

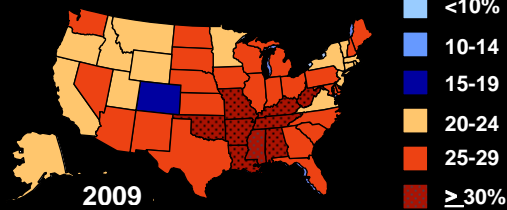
Achieving A Sustainable Health Care System

Overcoming the Tragedy of the Commons

Elliott S. Fisher, MD, MPH

James W. Squires Professor of Medicine
Dartmouth Medical School

Director, Center for Population Health
Director for Population Health and Policy
The Dartmouth Institute for Health Policy
and Clinical Practice



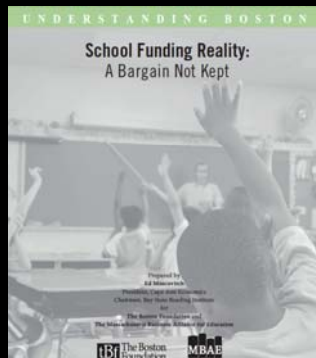
Percent Obese (BMI over 30)

ORIGINAL CONTRIBUTION

Hospital Nurse Staffing and Patient Mortality, Nurse Burnout, and Job Dissatisfaction

Linda H. Aiken, PhD, RN

Context: The worsening hospital nurse shortage

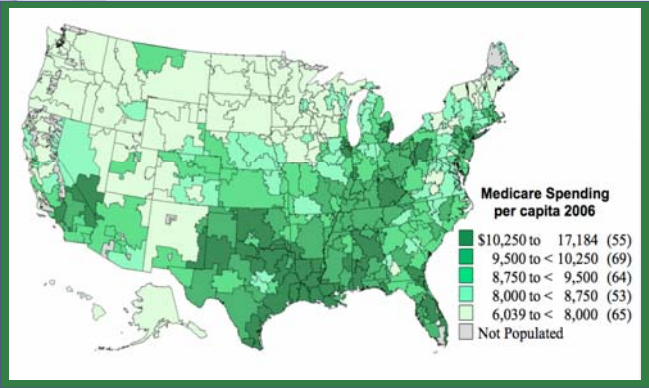




Toward a sustainable health system
Health Care Reform: Half full? Half empty?



1. **US healthcare: what have we learned?**
2. **Opportunities and Challenges**
3. **Insights from outside health care**
4. **Half full, Half empty?**



What have we learned?

Variations in Spending: Is More Always Better?

Health implications of regional variations in spending

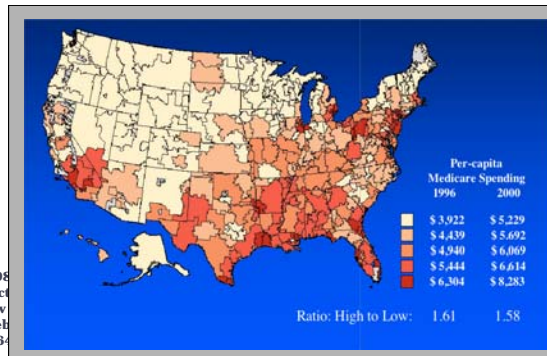
Initial study: About 1 million Medicare beneficiaries with AMI, colon cancer and hip fracture

Compared content, quality and outcomes across high and low spending regions

Per-capita Spending

Low (pale): \$3,992
High (red): \$6,304

Difference: \$2,312
(61% higher)



- (1) Fisher et al. Ann Intern Med: 2003; 138: 273-298
- (2) Baicker et al. Health Affairs web exclusives, Oct
- (3) Fisher et al. Health Affairs, web exclusives, Nov
- (4) Skinner et al. Health Affairs web exclusives, Feb
- (5) Sirovich et al Ann Intern Med: 2006; 144: 641-646
- (6) Fowler et al. JAMA: 299: 2406-2412

What have we learned?

Variations in Spending: Is More Always Better?

Effective Care: *benefit clear for all*

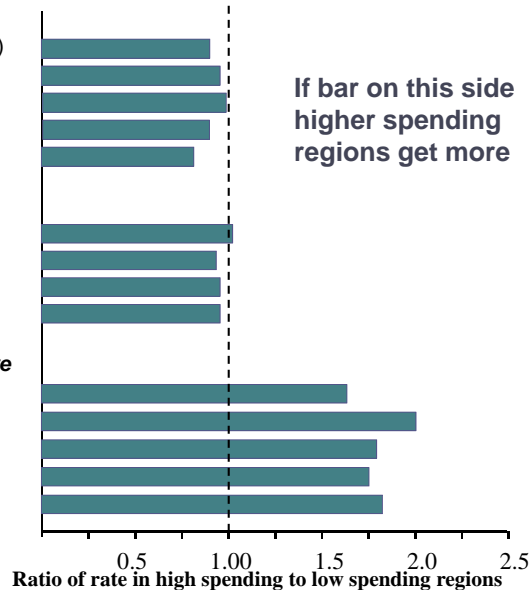
- Reperfusion in 12 hours (Heart attack)
- Aspirin at admission (Heart attack)
- Mammogram, Women 65-69
- Pap Smear, Women 65+
- Pneumococcal Immunization (ever)

Preference Sensitive: *values matter*

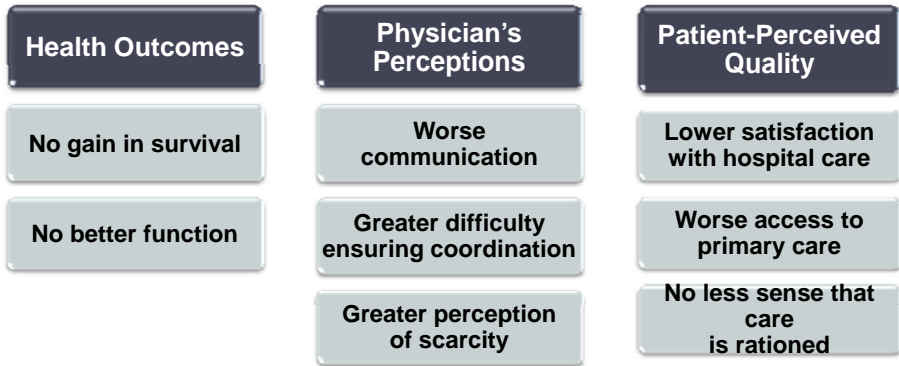
- Total Hip Replacement
- Total Knee Replacement
- Back Surgery
- CABG following heart attack

Supply sensitive: *often avoidable care*

- Total Inpatient Days
- Inpatient Days in ICU or CCU
- Evaluation and Management (visits)
- Imaging
- Diagnostic Tests

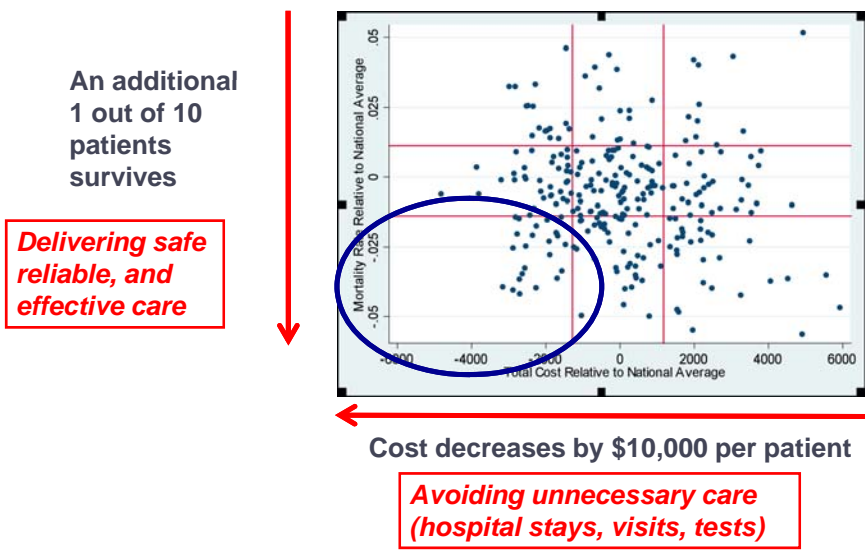


What have we learned?
 Variations in Spending: Is More Always Better?



- (1) Fisher et al. Ann Intern Med: 2003; 138: 273-298
- (2) Baicker et al. Health Affairs web exclusives, October 7, 2004
- (3) Fisher et al. Health Affairs, web exclusives, Nov 16, 2005
- (4) Skinner et al. Health Affairs web exclusives, Feb 7, 2006
- (5) Sirovich et al Ann Intern Med: 2006; 144: 641-649
- (6) Fowler et al. JAMA: 299: 2406-2412

What have we learned?
 Spending and Quality – are results of different processes



What have we learned? Variations in Spending and Quality

Early work: more is not necessarily better

Why the variation?

- Not preferences, malpractice, or payment system (only)
- Capacity important, but explains less than half of the spending differences
- What about clinical judgment?

What have we learned? Variations in Spending and Quality

Early work: more is not necessarily better

Why the variation?

- Not preferences, malpractice, or payment system (only)
- Capacity important, but explains less than half of the spending differences
- What about clinical judgment?

Evidence-based decisions:

Doctors sometimes disagreed – but was unrelated to regional differences

Gray area decisions (more judgment required):

For a patient with well-controlled high blood pressure and no other medical problems, when would you schedule the next visit?

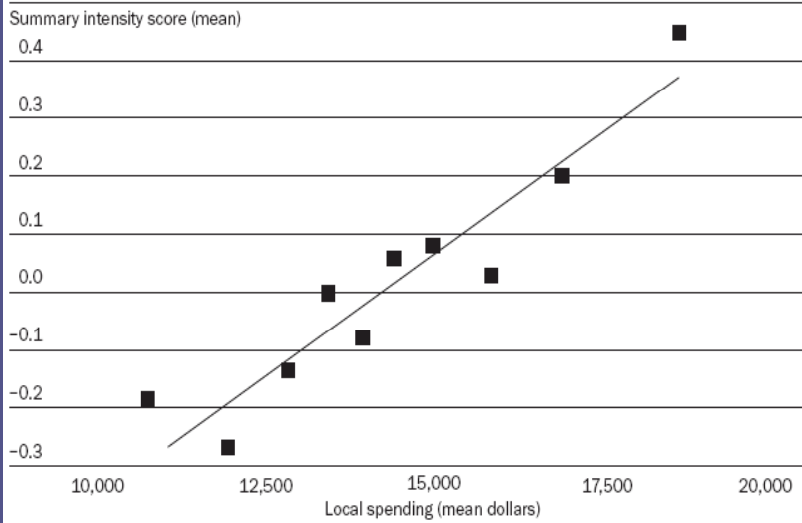
Other “guideline free” decisions:

Referral to specialist	reflux, angina
Diagnostic testing	cardiac ultrasound, chest CT
Hospital admission	angina, heart failure
Admission to ICU	heart failure
Referral to palliative care	heart failure

What have we learned?

EXHIBIT 5

Association Between Physician Practice Intensity And Local Health Care Spending



What have we learned?

Variations in Spending and Quality

Early work: more is not necessarily better

Why the variation?

Not preferences, malpractice, or payment system (only)

Capacity important, but explains less than half of the spending differences

Judgment – in “gray area” decisions -- is critical

Why clustered regionally?

“...a culture that focuses on the wellbeing of the community, not just the financial health of our system.”

Jeff Thompson, MD
CEO Gunderson-Lutheran
La Crosse WI

“Here ... a medical community came to treat patients the way subprime mortgage lenders treated home buyers: as profit centers.”

Atul Gawande

What have we learned?

Variations in Spending and Quality

Early work: more is not necessarily better

Why the variation?

Recent insights: prices matter – and are under provider control

Chernew: Under and over 65 utilization correlated, but not spending
Prices are important determinants of spending in under 65

MedPAC: Hospitals under pressure to keep costs down do so
There are many low cost, high quality hospitals
It is possible to reduce unit costs and thus prices



What have we learned?

The underpinnings of accountable care

Underlying problem

Confusion about aims: is it about money or something more?

Absent or poor data leaves practice unexamined and unable to improve; choices uninformed by evidence

Flawed conceptual model. Health is produced by face-to-face visits with physicians. More is always better.

Wrong incentives reinforce model, reward fragmentation, induce more care and entrepreneurial behavior.

Key principles

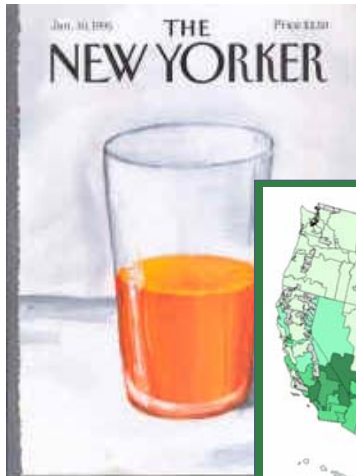
Clarify aims: Better health, better care
lower costs – for patients and communities

Better information that engages physicians, supports improvement; informs consumers and patients

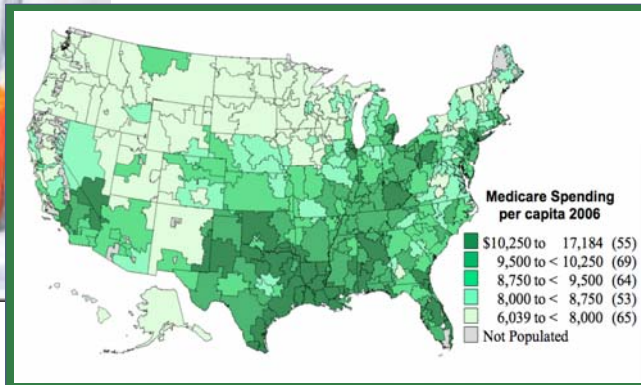
New model: It's the system. Establish organizations *accountable for aims* and capable of redesigning practice, eliminating waste and managing capacity

Rethink our incentives: Realign incentives – both financial and professional – with aims.

Toward a sustainable health system
Health Care Reform: Half full? Half empty?



1. US healthcare: what have we learned?
2. Opportunities and Challenges



The current opportunity

Science of improvement has advanced

Microsystem: front-line unit where patient and family interact with clinician to produce value for a specific condition: e.g. office practice, inpatient unit,

Key elements:

Flow is clear and well defined

Microsystems are linked

Measurement is integrated

Professional work is redefined:
 Involves care and improvement

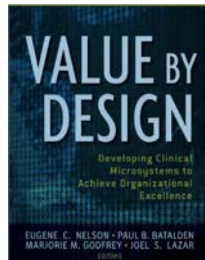


FIGURE 7-2. Percentage of Intermountain Healthcare System Diabetic Patients with Glycolated Hemoglobin (HA1C) > 9%, June 1999-March 2006

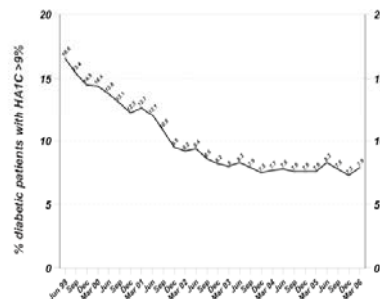


Figure 7-2. This figure represents data for more than 20,000 patients. National guidelines recommend that all patients with diabetes be managed to H1A1C levels < 9%, and, ideally, to levels < 7%.

The current opportunity

The science of improvement: achieving strategic goals



Nolan TW. Execution of Strategic Improvement Initiatives to Produce System-Level Results. Institute for Healthcare Improvement; 2007.

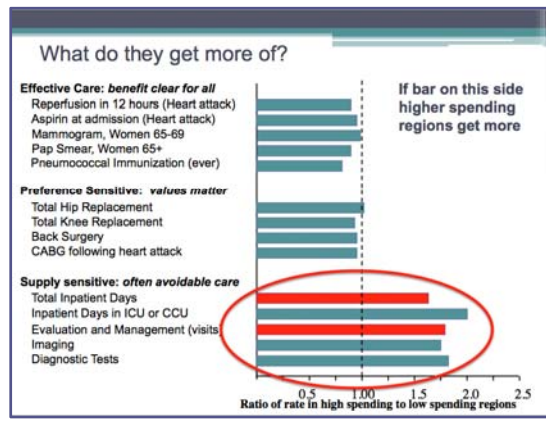
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Where Knowledge Informs Change

The current opportunity

We now know where the money is: (1) supply-sensitive care

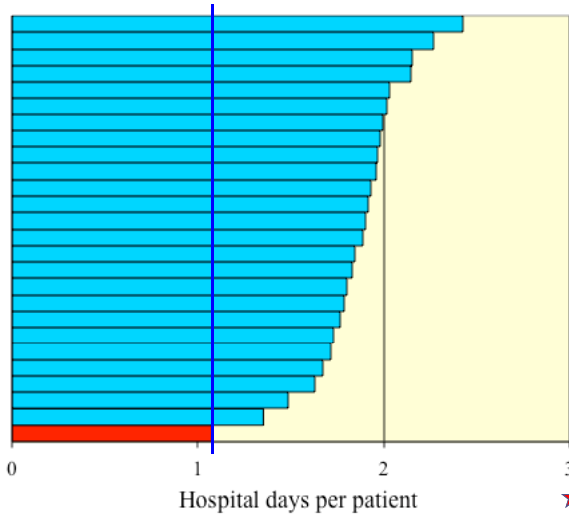
Potentially Avoidable Care

- Inpatient days
 - Avoidable hospitalizations
 - Readmissions
 - End-of-life care
- Physician visits
 - Unneeded visits
 - Specialist referrals
- Diagnostic tests
 - High cost imaging



The current opportunity

We now know where the money is



How big are the savings?
40% of inpatient days

Area	Ratio to benchmark
Portsmouth	2.25
Warren	2.11
Elyria	2.00
Lorain	1.99
Ravenna	1.88
Toledo	1.87
Lima	1.86
Middletown	1.84
Springfield	1.83
Mansfield	1.82
Youngstown	1.79
Parma/Middlebury Heights	1.78
Cleveland	1.77
Hamilton	1.75
Sandusky	1.71
Akron	1.70
Zanesfield	1.67
Dayton	1.66
Canton	1.64
Columbus	1.61
Mayfield Heights	1.59
Painesville	1.55
★ Cincinnati	1.51
Kettering	1.38
Newark	1.26
La Crosse	--

The current opportunity

We now know where the money is (2) excess unit costs

Process redesign to reduce costs

Denver Health adopted LEAN

Over 1000 staff now trained

\$70 million in savings

Making money on Medicaid



The current opportunity

A narrowing policy window

Emerging consensus

On aims: Better health, better care, lower costs

On need to measure value – across longitudinal episodes

What will happen if we do nothing?

For sure: fee increases *below* medical price inflation: -1%; -2.5% or more

Perhaps: Radical cuts in spending

Federal support for change is strong (for now)

Comparative effectiveness research

Health Information Technology (EHRs, HIE)

Coverage expansion – new paying patients (for most part)

Center for Medicare and Medicaid Innovation: *\$10b appropriated*

Commitment to value-based payment

The Policy Window

Episodes and Medical Home

Episode (Bundled) Payments

Theory: single payment for episode (e.g. total knee replacement), encourages collaboration and integration to improve care

Limitations:

Few outcome measures yet available;

Boundaries contentious;

Incentive to provide more episodes remains

Medical Home

Theory: New payment to support core (currently unfunded) primary care functions -- and support redesign of practice

Limitations:

Leaves responsibility largely on shoulders of primary care clinicians

No incentives for specialists or hospitals to support improvement

Most initiatives lacked accountability for overall costs

The Policy Window

Accountable Care Organizations

Origins

- Recognized need to establish organizational accountability for overall care and to improve coordination
- Research found that most care is provided by informal (but real) physician networks around one or more hospitals
- Physician Group Practice demonstration looked promising (but was limited)

Approach

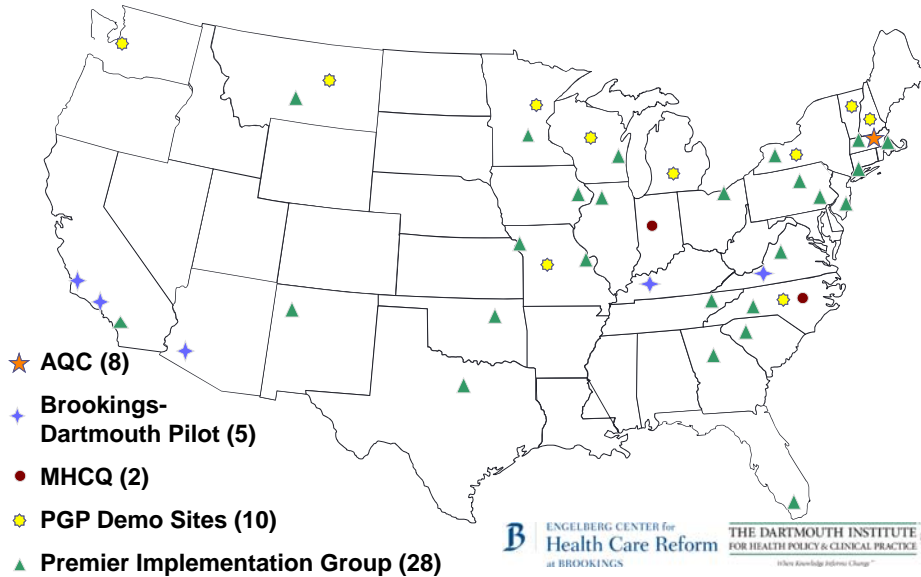
- Recognize diversity:** support provider collaboration across continuum of care as a real or virtually integrated local delivery systems
- Robust performance measurement** – to ensure focus on demonstrably improving care
- New payment models:** based on existing fee-for-service payment system, offering shared savings and graduated risk bearing
- No beneficiary “lock-in”**

Fisher et al. Creating Accountable Care Organizations, Health Affairs 26(1) 2007:w44-w57.

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Where Knowledge Informs Change

Might it work? Lots of interest

Selected ACO or ACO like payment models



Might it work?

ACO implementation – preliminary findings

Physician Group Practice Demonstration (CMS)

Providers: ten systems, diverse locations,

Results: all achieved savings, but only half received bonus payments

Brookings-Dartmouth pilot sites

Five organizations: integrated system, PHOs, IPAs

Evolutionary approach: discussions → partnership → MOU → contract

“A journey, not a destination”

Alternative Quality Contract (MA Blue Cross Blue Shield)

Global payment (limited risk) with strong quality incentives (10% income)

Technical support: data tools, feedback, collaborative improvement

Promising results: strong participation; improved quality and cost

Might it work?

Accountable care – a partnership model

Learning from experience

Risk badly managed: plans shifted risk to providers, many failed.

No measures of quality allowed some to ignore quality or stint on care

Rewards for cost cutting. Financial incentives focus on savings only.

Beneficiary lock-in created fear of stinting & poor quality (gate-keeping).

Health plans driving cost savings

New approach

Shared risk: use sound actuarial principles, sharing risk and rewards

Transparent quality measurement ensures focus on improvement

Payment for improvement. Share of savings contingent on improvement.

Freedom of choice: beneficiaries free to seek care from any provider.

Providers and plans collaborating to improve care

Might it not?

Accountable care – barriers to success

Technical challenges

Setting spending targets, attribution methods, performance measurement

Consumer fears

Reward for savings brings visions of stinting and gatekeeping

Integration could lead to greater market power

Consolidation could drive prices higher

Clinical transformation is hard

Resources are needed to support EHRs, care management, etc
Changing practice also requires will and tools

What about population health?

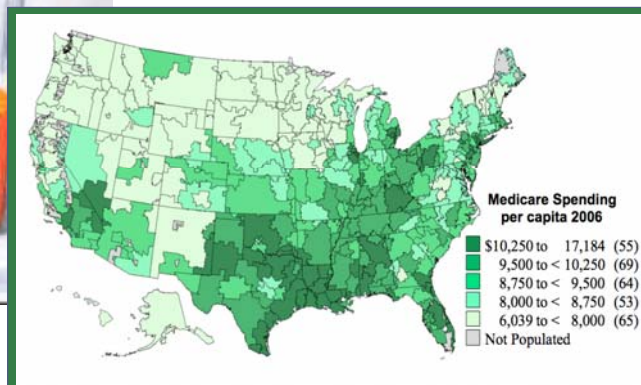
What about “business as usual” – the drive for profits in health care?

Toward a sustainable health system

Health Care Reform: Half full? Half empty?



1. US healthcare: what have we learned?
2. Opportunities and Challenges
3. Insights from outside health care



Insights from outside health care

Amory Lovins

Question: How is a kilowatt hour of electricity like a day in a hospital?

Answer: Nobody wants either.

What do we want?

Hot showers, cold beer

Good health, rapid (safe) recovery, no wasted time

End-use, least cost

Fewer power plants

Fewer hospitals, fewer waiting rooms



Insights from outside health care

Peter Senge

Systems Thinking – system dynamic models

(John Sterman, Gary Hirsch, Jack Homer)

Consider feedback loops, time lags, and unintended consequences

Healthbound: Look upstream

Even strong primary care can't hold back the rising tide of disparity driven ill-health

ReThink Health: Look downstream

Even strong primary care and better population health won't lower costs if capacity is left in place

Leadership

So... Elliott...what do you stand for?




The Tragedy of the Commons

The population problem has no technical solution; it requires a fundamental extension in morality.

Garrett Hardin

At the end of a thoughtful article on the future of nuclear war, Wiesner and York (?) concluded that: "Both sides in the arms race are . . . confronted by the

sional judgment. . . ." Whether they were right or not is not the concern of the present article. Rather, the concern here is with the important concept of a



Science

"Each man is locked into a system that compels him to increase his herd without limit – in a world that is limited. Ruin is the destination toward which all men rush..."

Garrett Hardin. *Science* 1968; 162:1243-8.

Avoiding the tragedy of the commons

Elinor Ostrom

Traditional view

- Common pool resources create social dilemmas
- Only two possible solutions:
 - Treat as private goods: create private property rights
 - Treat as public goods: government regulation

Might there be a third way?

- Are there examples of how local communities have managed to sustain a common pool resource?

Indeed



32

Beyond Markets and States: Polycentric governance of Complex Economic Systems

Elinor Ostrom: *American Economic Review*, June 2010, pp 1-33

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Where Knowledge Ignites Change

Avoiding the tragedy of the commons

Managing common pool resources

Design Principles

- Defined boundaries, known "appropriators"
- Those affected help establish rules
- Monitoring, graduated sanctions, conflict resolution mechanisms
- "Nested" structures (practices, integrated systems, regions)

Processes that contribute

- Communication
- Relationships, trust
- Recognition of shared interests
- Focus on problem solving

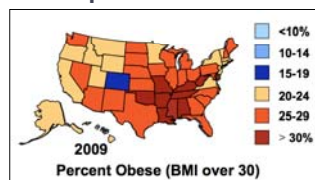
Stewardship as a core value



Stewardship

What is required to achieve a sustainable health care system?

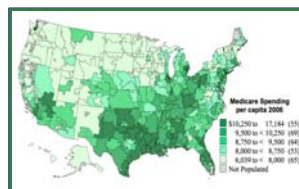
Population health



Health Care Workforce



Financial Assets (per-capita costs)



Stewardship

In clinical practices (medical homes, specialty practices)

FIGURE 7-2. Percentage of Intermountain Healthcare System Diabetic Patients with Glycolated Hemoglobin (HA1C) > 9%, June 1999-March 2006

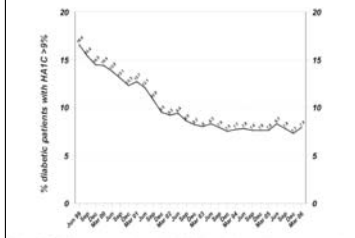
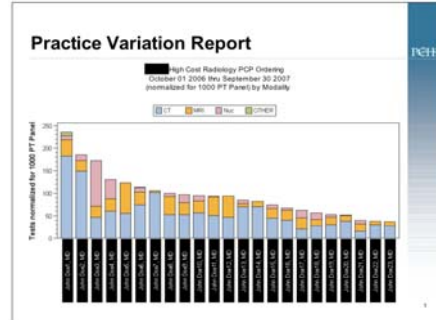


Figure 7-2. This figure represents data for more than 20,000 patients. National guidelines recommend that all patients with diabetes be managed to HA1C levels < 9%, and, ideally, to levels < 7%.



1. Ch 7. Practice-Based Learning and Improvement Second Edition. EC Nelson, PB Batalden, JS Lazar, Eds.
2. May 29, 2008 Presentation at Federal Trade Commission, Tom Lee, MD (Partners Healthcare System). used with permission
3. Reid et al. Health Affairs, June 2010

Stewardship

In clinical practices (medical homes, specialty practices)

MEDICAL HOMES: A SOLUTION?

By Robert J. Reid, Katie Coleman, Eric A. Johnson, Paul A. Fishman, Clarissa Hsu, Michael P. Soman, Claire E. Treecott, Michael Erikson, and Eric B. Larson

The Group Health Medical Home At Year Two: Cost Savings, Higher Patient Satisfaction, And Less Burnout For Providers



Stewardship

In integrated delivery systems

ACOs should seek:

- Reduce volume (e.g. avoidable hospital stays); reduce capacity
- Reduce unit costs (LEAN e.g. Denver Health, Virginia Mason)
- Refer wisely to low cost / high quality providers

Referral centers should seek

- To provide high quality, low cost episodes
- To reduce regional duplication (collaborate where possible)

Brookings-Dartmouth ACO pilots:

- Tucson: "Cash for Clunkers"
- Roanoke: Should we collaborate on specialty surgery?

Geisinger Health System:

- Medicare spending fell by 13% relative to US (92-06)
- Teachers given \$7,000 raise (over 3 years)



Stewardship

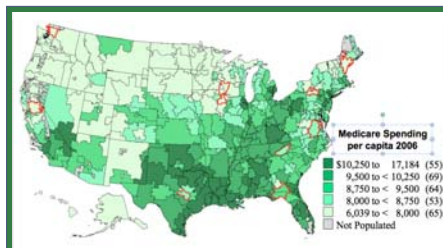
In regions: *health and health care are locally produced*

"How Will We Do That?" May 26-27, 2010

Grand Junction, CO	Newark, NJ
Tallahassee, FL	Buffalo, NY
Cedar Rapids, IA	Rochester, NY
Portland, ME	Asheville, NC
Grand Rapids, MI	Bend, OR
Cedar Rapids, IA	Everett, WA
Manchester, NH	

Key elements:

- Structure to convene key stakeholders
- Shared aims, accountable to community
- External constraint – (Everett, WA)
- Use of data to drive change
- Physicians as partners in leadership
- Reduced use of hospital (Asheville)



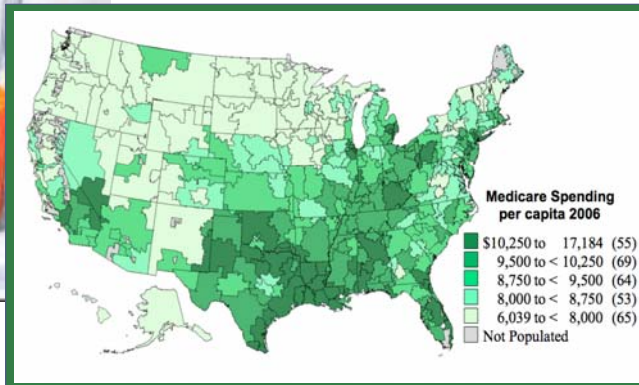
**High self-efficacy;
If not us, who?**

Toward a sustainable health system

Accountable Care: where are we now?



1. US healthcare: what have we learned?
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4. Half full, Half empty?



Health Care Reform *Half full? Half empty?*



It's up to us

Reform could easily fail

We have a choice

What might we do?

Take advantage of your unique assets:

- Strengthen multi-stakeholder governance
- Manage the commons

Set bold goals

- Better health & reduced costs by 2015

Portfolios of projects

- Redesigned care (at all levels)
- Population-based payment
- A non-proliferation pact → arms reduction
- Community-based population health

