISINOPRIL TAB 40MG Date: 3/2/09 Daily Dose: 40.0
 SIMVASTATIN TAB 80MG Date: 3/2/09 Daily Dose: 80.0
 TOLBUTAMIDE TAB 500MG Date: 3/2/09 Daily Dose: 1000.0

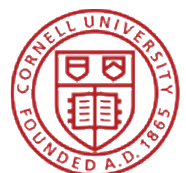
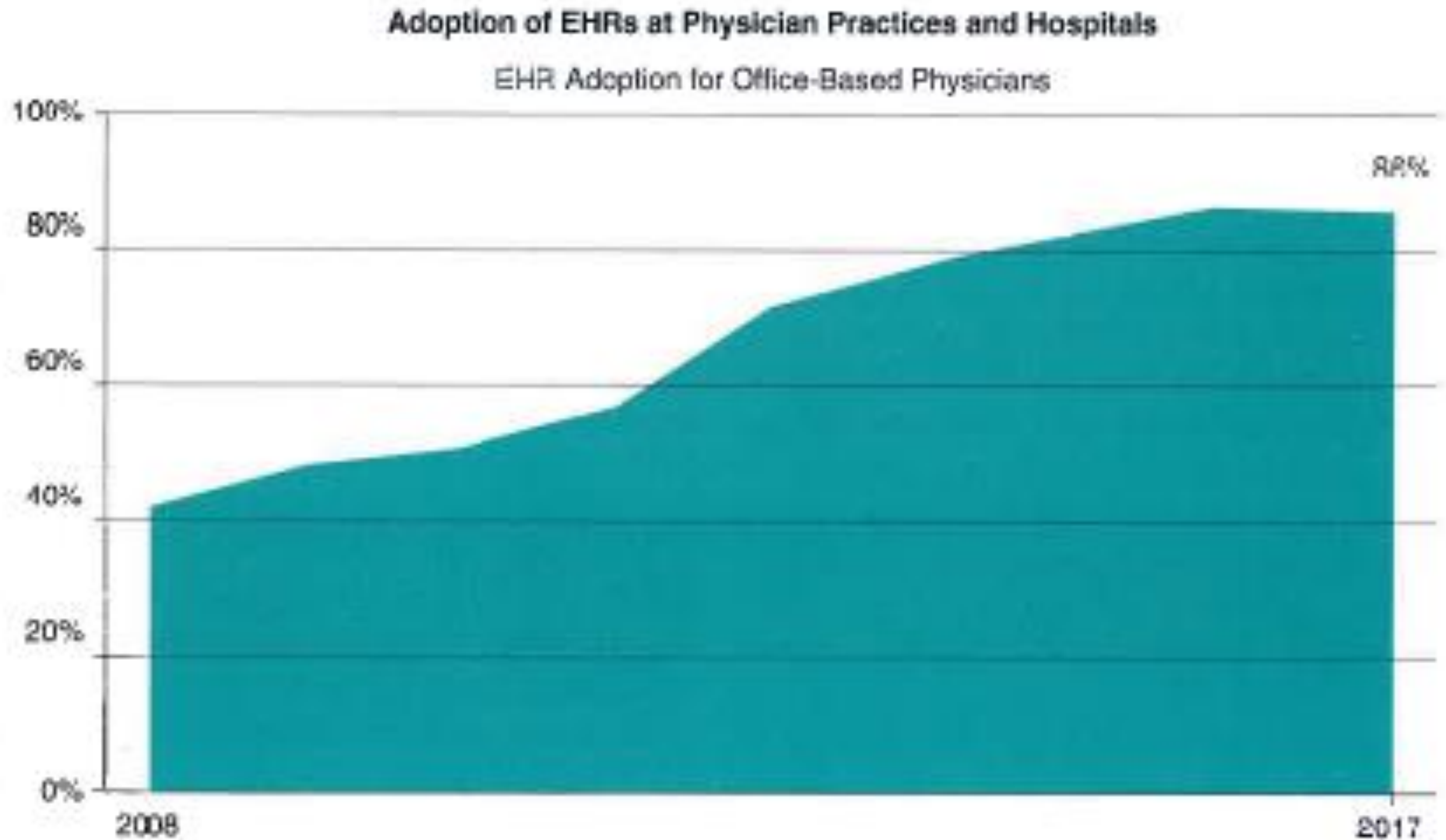


A 2009 Law (not the ACA) Provided Strong Financial Incentives for Physicians and Hospitals to Adopt EMRs

- The carrots: an MD who adopted an EMR system in 2011 or 2012 received extra payments of \$44,000 from the federal government to defray the start-up cost.
- An additional \$64,000 per physician was available from some state Medicaid programs.
- The stick: MDs who did not adopt an EMR system by 2015 had their Medicare RBRVS payments reduced by 5%.
- Hospitals could secure millions of dollars each to help offset the cost of implementing information technology.



Physicians Responded Aggressively...



...As Did Hospitals

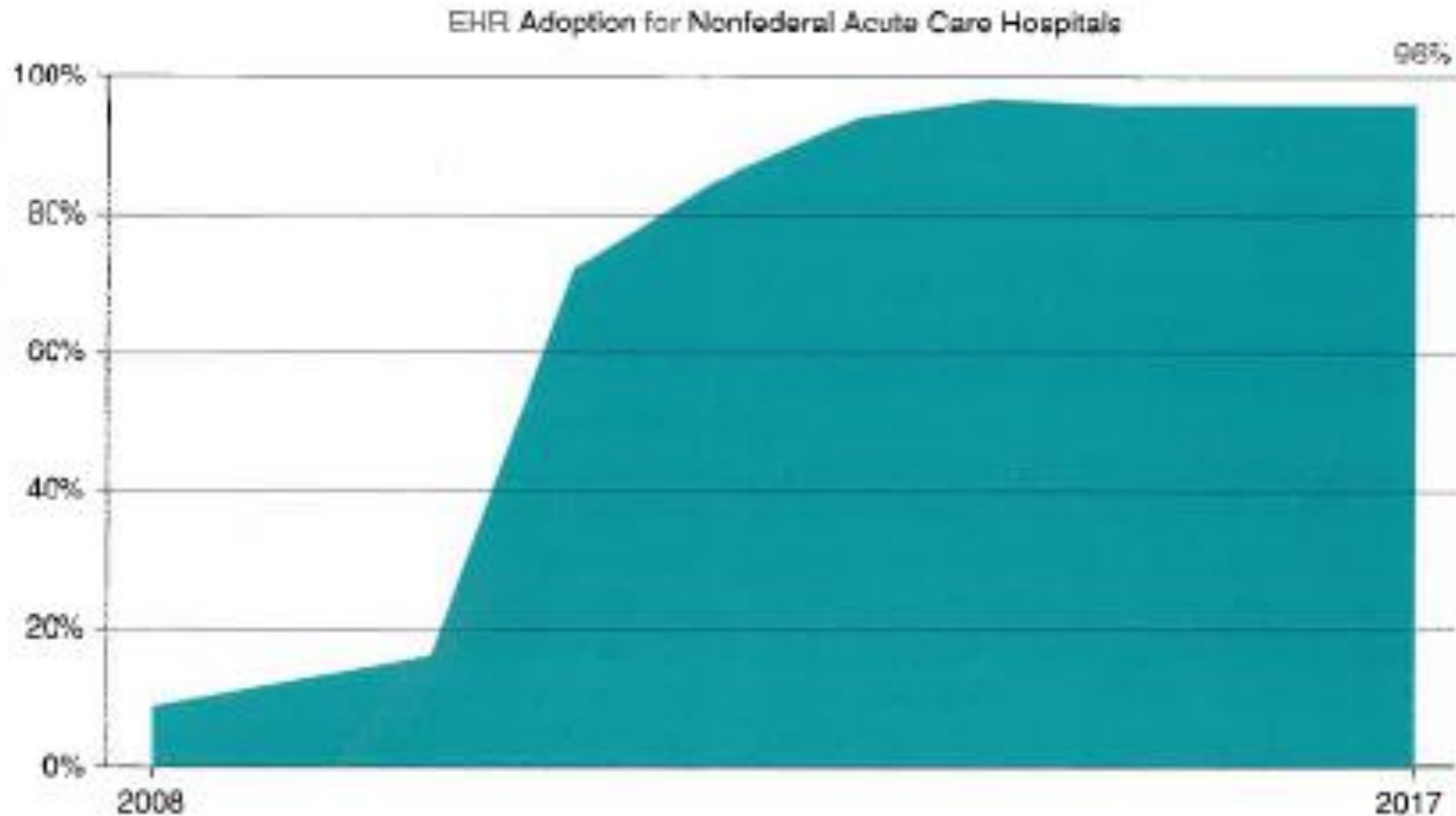
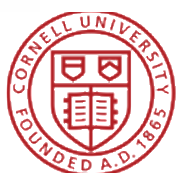
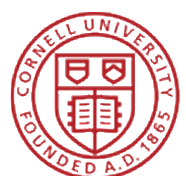


Figure 24-8 • Emergency Medical Record Adoption. EHR, Electronic Health Record. (Source: Fred Schulte and Erika Fry. Death by 1,000 Clicks: Where Electronic Health Records Went Wrong. Kaiser Family Foundation. March 18, 2019, <https://khn.org/news/Death-by-a-Thousand-Clicks/>.)



U.S. Physicians Spend 90 Minutes Per Day Using an EMR, Likely Contributing to Burnout

- EMR systems place substantial responsibility on a MD to record patient data and place medical orders.
- U.S. physicians using Epic (the dominant EMR system) spend an average of 90 minutes per day on an EMR, versus 59 minutes for MDs internationally also using Epic.
- This includes an average of 27 minutes on the EMR after hours.
- EMR systems are not wildly popular with US MDs. Hopefully the “next generation” of EMR systems will require less MD time.



Policy #2: Publicize Information on Quality of Health Plans, Physicians, and Hospitals, and Hope Patients Shun Low-Quality Providers/Plans and That Everyone Improves Quality to Avoid Losing Patients

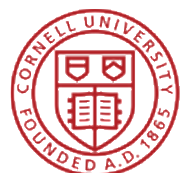
Surgeon Data								
	Surgeon Data 2008-2009 (Two Years Combined)							
	Number of Cases			Mortality		Readmissions		Post-Surgical Length of Stay
	2008	2009	Total	In-Hospital	30-Day	7-Day	30-Day	
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CABG without Valve	41	0	41	⊙	⊙	⊙	⊙	7.5
Valve without CABG	7	0	7	NR	NR	NR	NR	NR
Valve with CABG	13	0	13	NR	NR	NR	NR	NR
Total Valve	20	0	20	NR	NR	NR	NR	NR
McGregor, Walter E.								
CABG without Valve	0	61	61	●	●	⊙	⊙	5.8
Valve without CABG	0	11	11	NR	NR	NR	NR	NR
Valve with CABG	0	18	18	NR	NR	NR	NR	NR
Total Valve	0	29	29	NR	NR	NR	NR	NR
Mehta, Sanjay M.								
CABG without Valve	69	76	145	⊙	⊙	⊙	○	4.6
Valve without CABG	31	20	51	⊙	⊙	⊙	⊙	5.7
Valve with CABG	18	32	50	⊙	⊙	⊙	⊙	5.9
Total Valve	49	52	101	⊙	⊙	⊙	⊙	5.8
Metcalf, Randy K.								
CABG without Valve	157	134	291	⊙	⊙	⊙	●	7.5
Valve without CABG	14	11	25	NR	NR	NR	NR	NR
Valve with CABG	32	27	59	⊙	⊙	●	⊙	11.8
Total Valve	46	38	84	⊙	⊙	●	●	10.4

Will the Elderly Be Able to Use Information Technology to Find High-Quality Providers?

Alexa Can Help

Amazon Echo Silver

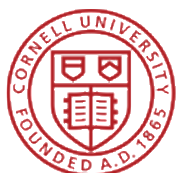
- https://www.google.com/search?source=hp&ei=ZM9VW9afDs2q_QbAm5OwDw&q=snl+amazon+echo+silver&oq=snl+amazon+echo+silver&gs_l=psy-ab.1.0.0l2j0i22i30k1l6.1480.5572.0.7591.24.23.0.0.0.0.123.1599.20j2.23.0....0...1.1.64.psy-ab..1.23.1658.6..35i39k1j0



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Comments on the 2nd Prelim Exam

- Mean = 82.9 and Median = 86.0
- See Canvas announcement for APPROXIMATE letter grades based on two prelims only (omitting assignment grades).
- Answer key is posted on Canvas “Exams.”
- Make sure your scores sum to the score posted on Canvas.
- If you think we made a mistake, briefly describe the possible mistake(s) on a piece of paper; attach the paper to your exam and turn it in to Prof. Nicholson by November 17.
- If re-graded, your score could go up OR down.



A-D

E-H

I-K

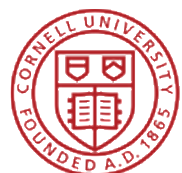
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BY LAST NAME

L-N

O-R

S-Z



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