

Health Services Research: Influence in the United States



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Topics

- Current challenges in US healthcare
- What does health services research contribute to policy?
- How has it influenced US health policy?
- What will policy demand of health services research in the near future?

American Medicine

The good, ...

- Unprecedented access to live-saving health care
- World-class academic centers and training programs
- Fruitful specialization
 - Advances in biomedical science
 - New diagnostic tests, treatments, and procedures



American Medicine

The good, the bad, ...

- Quality and safety of care are not optimal
- Disparities in care based on sociodemographic characteristics
- Rising number of uninsured
- Shrinking capacity to provide primary care
- Poor coordination of care among professionals and settings



American Medicine: The good, the bad, and the costly

- Relentless growth in per capita spending
 - New technologies
 - Increasing volume and price of services
 - Aging, obesity
- Public insurance straining federal, state, and local budgets
- Few gains in labor productivity in the health care sector



Confronting economic turmoil: The last worldwide financial slump

“It is common sense to take a method and try it: If it fails, admit it frankly and try another. But above all, try something.”

President Franklin Delano Roosevelt
Address to Oglethorpe University, May 1932



What is Health Services Research?

The multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect access to health care, the quality and cost of health care, and ultimately our health and well-being.

How do health services researchers influence health policy?

1. Observe and explain

- What is the current situation? Why is it so?

2. Innovate

- What has not yet been tried?

3. Experiment

- Do innovations work?

4. Evaluate

- Which programs or initiatives are effective?

Observations sometimes alter fundamental beliefs



SIDEREUS NUNCIUS

75

On the third, at the seventh hour, the stars were arranged in this sequence. The eastern one was 1 minute, 30 seconds from Jupiter; the closest western one 2 minutes; and the other western one was

East * ○ * * West

10 minutes removed from this one. They were absolutely on the same straight line and of equal magnitude.

On the fourth, at the second hour, there were four stars around Jupiter, two to the east and two to the west, and arranged precisely

East * * ○ * * West

on a straight line, as in the adjoining figure. The easternmost was distant 3 minutes from the next one, while this one was 40 seconds from Jupiter; Jupiter was 4 minutes from the nearest western one, and this one 6 minutes from the westernmost one. Their magnitudes were nearly equal; the one closest to Jupiter appeared a little smaller than the rest. But at the seventh hour the eastern stars were only 30 seconds apart. Jupiter was 2 minutes from the nearer eastern

East ** ○ * * West

one, while he was 4 minutes from the next western one, and this one was 3 minutes from the westernmost one. They were all equal and extended on the same straight line along the ecliptic.

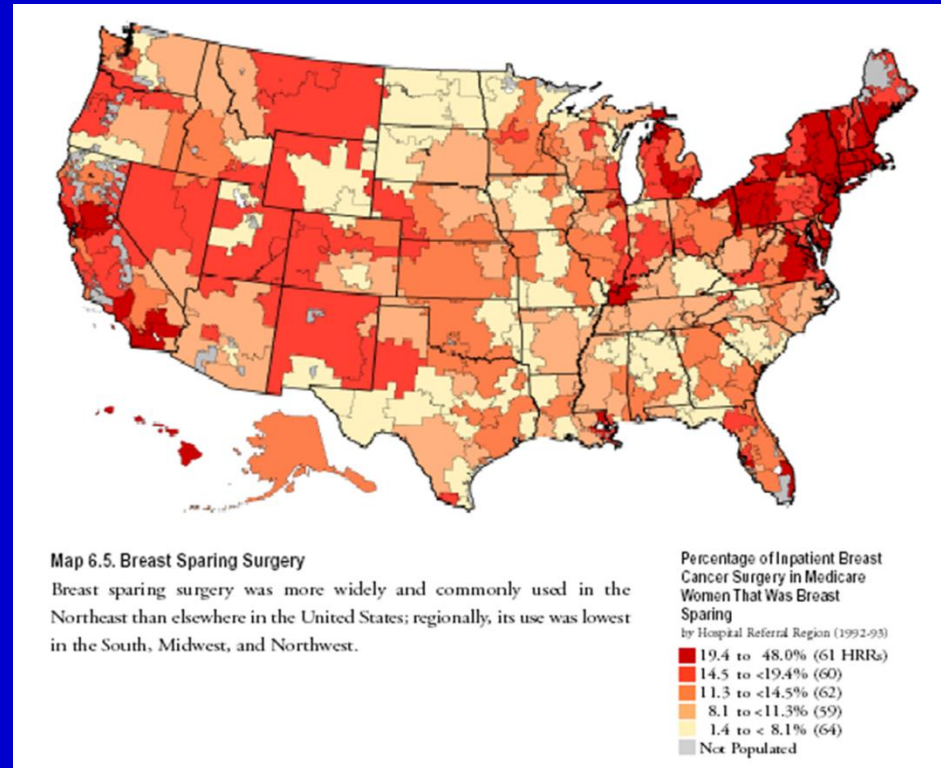
On the fifth, the sky was cloudy.

On the sixth, only two stars appeared flanking Jupiter, as is seen

1. Observed Rates of Procedure Use in US Health Care

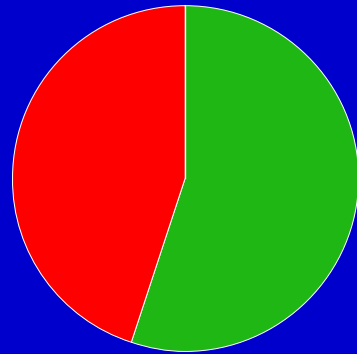
Table 3. Variation in number of surgical procedures performed per 10,000 persons for the 13 Vermont hospital service areas and comparison populations, Vermont, 1969. (Rates adjusted to Vermont age composition.)

Surgical procedure	Lowest two areas		Entire state	Highest two areas	
Tonsillectomy	13	32	43	85	151
Appendectomy	10	15	18	27	32
Hemorrhoidectomy	2	4	6	9	10
Males					
Hernioplasty	29	38	41	47	48
Prostatectomy	11	13	20	28	38
Females					
Cholecystectomy	17	19	27	46	57
Hysterectomy	20	22	30	34	60
Mastectomy	12	14	18	28	33
Dilation and curettage	30	42	55	108	141
Varicose veins	6	7	12	24	28



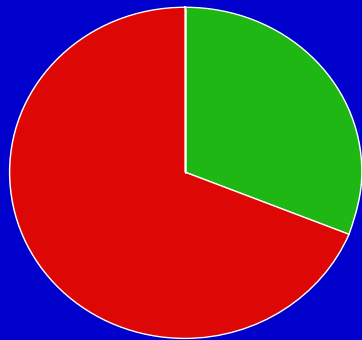
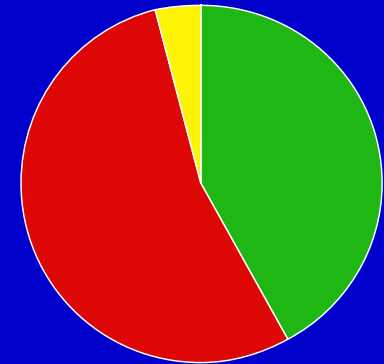
Wennberg J, Science, 1969

Observed Quality of U.S. Health Care



All Adults (55%)

Pediatric (47%)



Geriatric Conditions (32%)

GREEN = Care that meets quality standards

McGlynn et al, 2003
Mangione-Smith et al., 2007

Wenger, et al., Ann Int Med, 2003

Explanations can be elusive: Proportion of inappropriate use does not explain geographic variation

		Low Use	Medium Use	High Use	All Sites
	<i>Range of Use*</i>	<i>% Inappropriate</i>			
Cor Arterio	22-50	15	17	18	17
CEA	6-23	29	40	30	32
EGD	102-149	15	19	18	17

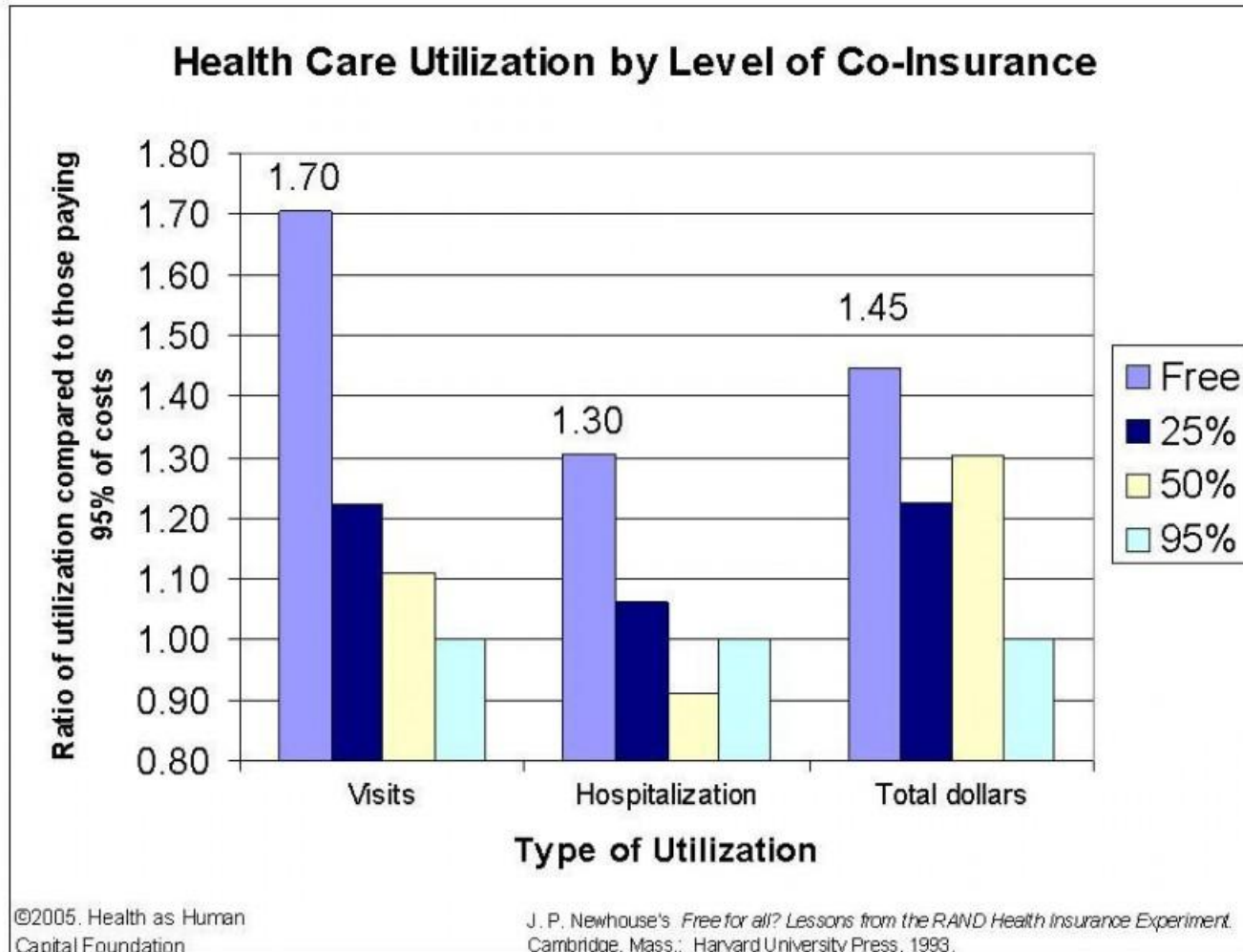
* per 10,000

2. Innovation in health services

- New tools to support health care decisions
 - Clinical practice guidelines, decision aids
 - Measurement, feedback, and reporting
- New delivery models
 - Chronic care model, patient-centered medical home
- New payment models
 - Pay-for-performance, bundled payment
- New methods for quality improvement
 - Lean management, learning collaboratives,

3. Experiments:

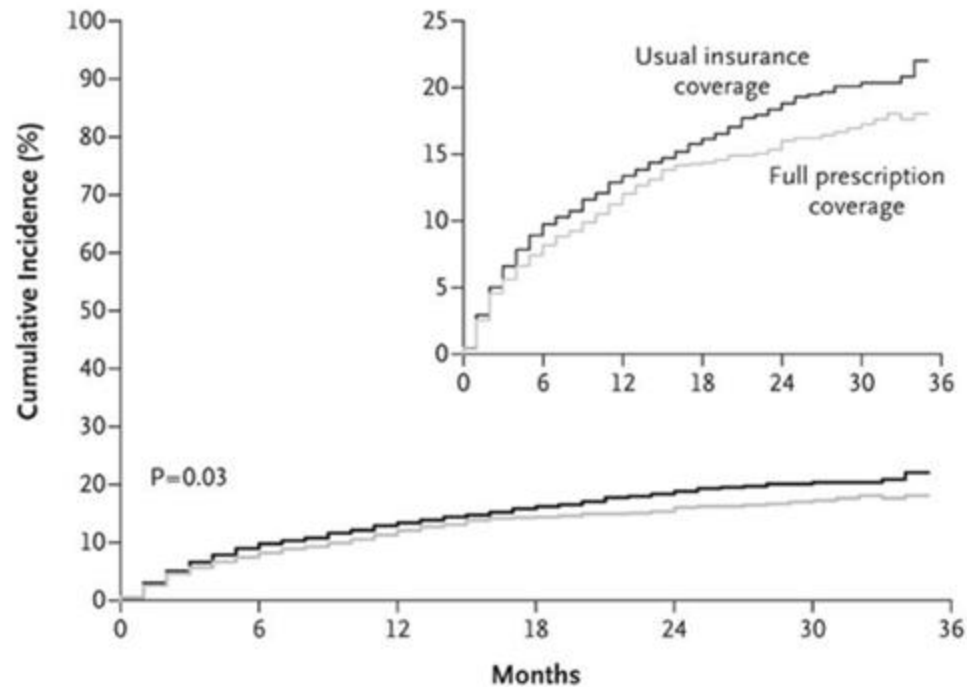
Large-scale policy trials are rare in the US



3. Experiments:

Full prescription coverage improved health outcomes after heart attack

B First Fatal or Nonfatal Vascular Event



No. at Risk

Usual insurance coverage	3010	2361	1652	1099	662	379	131
Full prescription coverage	2845	2295	1572	1013	625	340	135

Small experiments: Many flavors



4. Evaluation

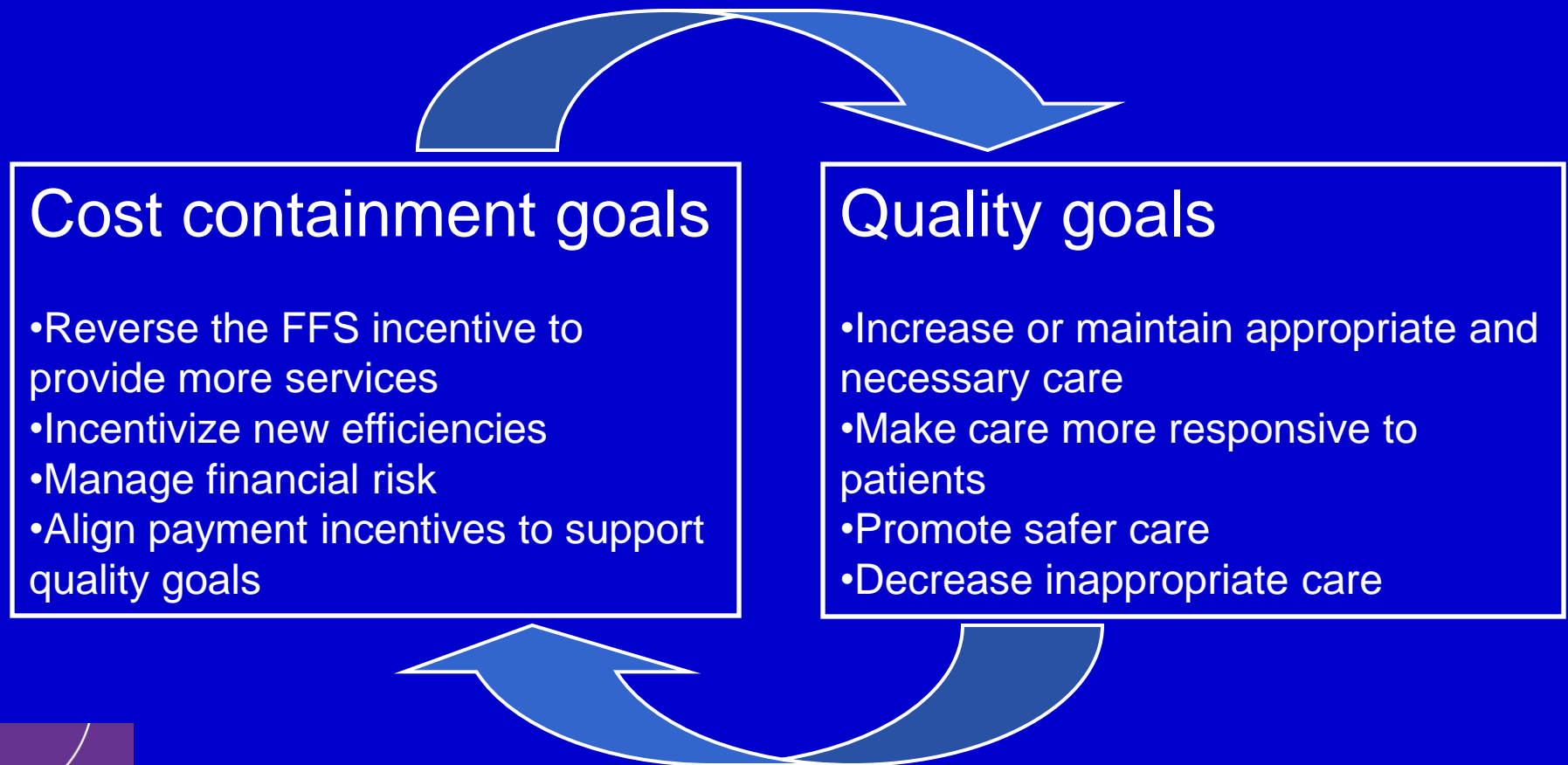
- Assessing the implementation and spread of policies, programs, technologies, ...
 - Which approaches are effective at improving health outcomes and reduce costs?
 - How difficult/costly was it to introduce and spread a new approach?
 - Under what circumstances does an approach work?

US Affordable Care Act of 2010: Health Services Research in Action



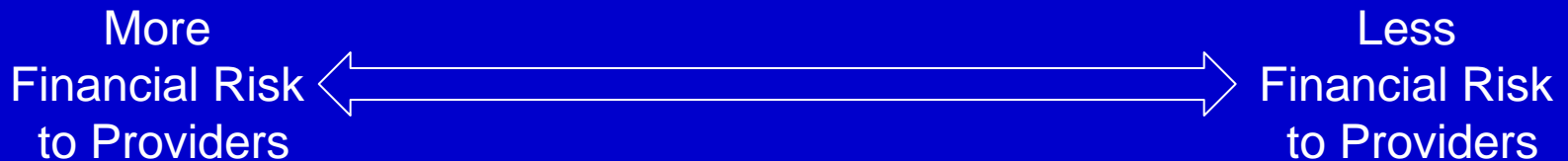
How Does Affordable Care Act Drive High Quality and Lower Costs?

Performance Measurement



Payment Reform Models: Evidence for Effectiveness?

Global Payment	Medical Home	Payment for coordination
ACO-Shared Savings	Bundled payment	Hospital P4P
Hospital-Physician gainsharing	Readmissions	Physician P4P
Hospital-acquired conditions		Payment for shared decisionmaking



Evaluation of Bundled Payment: Medicare Hospital Prospective Payment, 1982

- Substantial savings (~\$18 billion first 5 years)
- Spending growth fell from 7% per year before IPPS to 4% per year after
- Total hospital days per Medicare beneficiary declined 21.8% in first 2 years
- Quality stable or improved (mortality, readmissions, process measures)
- Hospital profitability declined

PROMETHEUS Bundled Payment Innovation & Demonstration, 2009

- Bundled payment based on pre-defined clinical episode
 - “evidence-informed case rates”
- 21 bundles
 - chronic and acute conditions, procedures
- Attempts to separate “probability risk” (random events) from “technical risk” (potentially avoidable complications)
 - Insure probability risk but not technical risk

PROMETHEUS designers anticipated feasibility challenges

- Defining the services included in a bundle
- Defining the payment method
- Implementing quality measurement
- Determining physician and hospital accountability
- Engaging physicians
- Implementing care redesign

PROMETHEUS Pilot Site Experience (2008-2011)

- 5 pilot sites
 - 2 dropped out before starting
 - Financial cutbacks
 - Limited opportunity for improvement (AMI care)
 - None of the five were able to implement contracts over 2 years

PROMETHEUS Lessons

- PROMETHEUS software errors
- Terminology barriers
- Physician skepticism about achievable goals
- Unresolved disagreements about payment incentive model
- Limited investment for redesigning care

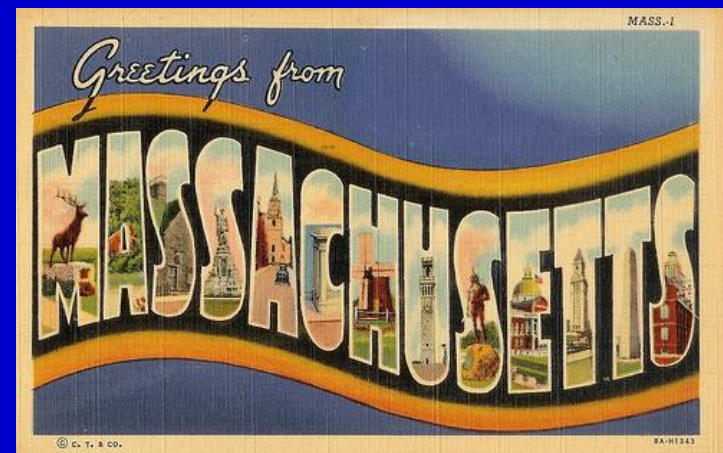
Hussey P et al, Health Affairs, 2011

Research and Policy: Prometheus' Other Lesson



Global Payment/Mixed Model: BCBSMA Alternative Quality Contract (2009 – 2014)

- Combines global payment and pay-for-performance
 - 5-year contract
 - Includes downside risk
 - PCP designation mandatory (referral authorization)
 - FFS claims with year-end reconciliation
- P4P up to 10% of budget (pre-set thresholds)
- Insurer assists with regular reports on spending, utilization, and quality

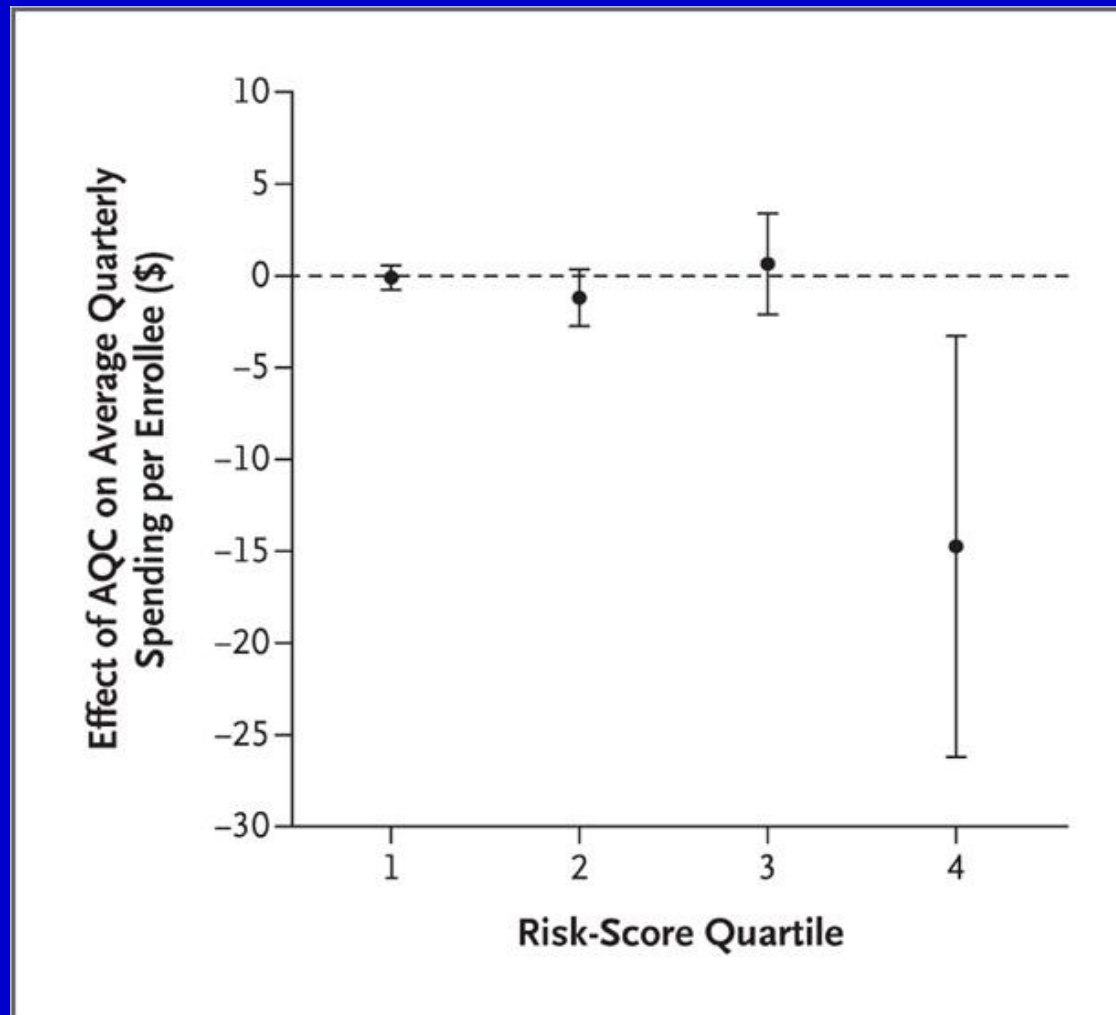


Change in Average Health Care Spending per Member per Quarter in the Intervention and Control Groups

	Intervention (change)	Control (change)	Difference	
Spending Category		U.S. \$		P-value
Total quarterly	53	69	-15.51	0.009
E and M	25	27	-2.22	0.002
Procedures	10	16	-5.96	0.001
Imaging	8	11	-3.47	<0.001
Test	7	11	-3.72	<0.001
Outpatient facility	16	30	-14.50	<0.001

Non-significant spending changes: Inpatient, outpatient professional services, ancillary services

Difference-in-Differences Estimates of the Effect of the Alternative Quality Contract (AQC) on Average Health Care Spending.



Song Z et al. N Engl J Med 2011;365:909-918.

Alternative Quality Contract: Initial Lessons

- AQC contract associated with modestly lower spending in year 1
- Savings primarily among high-risk enrollees
- Savings generated through competition-- patients referred to organizations with lower fees
- Improvement seen on most quality measures

Song Z et al. N Engl J Med 2011;365:909-918

Recent challenges to US health services researchers

- Develop “rapid-cycle” evaluation methods
- Engage patients and the public in research
 - US Patient-Centered Outcomes Research Institute
- Develop collaboration between technology innovators and researchers/evaluators
- Develop closer working relationships with program sponsors and implementers (but not too close!)

Policymakers to Health Services Researchers: Less Observation, More Problem-solving!

- Figure out what to try
- “If it fails, admit it frankly”
- “try something else”



President Franklin Delano Roosevelt
Address to Oglethorpe University, May 1932