

US Digital Roadmap and the Direction it is Taking Healthcare

Lawrence Friedman, M.D.

Associate Dean for Clinical Affairs

Professor of Clinical Medicine and Pediatrics

CEO, International Clinical Programs

UC San Diego Health System and School of Medicine

UC San Diego
HEALTH SYSTEM



UC San Diego
SCHOOL OF MEDICINE

UC San Diego – A “Changemaker Campus”



- Established in 1960
- Founded with an engineering, technology and science focus
- #1 public university in the U.S. for social mobility¹
- #1 for women graduates in STEM²
- 5th best public university in the U.S.³

1. *Washington Monthly* 2018
2. *BestColleges.com* 2016
3. *U.S. News & World Report* 2018

UC San Diego Health – World-Class Care



9,161
Employees



808
Licensed
Beds



29,264
Hospital
Admissions



854,929
Outpatient
Visits



\$~1.7B
Operating
Budget



Jacobs Medical Center interior highlights

10-story building opened November 2016



- Region's only 4-OR intraoperative imaging suite with MRI machine and CT scanner
- Cardiac Rehabilitation Center kitchen, yoga studio and gym
- Rooms feature natural light, art and unique technology that allows patients to access medical records, read about care providers, and control light, climate and entertainment options from an iPad

UC San Diego Health – La Jolla Gary and Mary West Geriatric Emergency Department



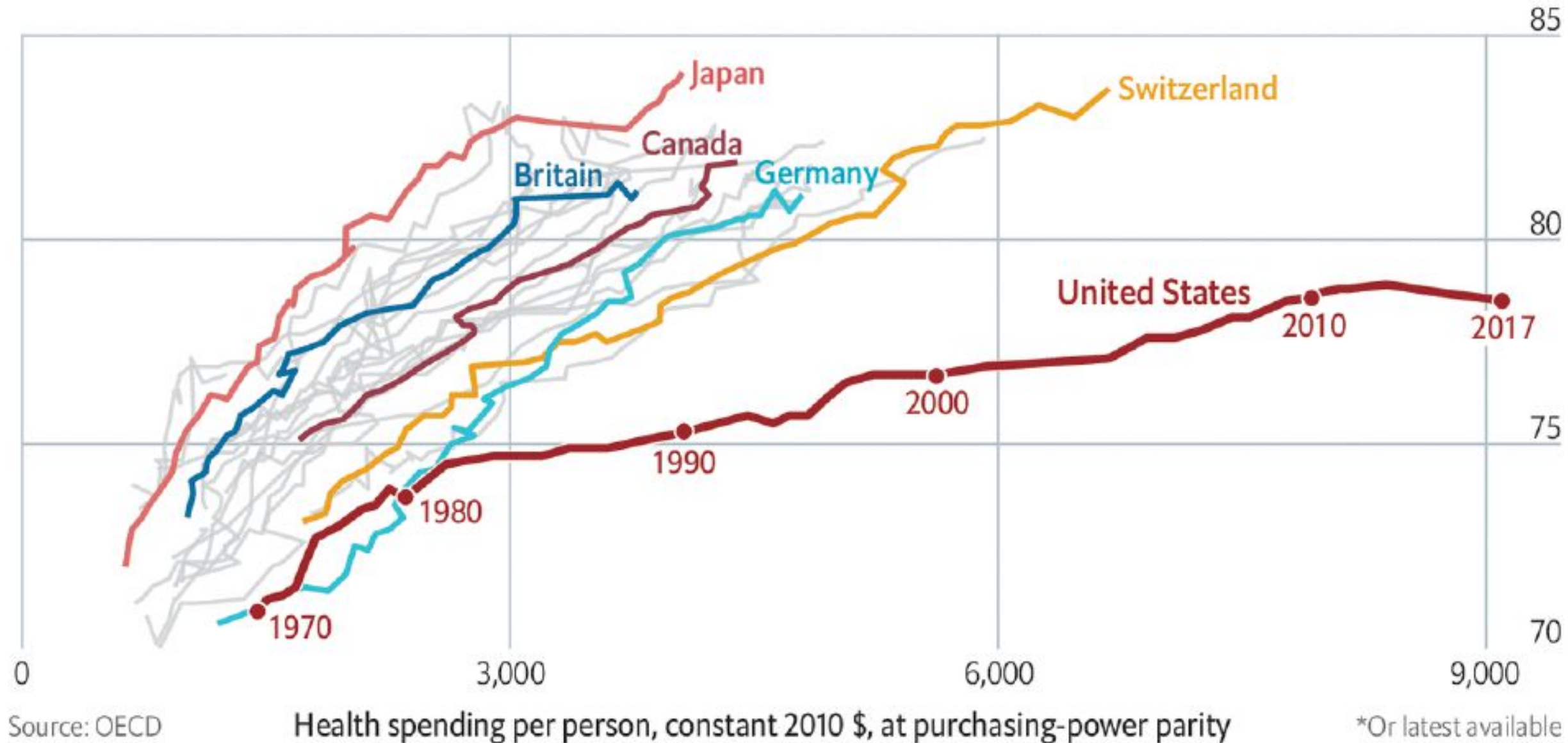
Specialized Geriatric Care Team
11 Patient Rooms
Architectural design for improved
safety and comfort

- California's first accredited geriatric emergency department. The American College of Emergency Physicians designated our Geriatric Emergency Department as a Level 1 accreditation — the highest and most comprehensive level.
- Care team includes physicians, nurses, pharmacists and social workers with special expertise in care challenges such as fall risk, cognitive and memory problems and medication interactions.
- Our goal is to lower hospital admissions and re-admissions for seniors.

Odd man out

Health spending and life expectancy, 1970-2017*, selected OECD countries

Life expectancy at birth, years



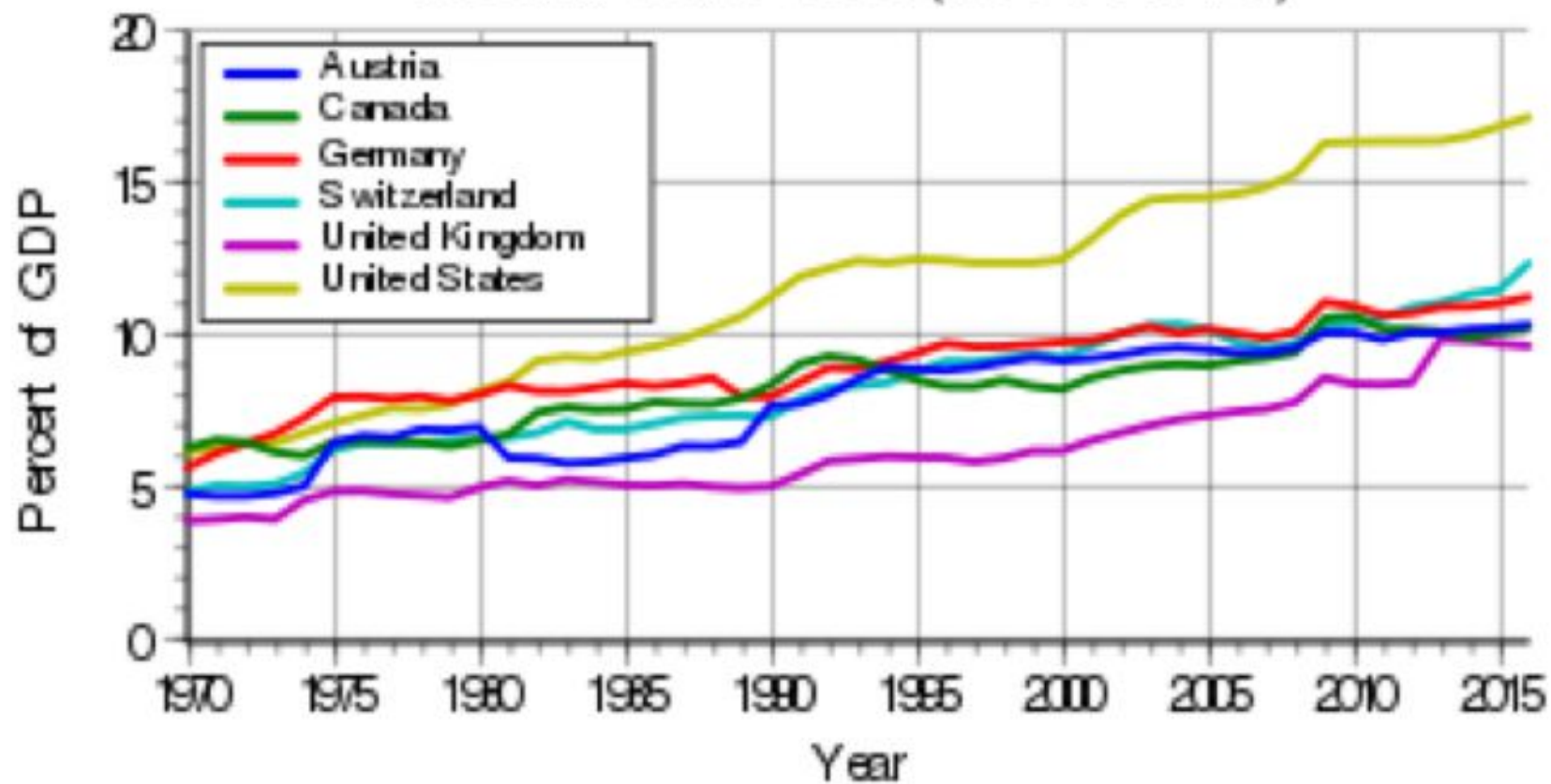
Source: OECD

Health spending per person, constant 2010 \$, at purchasing-power parity

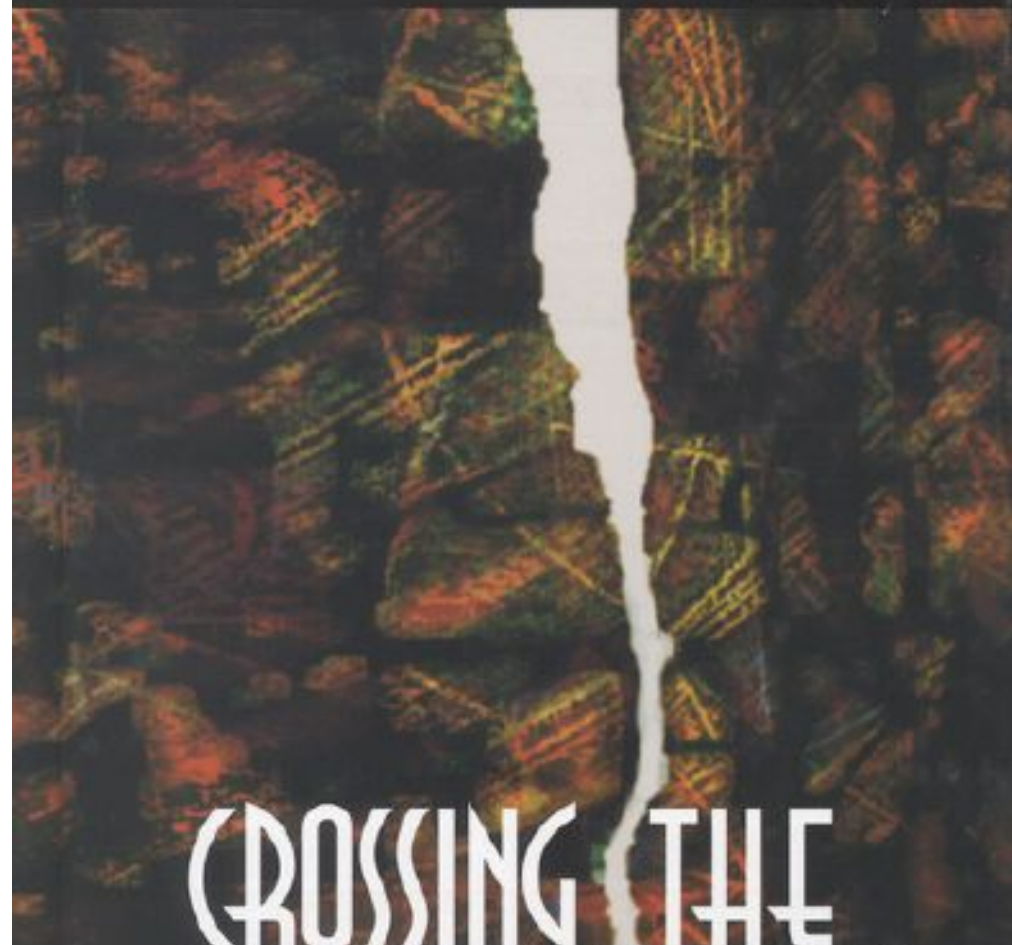
*Or latest available

The Economist

Health Care Cost (1970-2016)



I N S T I T U T E O F M E D I C I N E



CROSSING THE QUALITY CHASM

A New Health System for the 21st Century

Bank of East Asia...
cent, compared with 3.5...
...day.
... Bank offered 3.4 per cent
... below HK\$500,000.
... per cent previously.
... month time
... HK\$500,000

"The financial...
push the US and European econo...
mies into a deep downturn or even
recession, prolonging the tough
times for Hong Kong's trade sector -
the industry that employs the most
workers.
"Major real estate agencies have
also started to cut headcount as
property transactions turn more

with the...
main gauge of inflati...
cent this year and 4...
Although the ac...
2008 GDP growth v...
previous forecast...
still more optimist...
consensus of 9.9...
9.1 per cent in 20...
"The slowdow...
a normal fluctua...
in a report yest...
enough eviden...
economic dow...
Last night...
Chao (李超), a...
spokesman,
... with

...k revised its economic...
for this year down to...
... per cent. For next...
to 2 per cent.

The financial crisis Great Crash of 2008

SATURDAY, OCTOBER

Disbelief, and a punter reaches

The plunging market yesterday dealt a new blow to investors' confidence, as the government decided to inject HK\$1 million into counselling services for losers in the financial crisis.
Retail investors...
disbelief at Pr...
Central





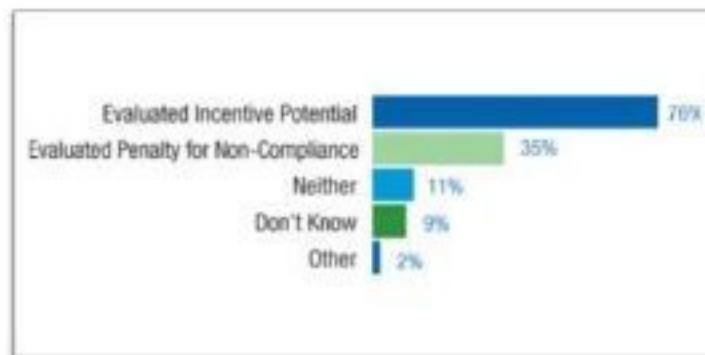
PUTTING AMERICA
TO WORK

PROJECT FUNDED BY THE
American Recovery
and Reinvestment Act

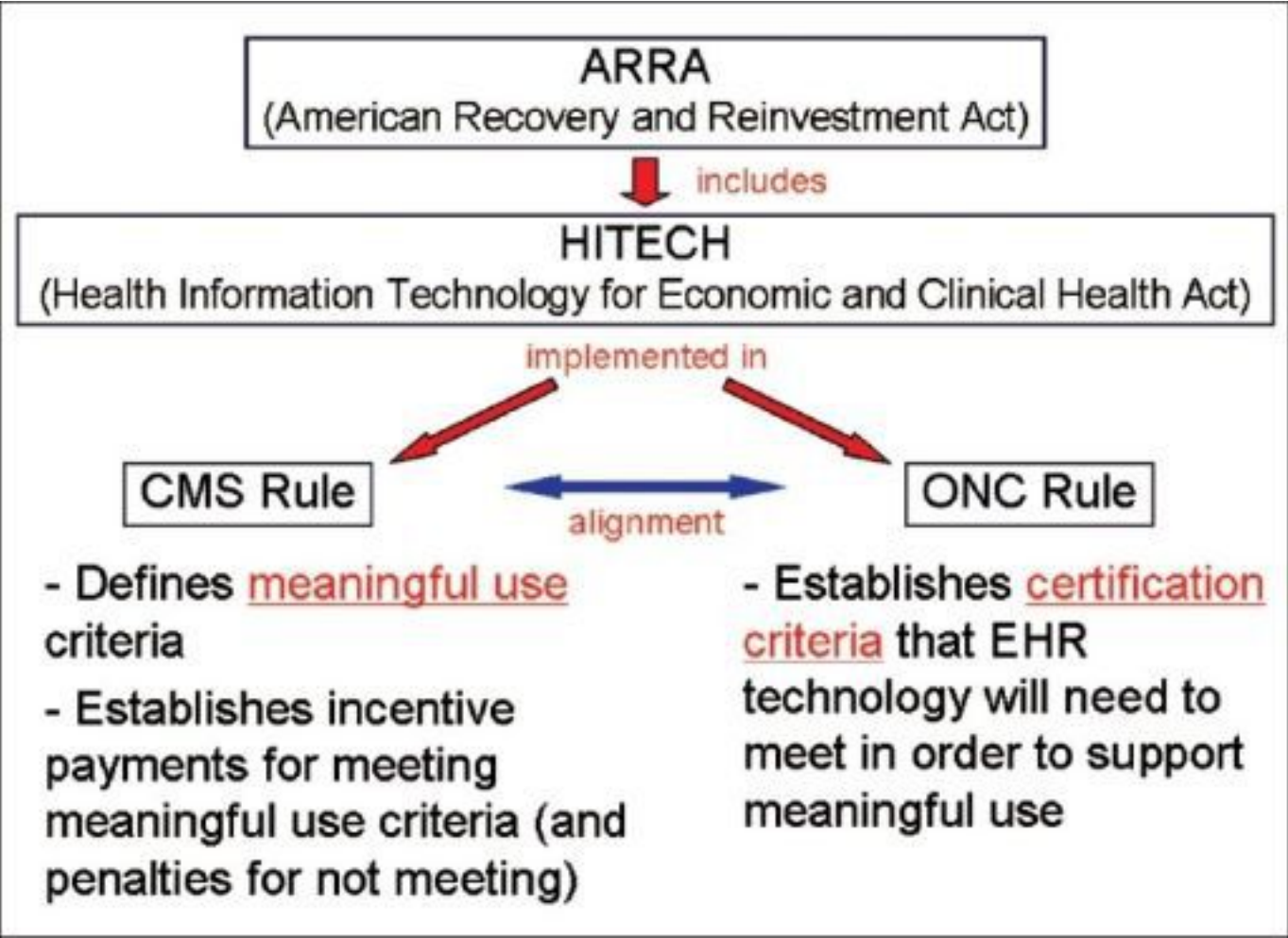
It all started with ARRA

- The Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009 was a part of ARRA
- HITECH allocated funds to spur the adoption of electronic health records - approximately \$20.8 Billion
- While they're starting with carrots, there will be sticks

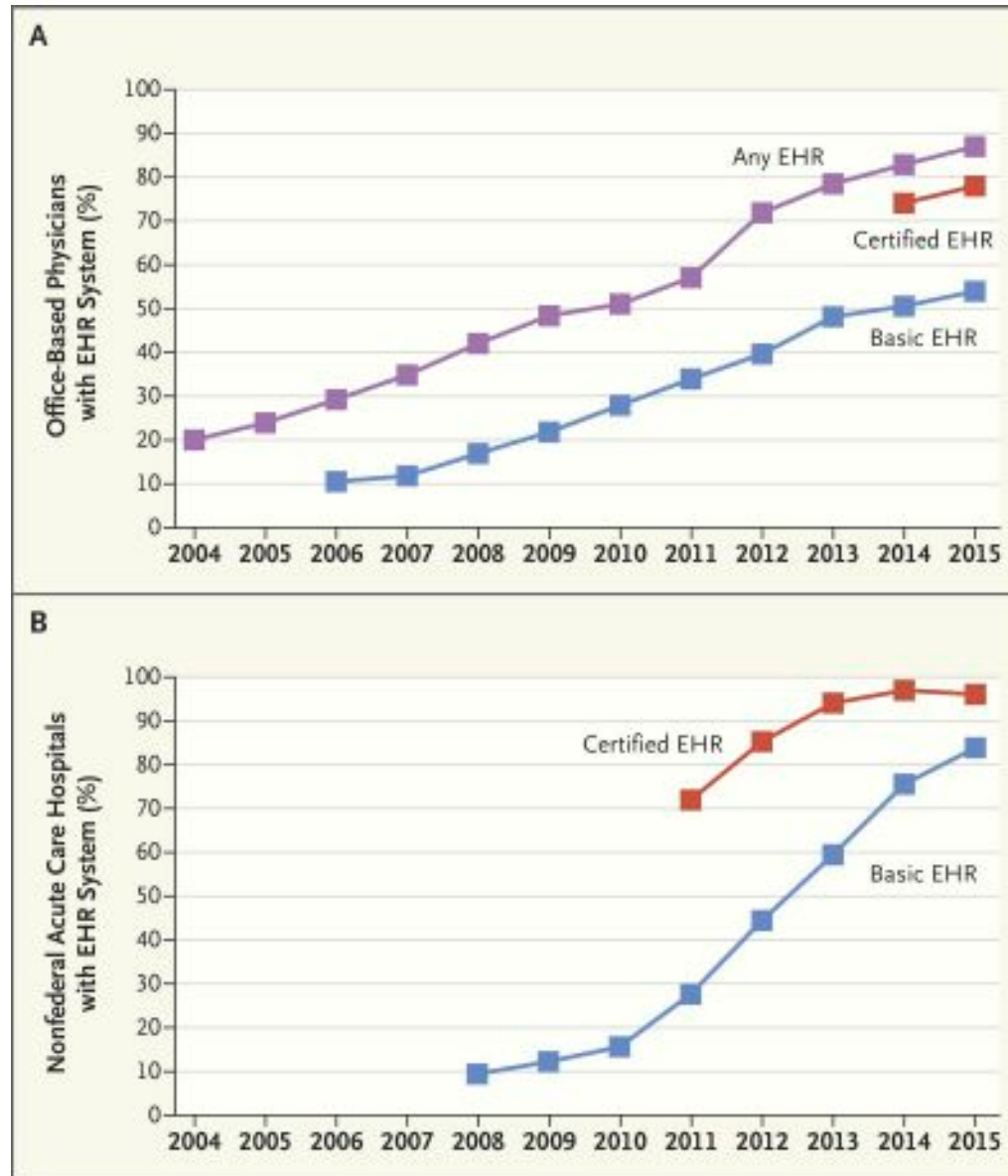
Money Talks ...



Graph Source: HIMSS Analytics Survey, September 2010, http://www.himss.org/content/files/vantagepoint/vantagepoint_201009.asp?pg=1



Affect of Office of National Coordinator on EHR adoption



Three Major Leaps Dependent on the Digital Revolution

- Value Over Volume

- Data

- Big Data

- Population Health

- Universal Adoption of Electronic Health Records

$$V = \frac{Q + S}{C}$$

(VALUE) = (QUALITY) + (SERVICE) / (COST)



- Consumerism

- Quality and Cost Data Readily Available on the Internet

- Social Media

- Non-Traditional Healthcare Encounters and Patient Experience



The Rise of Healthcare Transparency

Consumer Driven Health Care

- Use of The Internet for Health Information
- Use of the Internet for Public Reporting
- The ability to judge care, costs and satisfaction from outside the organization by viewing published elements that paint a picture of supposed competency
- Transparent data and information allows consumers, providers and stakeholders to compare and make informed decisions



UC San Diego Health

Photo
Credit: 3



Home ▶ Directory of HMOs, PPOs and Medical Groups ▶

Medical Group Medicare Report Card

UC San Diego Health 2018-19 Edition

MEDICARE ADVANTAGE MEDICAL CARE RATINGS

QUALITY OF MEDICAL CARE	★★★★★ VERY GOOD
Checking if Weight Could Cause Health Problems	★★★★★ EXCELLENT
Breast Cancer Screening	★★★★★ EXCELLENT
Colorectal Cancer Screening	★★★★★ EXCELLENT
Controlling Blood Sugar For Diabetes Patients	★★★★★ EXCELLENT
Testing Kidney Function For Diabetes Patients	★★★★★ EXCELLENT
Eye Exam for Diabetes Patients	★★★★☆ VERY GOOD
Number of Days Diabetes Medication was Filled	★★★★★ EXCELLENT
Treating Arthritis with Medications	Too few patients in sample to report
Managing Osteoporosis in Women after a Fracture	Too few patients in sample to report
Number of Days High Blood Pressure Medications were Filled	★★★★★ EXCELLENT
Number of Days High Cholesterol Medications were Filled	★★★★★ EXCELLENT
Preventing Hospital Readmission After Discharge	★★★☆☆ FAIR

Why were these topics selected?

Commercial Report Card Ranking: Quality = 4 Stars | Experience = 5 Stars

	QUALITY OF MEDICAL CARE	PATIENTS RATE OVERALL EXPERIENCE
<input type="checkbox"/> Sharp Fees-Stealy Medical Group	★★★★☆ VERY GOOD	★★★★★ EXCELLENT
<input type="checkbox"/> UC San Diego Health	★★★★☆ VERY GOOD	★★★★★ EXCELLENT
<input type="checkbox"/> Arch Health Medical Group	★★★☆☆ GOOD	★★★★★ EXCELLENT
<input type="checkbox"/> Mercy Physicians Medical Group	★★★☆☆ GOOD	★★★★★ EXCELLENT
<input type="checkbox"/> Rady Children's Health Network	★★★☆☆ GOOD	★★★★★ EXCELLENT
<input type="checkbox"/> Scripps Clinic Medical Group	★★★☆☆ GOOD	★★★★★ EXCELLENT
<input type="checkbox"/> Scripps Coastal Medical Center	★★★☆☆ GOOD	★★★★★ EXCELLENT
<input type="checkbox"/> Greater Tri-Cities IPA	★★☆☆☆ FAIR	★★★★★ EXCELLENT
<input type="checkbox"/> Mid-County Physicians Medical Group	★★☆☆☆ FAIR	★★★★★ EXCELLENT
<input type="checkbox"/> Kaiser Permanente - Southern California Permanente Medical Group - San Diego	★★★★☆ VERY GOOD	★★★★☆ VERY GOOD
<input type="checkbox"/> Primary Care Associates Medical Group	★★★☆☆ GOOD	★★★★☆ VERY GOOD
<input type="checkbox"/> Sharp Community Medical Group IPA	★★★☆☆ GOOD	★★★★☆ VERY GOOD
<input type="checkbox"/> Scripps Physicians Medical Group	★★☆☆☆ FAIR	★★★★☆ VERY GOOD

QUALITY OF MEDICAL CARE
Select a topic for more ratings

- ▶ Asthma Care
- ▶ Preventive Screenings
- ▶ Heart Care
- ▶ Diabetes Care
- ▶ Treating Children: Getting the Right Care
- ▶ Appropriate Use of Tests, Treatments and Procedures

Additional Clinical Measures

- ▶ Tracking Patients on Long-Term Medication

PATIENTS RATE OVERALL EXPERIENCE
Select a topic for more ratings

- ▶ Rating of Doctor and Care
- ▶ Communicating with Patients
- ▶ Coordinating Patient Care
- ▶ Health Promotion
- ▶ Helpful Office Staff
- ▶ Timely Care and Service

Principles of Volume to Value

Evolution of UCSD Health Care Delivery	
Volume	Value
Facility and/or Procedure Cost	Total Cost of Care
Performance: Margin per Service or Procedure	Performance: Margin per Covered/Attributed Life
Acute Intervention	Proactive Intervention and Prevention
Subjective (i.e. based on experience)	Objective (i.e. base on data insights)
Disease/ Condition-centric	Consumer-centric
Poor Patient Experience	Enhanced Patient & Family Experience
Process Quality measures	Outcome Quality Measures
Limited Patient/ Caregiver Engagement	Increase Self-management
Facility-centric	Home-centric
Care Fragmentations	Care Integration
Uncoordinated Care Delivery	Coordinated Care Delivery
Siloed	Across the Continuum of Care
Governance is Facility/ Practice Plan Centric	Broad governance with system results focus

Traditionally

Fee-for-service payment

**Focus on QUANTITY
of services**

Length-of-stay reduction

Index admission focus

**Individual patient
utilization and costs**



Reformed

**Pay-for-performance, at-risk,
shared savings, penalties**

**Focus on QUALITY
of services**

**Balancing length-of-stay and
readmission reductions**

**Episode of care,
long-term focus**

**Population utilization
and costs**

PATIENT CARE

Provide patients clinical-grade feedback on their condition, and instructions on what to do next

DATA THAT IS MEASURABLE

Patient outcomes, engagement and improvements

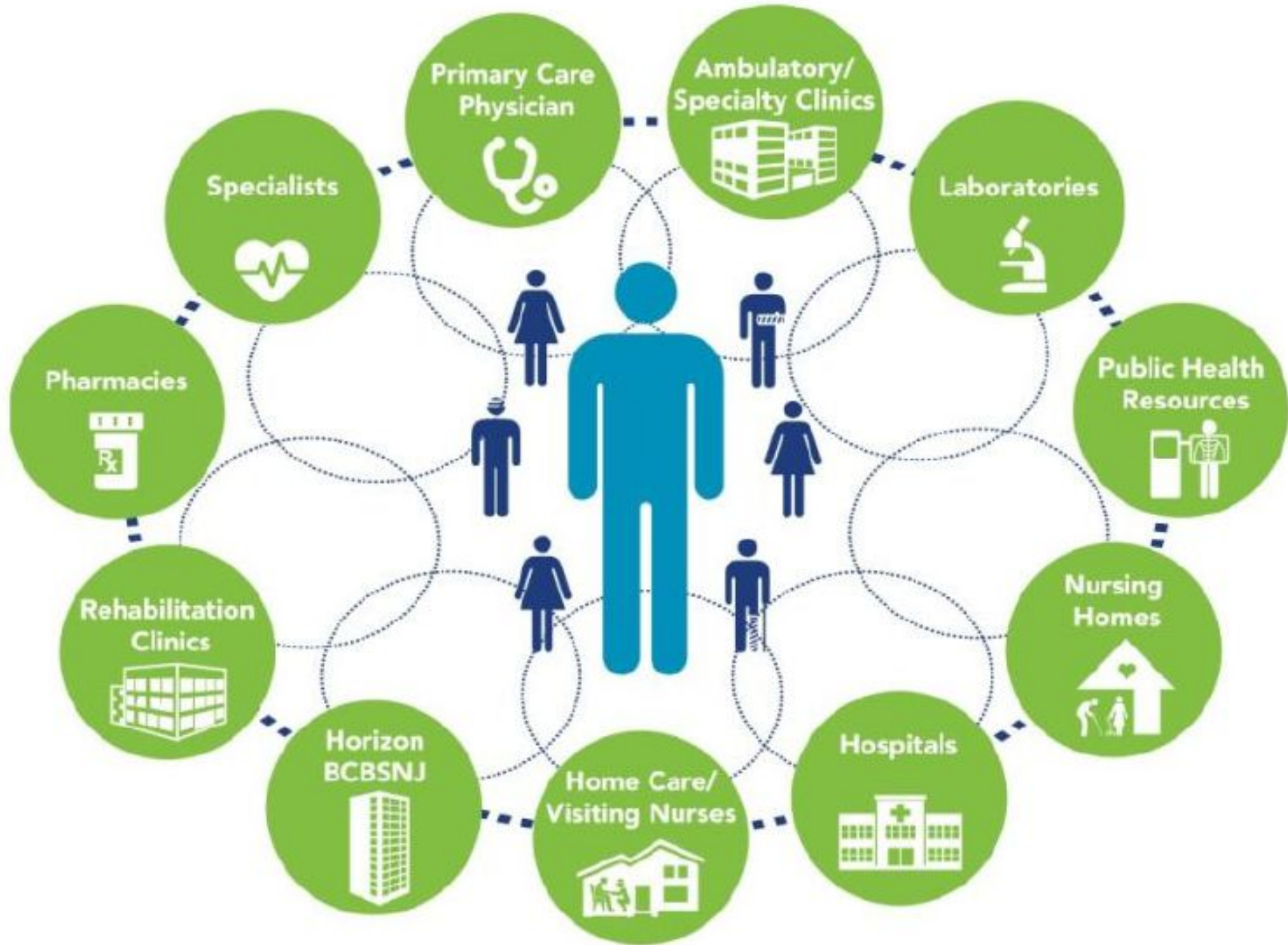
VALUE-BASED HEALTHCARE

COORDINATION OF SERVICE + CARE

Provides close coordination of services, based on 24/7 real-time data

COMMUNICATION + COLLABORATION

Foster proactive collaboration between healthcare providers and patients



Value-Based Health Care Benefits

PATIENTS

Lower Costs
& better
outcomes

PROVIDERS

Higher Patient
Satisfaction
Rates &
Better Care
Efficiencies

PAYERS

Stronger Cost
Controls &
Reduced Risks

SUPPLIERS

Alignment of
Prices with
Patient
Outcomes

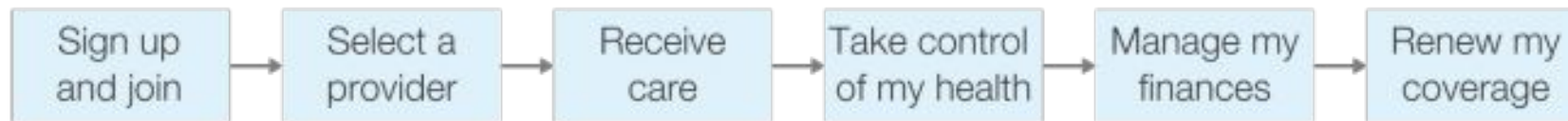
SOCIETY

Reduced
Healthcare
Spending &
Better Overall
Health

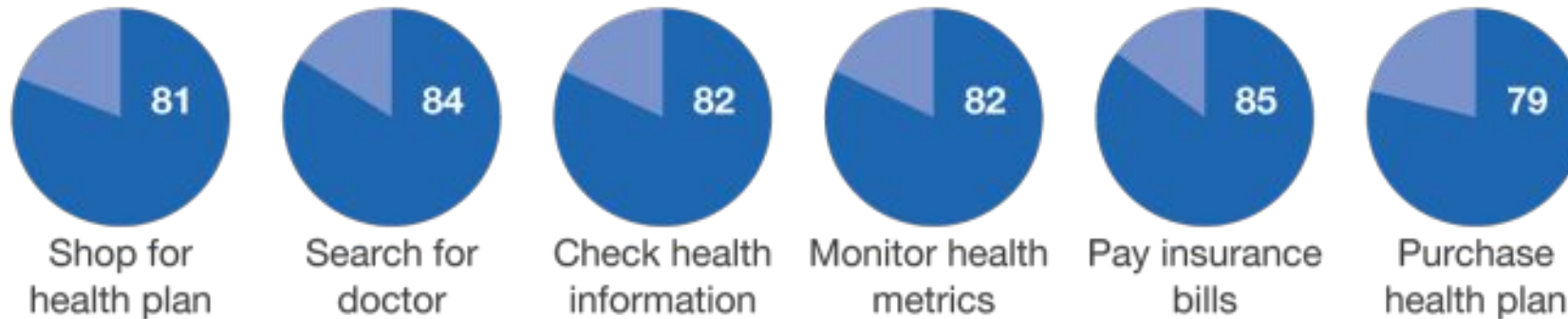
Many consumers view digital solutions as the most effective way to meet healthcare needs

% of respondents who view digital solutions as the most effective way to perform healthcare activities

Consumer journeys



Example of a step within each journey



UC San Diego Telehealth Program

Provider to Patient

- MyChart Video Visits integrated with Vidyo
- Mobile Device Strategy
- Favorable reimbursement

Provider to Provider

- UCSD Providers to Spoke Sites
- Cisco Telepresence & iPad carts
- 4 active specialties
- International growth
- Contractual reimbursement

Provider to Assisted Living Residents

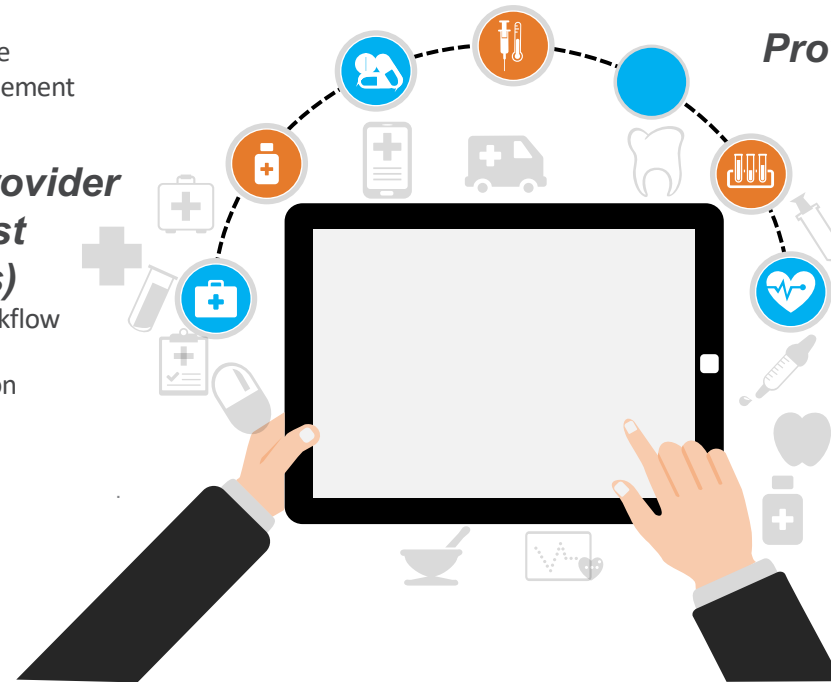
- iPad carts w/TytoCare
- 4 specialty services
- Grant funded

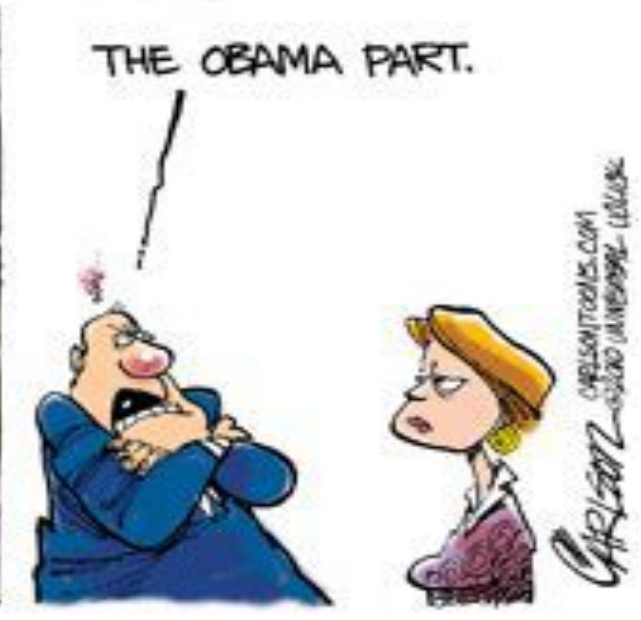
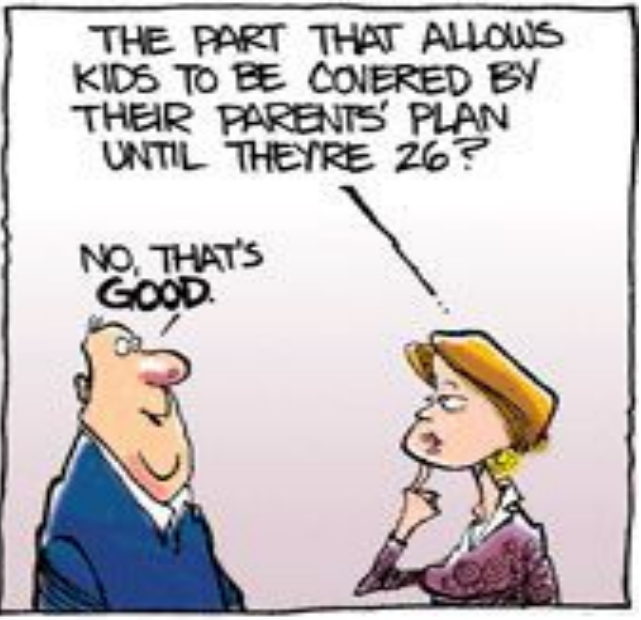
Provider to Consumer

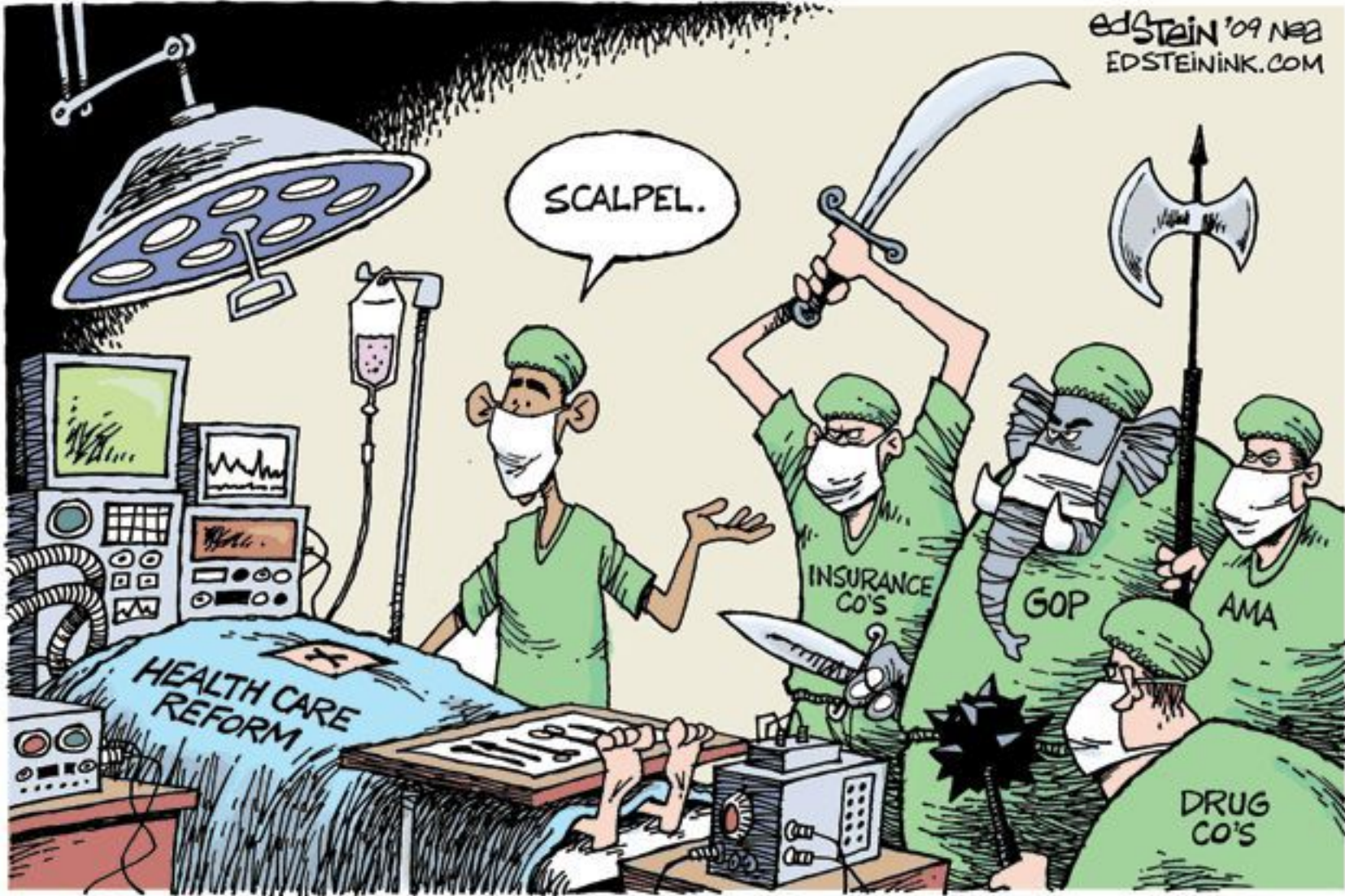
- Express Care MyChart Video Visits using Open Scheduling
- Consumer imaging review requests
- Increasing marketing strategy
- Payor reimbursement and cash payments

Primary Care Provider to Specialist (eConsults)

- Epic Inbasket Workflow
- 18 Specialties
- Increasing adoption
- Internal and gov't reimbursement







AMERICA'S BITTER PILL



MONEY, POLITICS, BACKROOM DEALS,
AND THE FIGHT TO FIX OUR
BROKEN HEALTHCARE SYSTEM



STEVEN BRILL