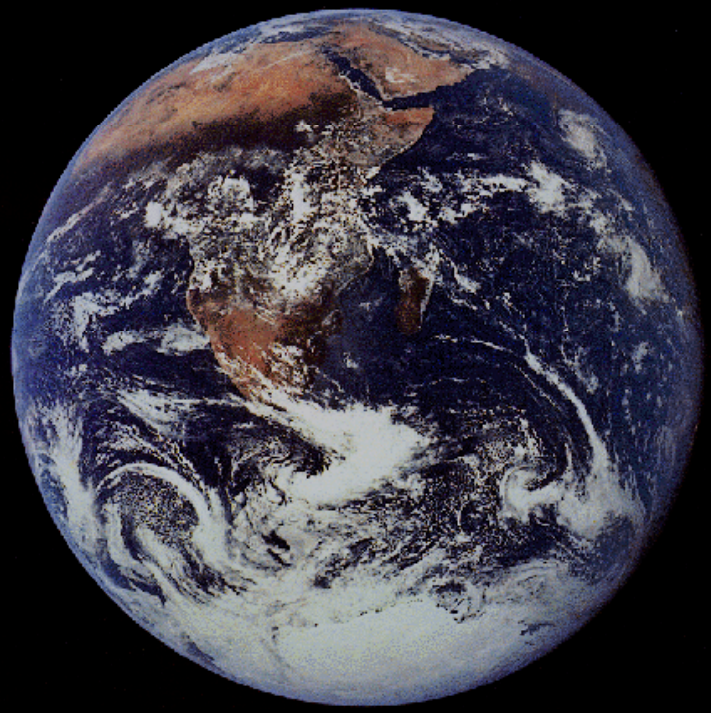
Rethinking Health Care

Variations in Health Care – and their Workforce Implications

Elliott S. Fisher, MD, MPH

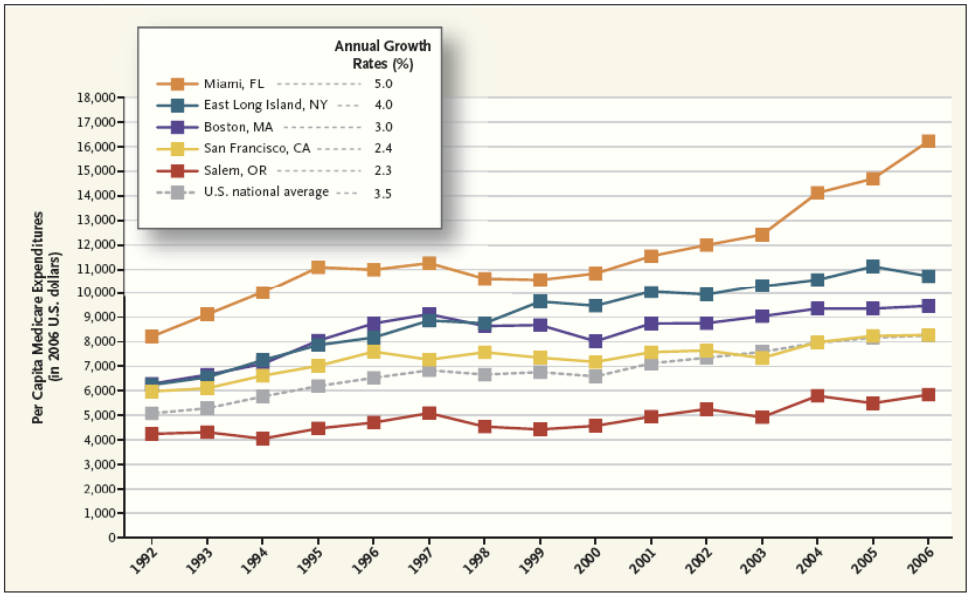
Professor of Medicine and Community
and Family Medicine
Dartmouth Medical School

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



Understanding variations might help

Trends in Medicare per-capita spending: 1992 to 2006



Annual Growth Rates of per Capita Medicare Spending in Five U.S. Hospital-Referral Regions, 1992–2006.

Data are in 2006 dollars and were adjusted with the use of the gross domestic product implicit price deflator (from the Economic Report of the President, 2008) and for age, sex, and race. Data are from the Dartmouth Atlas Project.

	Per-Capita Spending	Annual Growth Rate
Miami	**$16,351**	**5.0**
E. Long Island	**$10,801**	**4.0**
Boston	**$9,526**	**3.0**
San Francisco	**$8,331**	**2.4**
Salem, OR	**$5,877**	**2.3**
US Average	**$8,304**	**3.5**

Annual savings now if Long Island had grown at San Francisco rate: $1 billion

Projected savings if US grew at San Francisco rate from now to 2023: $1.4 trillion

Source: Slowing the Growth of Health Care Spending: Lessons from Regional Variation
Fisher, Skinner, Bynum, New England Journal of Medicine, February 26, 2009

THE DARTMOUTH INSTITUTE
FOR HEALTH POLICY & CLINICAL PRACTICE
Where Knowledge Informs Change

Understanding variations might help
Utilization Rates

	Inpatient Days	Imaging Spending	Specialist visits	Primary care visits
Miami	29	1434	56	41
East Long Island	32	1388	42	41
San Francisco	19	687	27	31
Boston	20	864	24	29
Salem	12	512	15	20

Among Medicare beneficiaries with serious chronic illness during last 2 years of life (2001-2005)

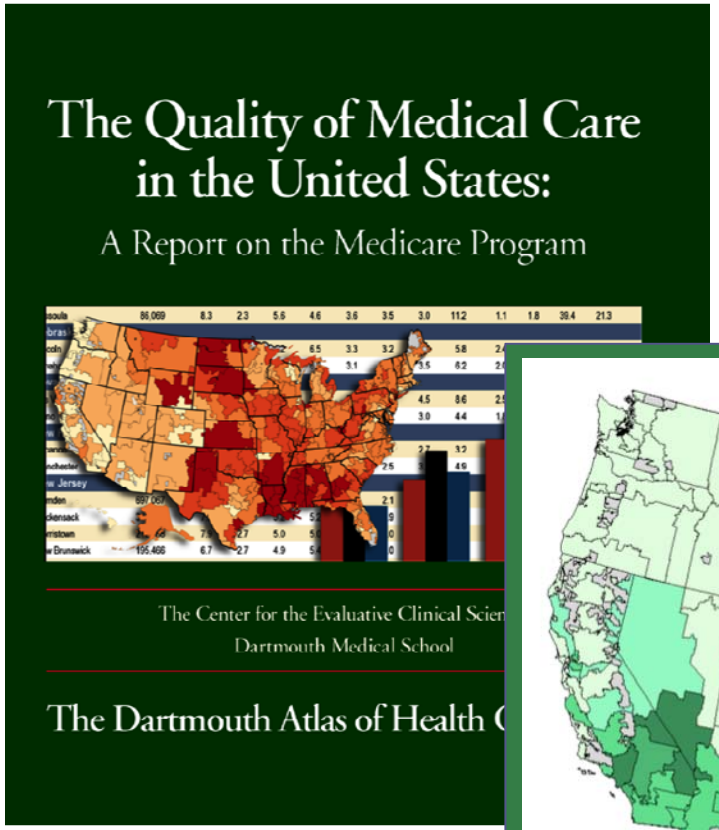
Understanding variations might help
Workforce Inputs

	Specialist FTE	Primary Care FTE	Total MD FTE	Percent with 10+ MDs
Miami	17	14	37	51
East Long Island	13	14	31	50
San Francisco	9	10	23	32
Boston	8	9	22	39
Salem	5	6	15	18

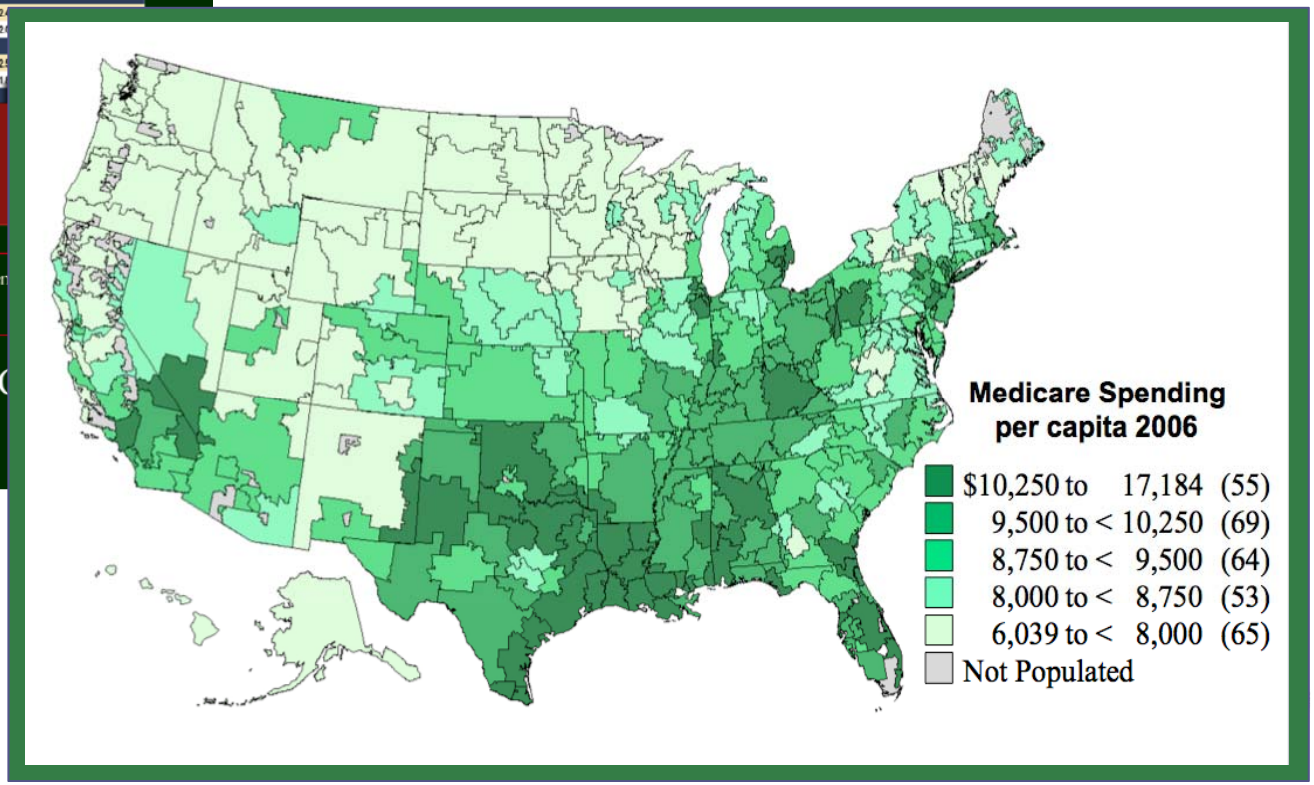
Among Medicare beneficiaries with serious chronic illness during last 2 years of life (2001-2005)

Variations in practice and spending

The Dartmouth Atlas



1. **Is more always better?**
2. **What's going on? What might we do?**
3. **The new policy environment**
4. **Moving forward**



Variations in spending and quality

RWJF, National Institutes of Aging funded research

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

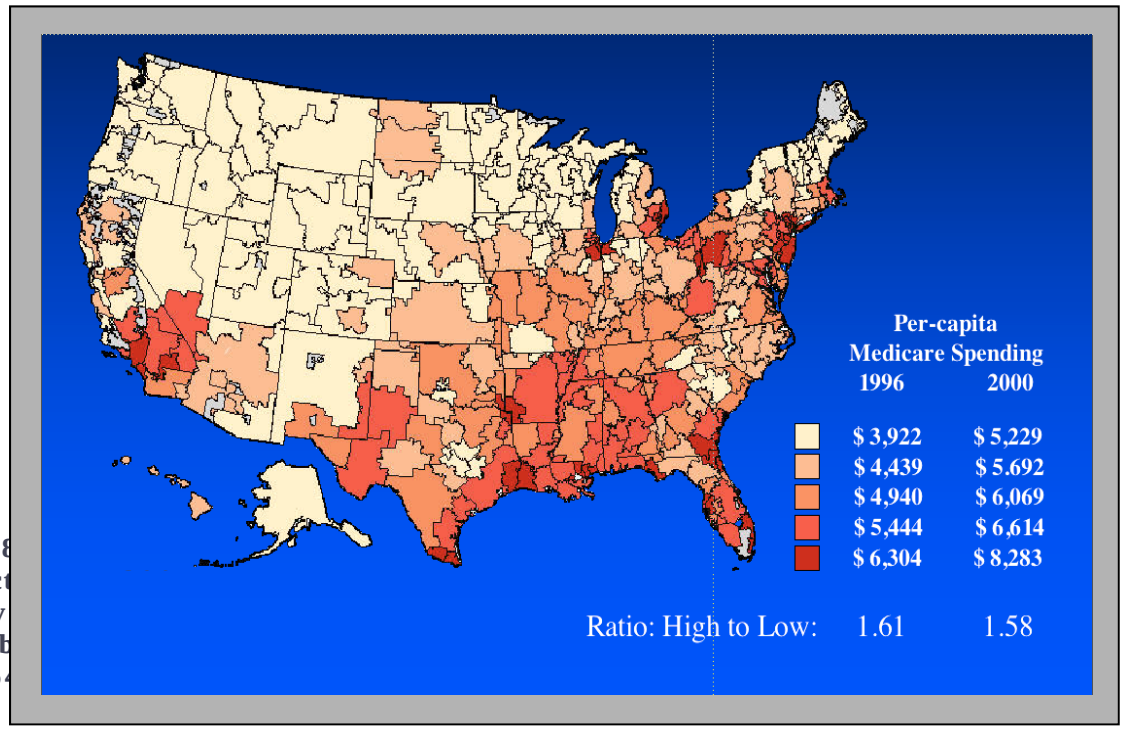
Per-capita Spending

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: 641-64
(6) Fowler et al. JAMA: 299: 2406-2412

Variations in spending and quality

Where does the money go?

Effective Care: *benefit clear for all*

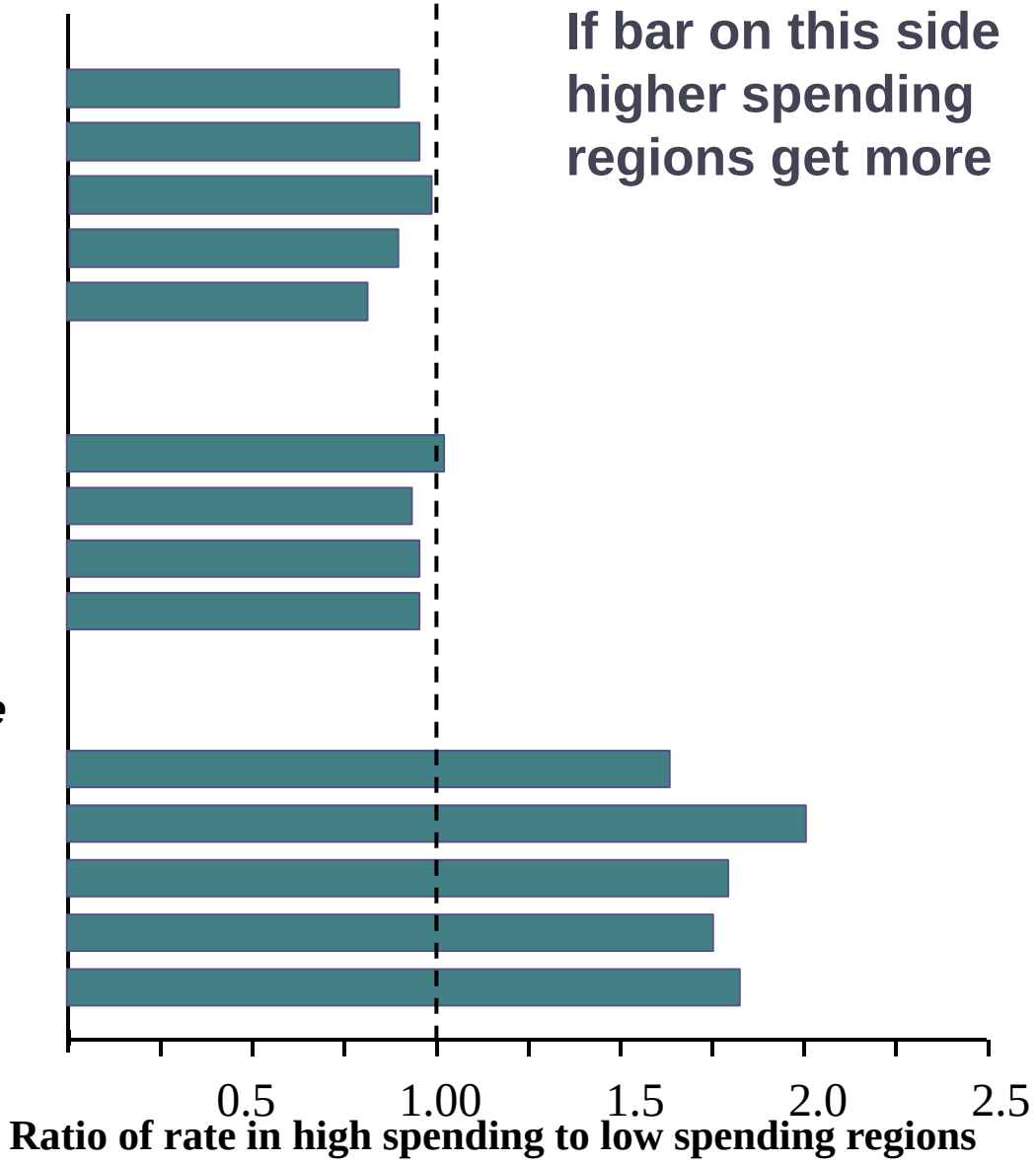
- Reperfusion in 12 hours (Heart attack)
- Aspirin at admission (Heart attack)
- Mammogram, Women 65-69
- Pap Smear, Women 65+
- Pneumococcal Immunization (ever)

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



Variations in spending and quality

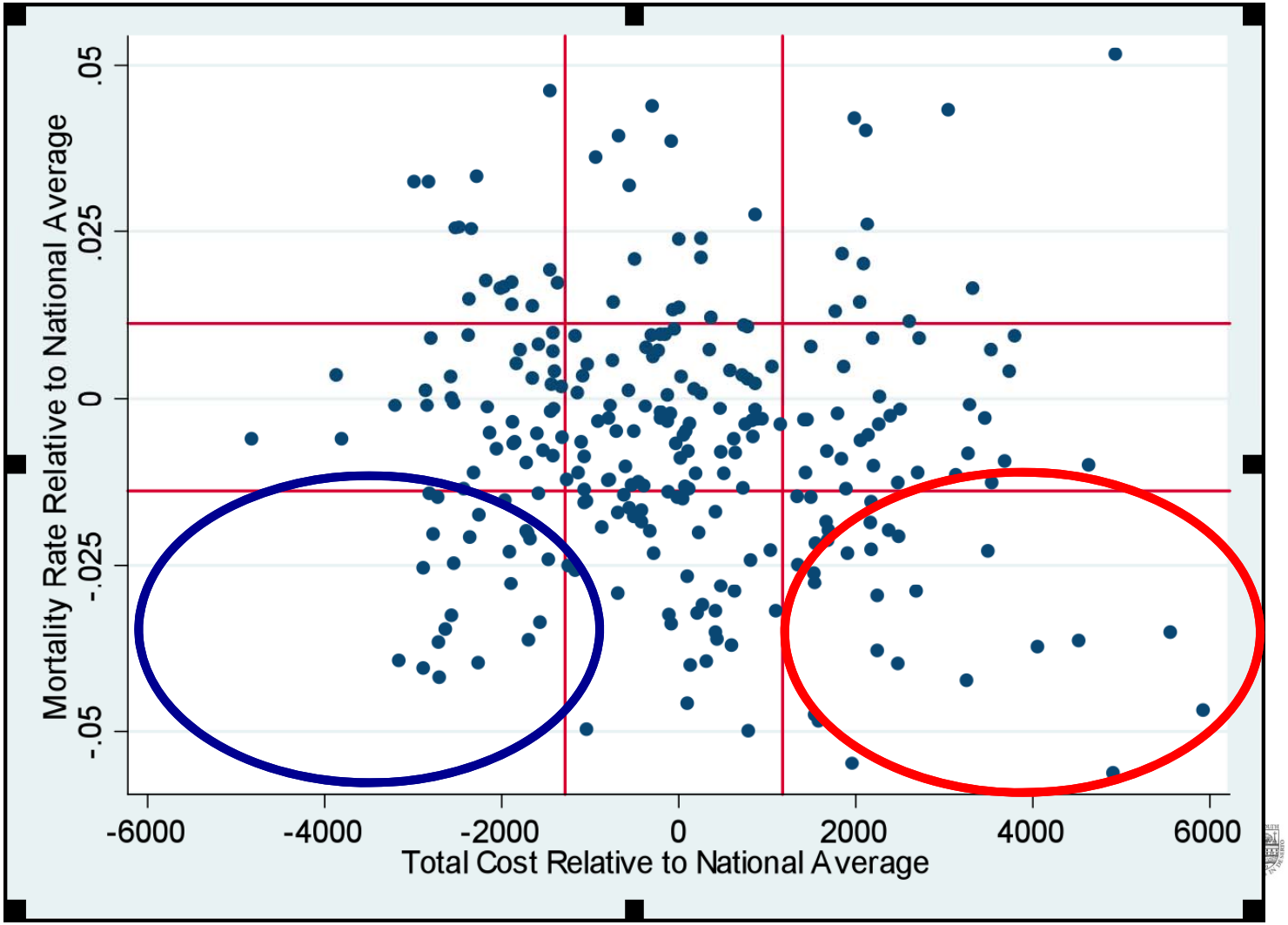
What is the relationship between spending and quality?

Health Outcomes	Physician's Perceptions	Patient-Perceived Quality
No gain in survival	Worse communication	Lower satisfaction with hospital care
No better function	Greater difficulty ensuring coordination	Worse access to primary care
	Greater perception of scarcity	No less sense that care is rationed

(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
(7) Wennberg et al; Health Affairs 2009; 28: 103-112
(8) Yasaitis et al; Health Affairs; web exclusive, May 21, 2009

Averages hide variation – and opportunities to learn

Hospital-specific one-year mortality vs one year costs (risk adjusted)



Understanding variations

It's a complicated story

Some differences are due to forces beyond providers control

- Poverty – poor patients may have inadequate social supports at home
- Health status – some providers and regions have sicker patients
- Prices differ across regions
- Academic missions are variably subsidized through current payments

Dramatic differences in utilization of discretionary care remain

- Across physicians, across care systems, across regions

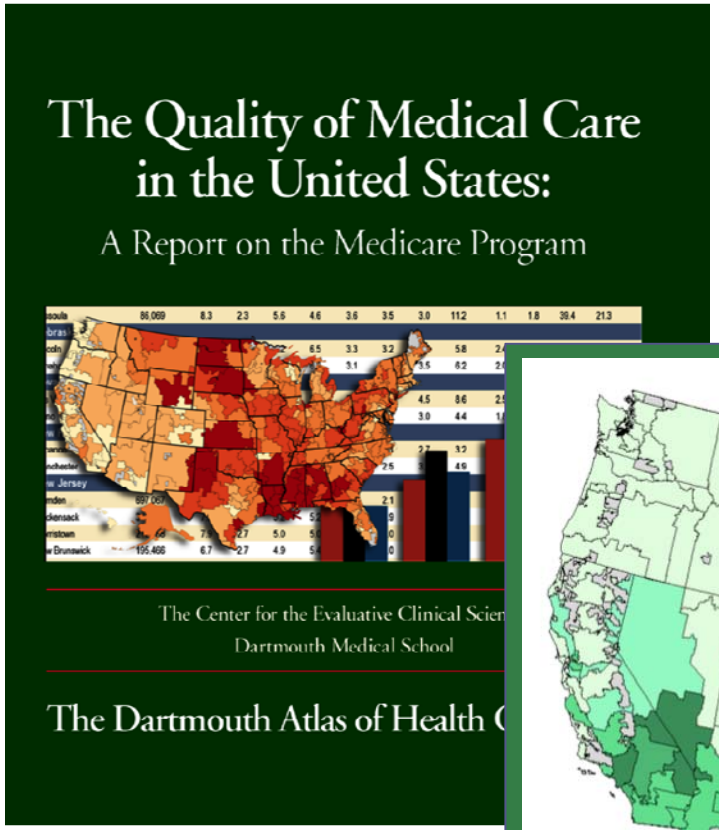
More sometimes is better – but more of what?

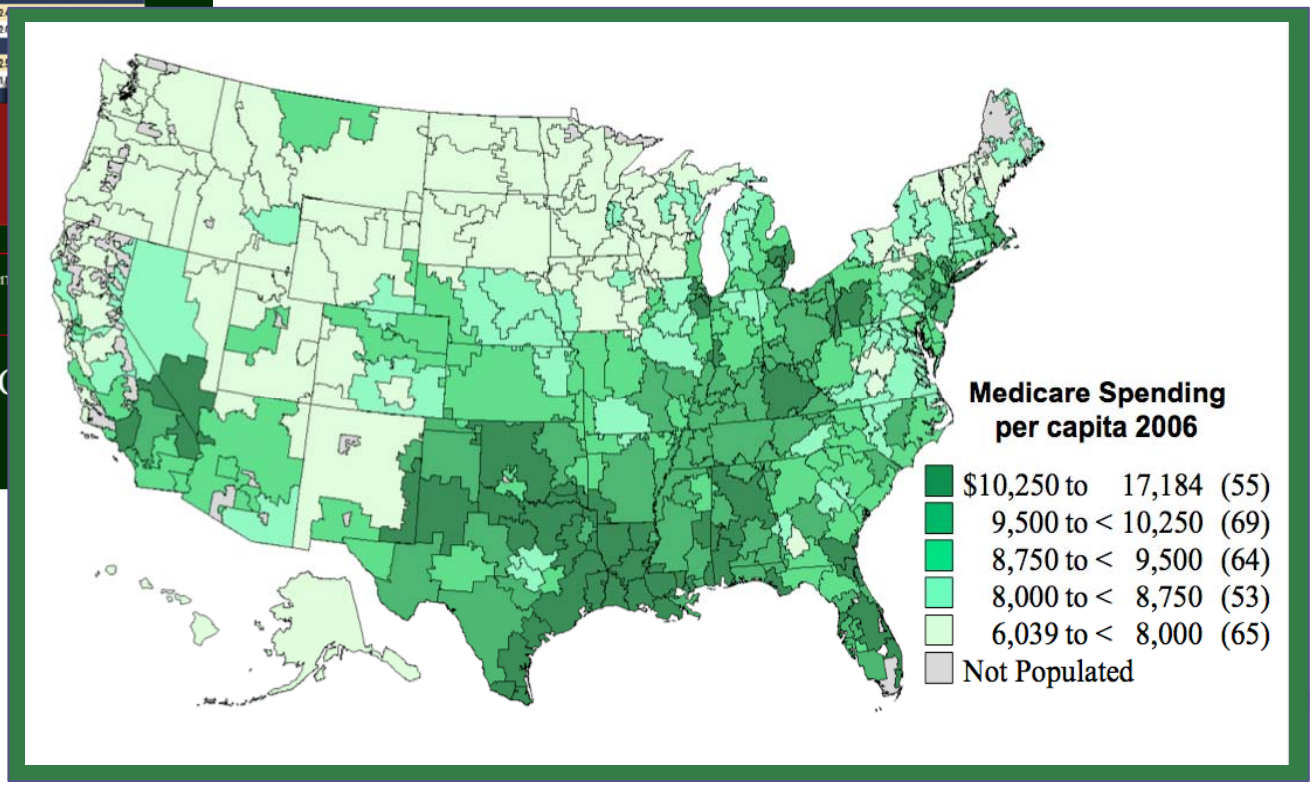
- Lower surgical mortality in hospitals capable of rescue (Birkmeyer)
- High intensity care within Pennsylvania, slightly longer survival (Barnato)
- No better – on average – with greater use of hospital as site of care

Variations in practice and spending

The Dartmouth Atlas

1. Is more always better?
2. What's going on? What might we do?





What's going on?

Some general attributes of U.S. healthcare

Assumption that more is better

Inadequate information on risks and benefits

Growing tension between science and professionalism -- and -- market approach (health care as a commodity)

Larson et al. *Advertising by Academic Medical Centers*; Arch Int Med: 2005; 165: 645-51

Variations in spending

What's going on? Exploring causes of regional variations

Patient Demand	Malpractice
Little difference	Less than 10% of difference

Variations in spending

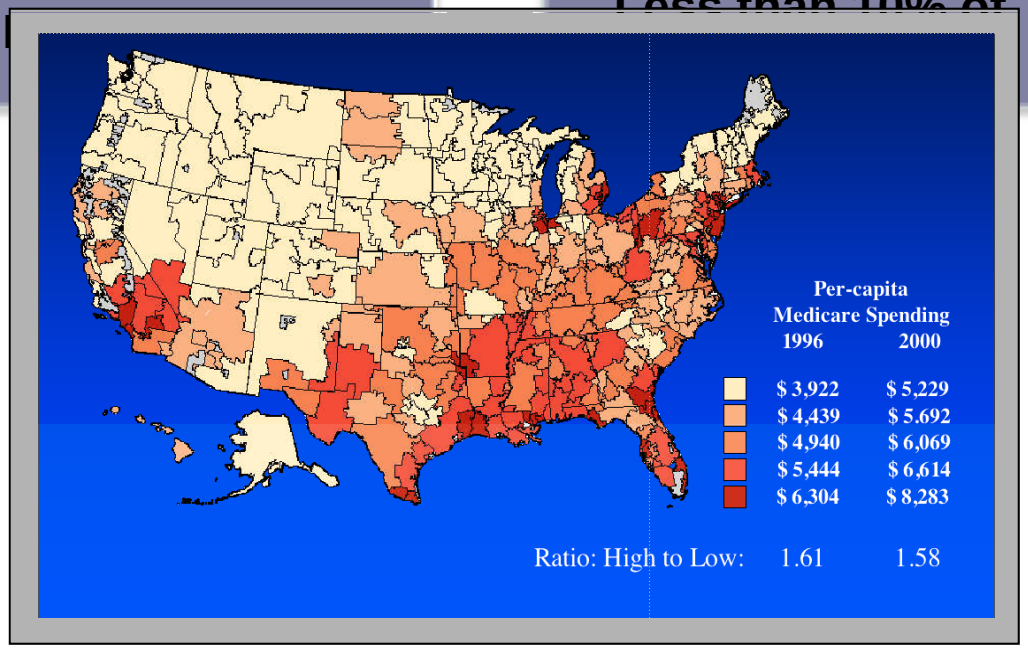
What's going on? Exploring causes of regional variations

Patient Demand

Malpractice

Supply & payment

Powerful influence



THE DARTMOUTH INSTITUTE
FOR HEALTH POLICY & CLINICAL PRACTICE
Where Knowledge Informs Change

Variations in spending

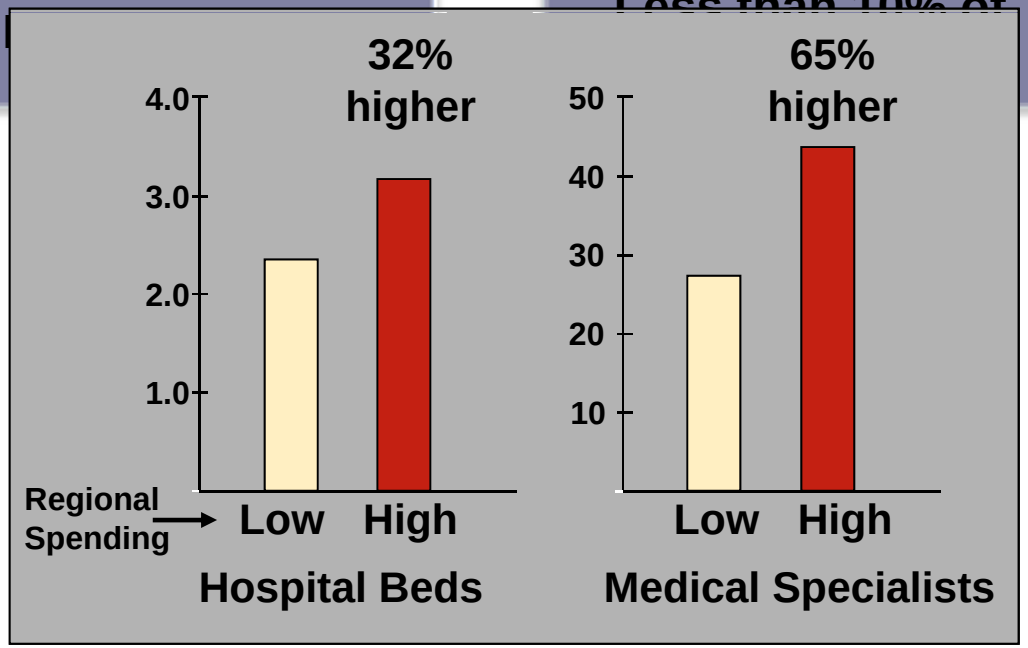
What's going on? Exploring causes of regional variations

Patient Demand

Malpractice

Supply & payment

Powerful influence



THE DARTMOUTH INSTITUTE
FOR HEALTH POLICY & CLINICAL PRACTICE
Where Knowledge Informs Change

Variations in spending

What's going on? Exploring causes of regional variations

Patient Demand	Malpractice	Supply & payment
Little difference	Less than 10% of difference	Powerful influence
		Explains less than 50% of difference

THE DARTMOUTH INSTITUTE
FOR HEALTH POLICY & CLINICAL PRACTICE
Where Knowledge Informs Change

What's going on?

The role of clinical judgment

Evidence-based decisions:

Doctors sometimes disagreed – but was unrelated to regional differences in spending

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's going on?

The role of clinical judgment

Evidenc

Doctors
differenc
al

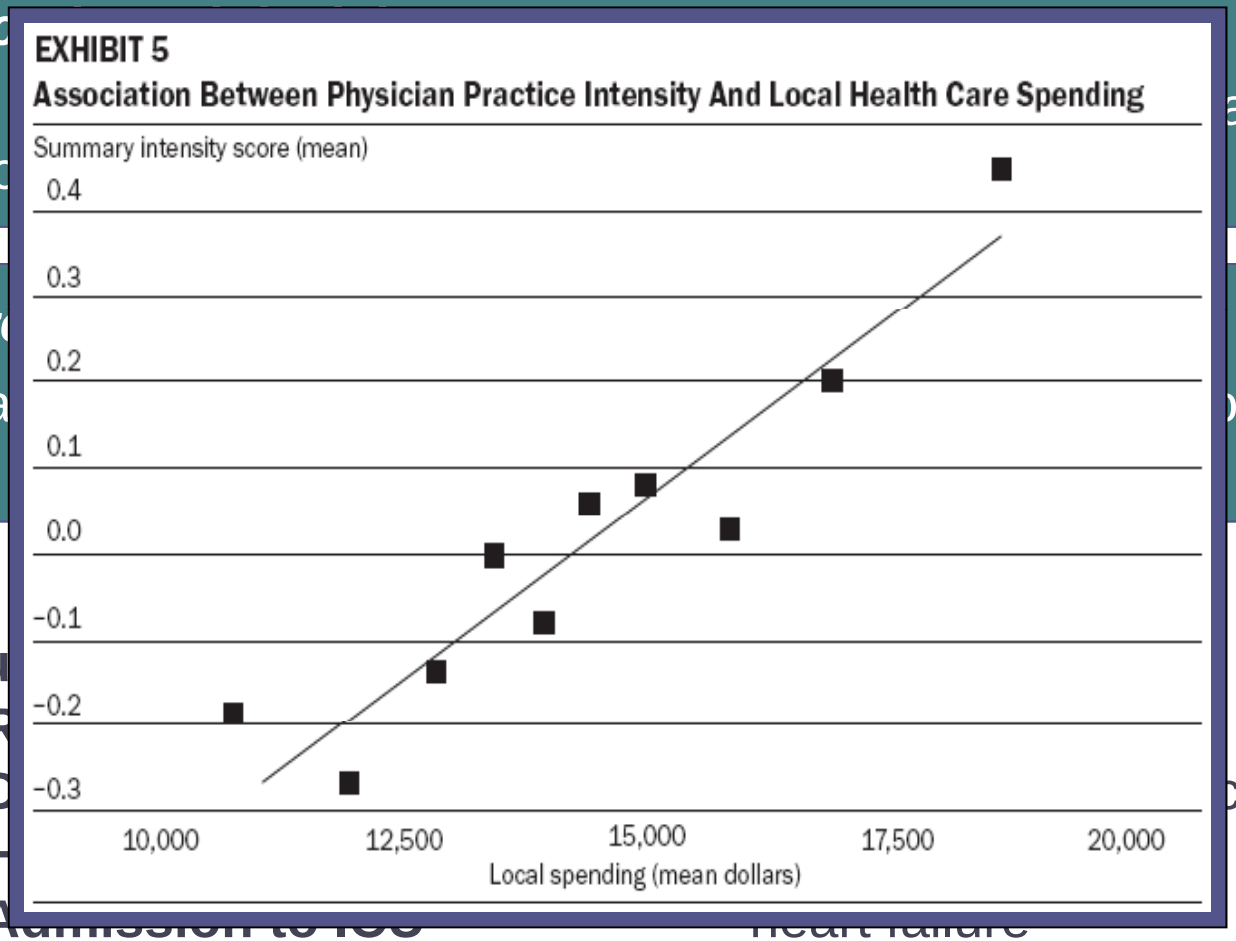
Gray ar

For a pa
medical
other

Other gu

R
D
chest CT
H
A
heart failure

Referral to palliative care heart failure



THE DARTMOUTH INSTITUTE
FOR HEALTH POLICY & CLINICAL PRACTICE
Where Knowledge Informs Change

What's going on?

Case studies beginning to shed some light

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

Atul Gawande

	2006 Spending	92-06 Growth
McAllen	**$14,946**	**8.3%**
La Crosse	**$5,812**	**3.9%**

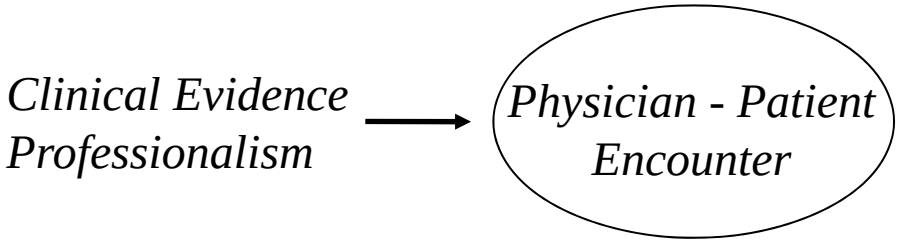
"…a culture that focuses on the wellbeing of the community, not just the financial health of our system."

Jeff Thompson, MD
CEO Gunderson-Lutheran
La Crosse, WI

What's going on?

An interaction: capacity – payment – culture

Evidence is an important -- but limited --
influence on clinical decision-making.

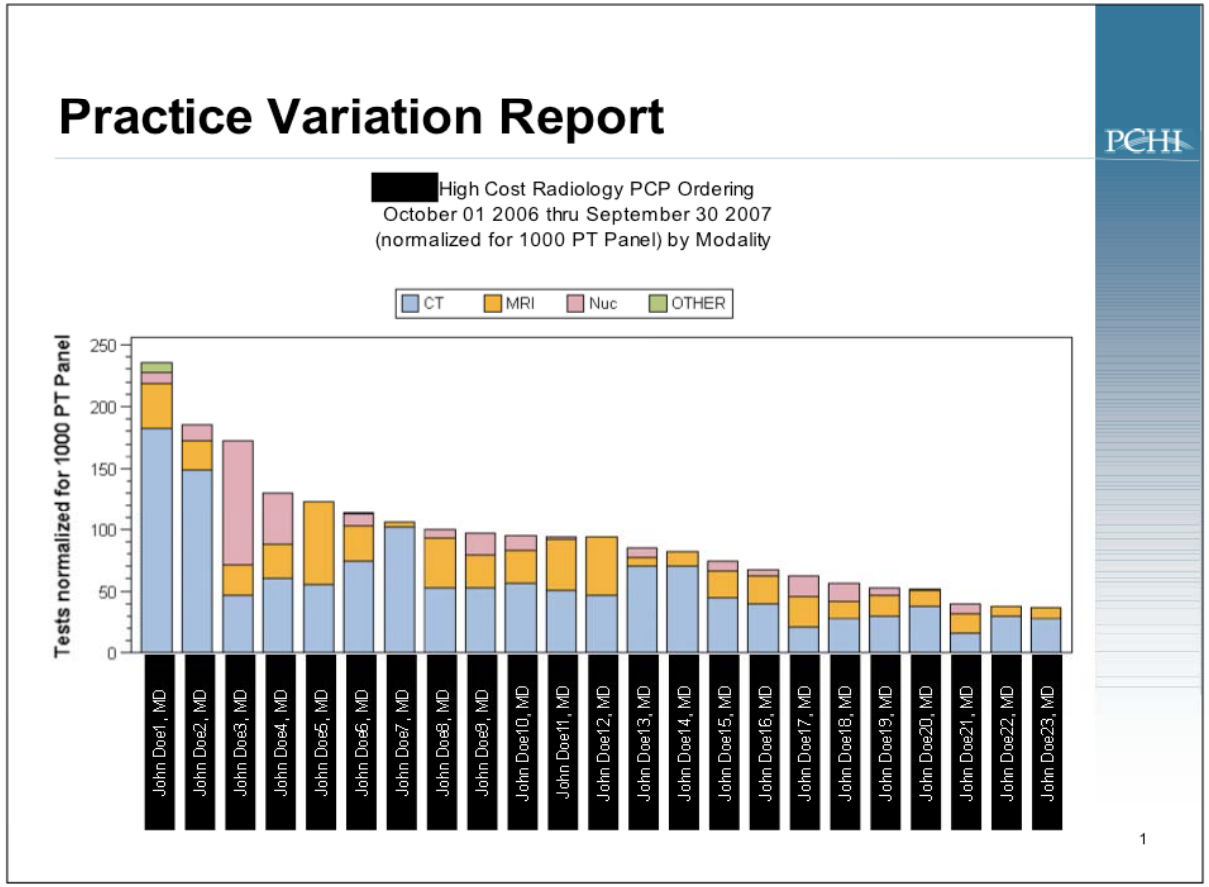


What's going on?

An interaction: capacity – payment – culture

Evidence is an important -- but limited --
influence on clinical decision-making.

Physicians rarely get feedback on judgment calls.



May 29, 2008 Presentation at Federal Trade Commission Tom Lee, MD (Partners Healthcare System) (used with permission)

What's going on?

An interaction: capacity – payment – culture

Evidence is an important -- but limited -- influence on clinical decision-making.

Physicians rarely get feedback on judgment calls.

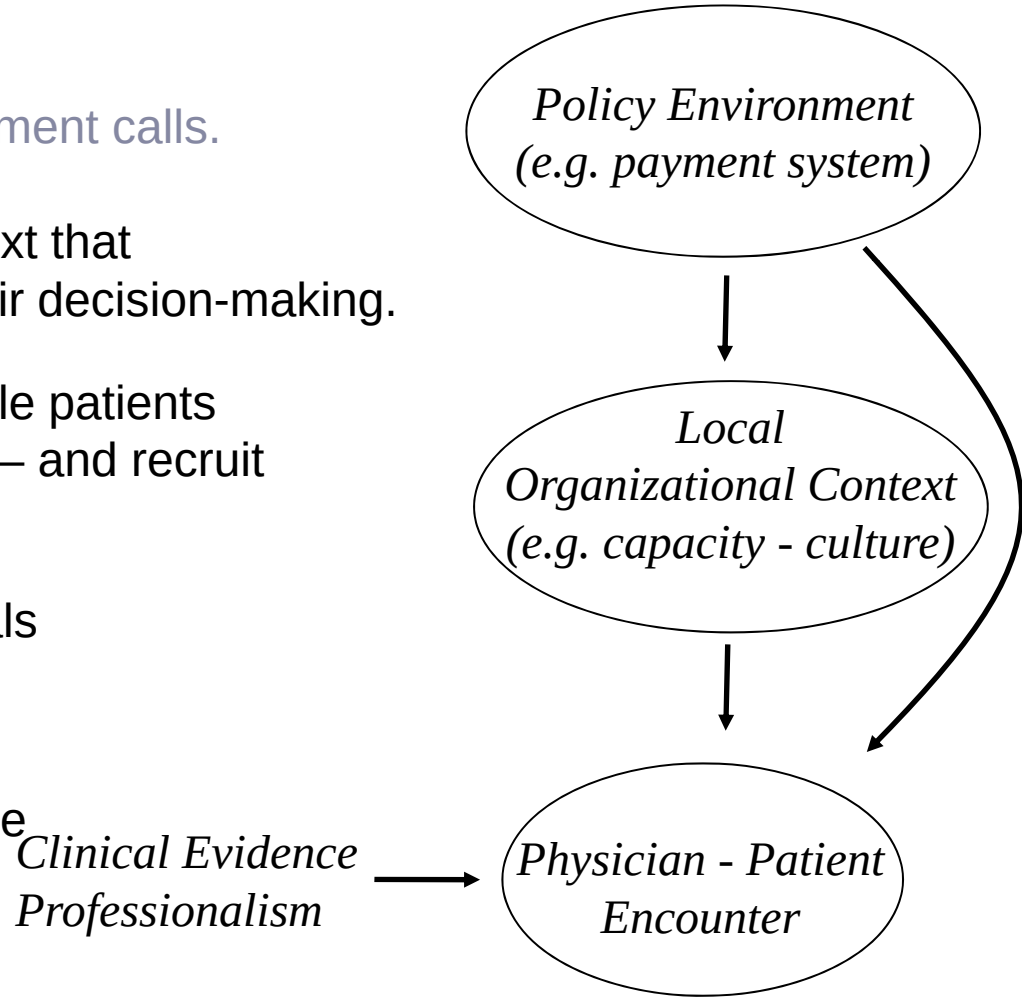
Physicians practice within a local context that profoundly (but invisibly) influences their decision-making.

Hospitals must attract enough profitable patients to maintain their margins: they expand – and recruit accordingly. A medical arms race.

Specialist availability increases referrals

Local social norms also contribute

The public welcomes more medical care
So…. supply drives demand.



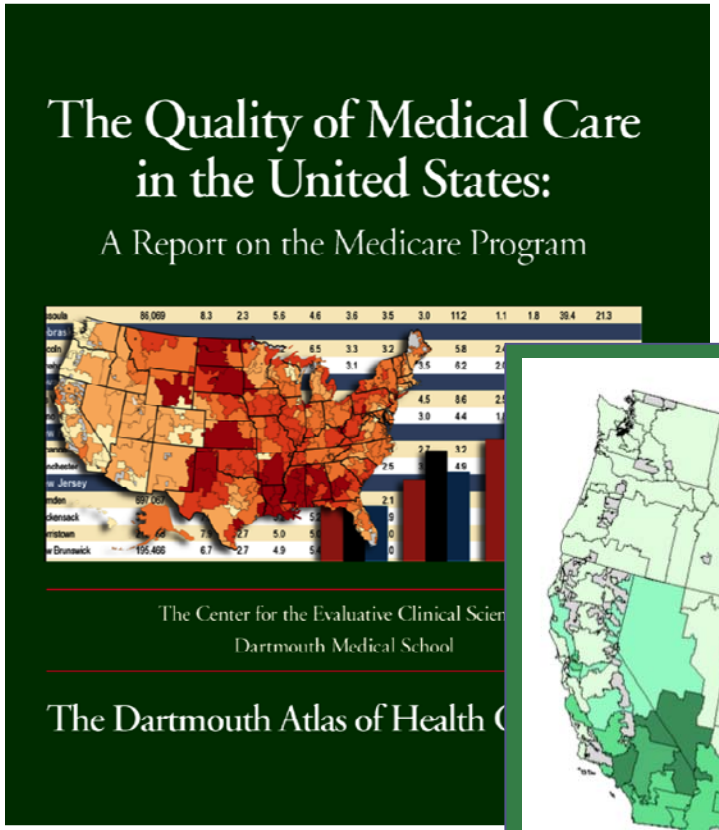
Some principles to guide reform

Aims, Accountability, Integration, Incentives

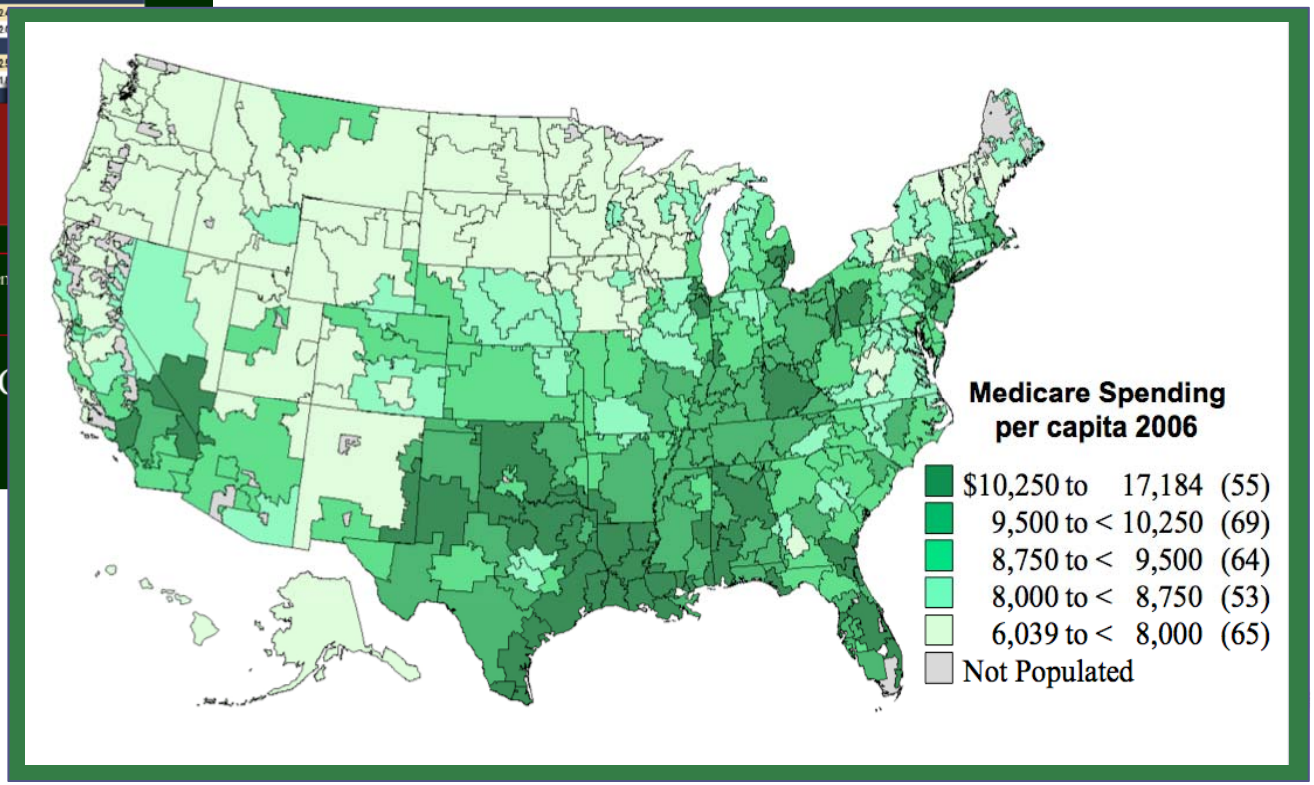
Underlying problem	Key principles
Confusion about aims – what we're trying to produce	**Clarify aims:** Better health, better care lower costs – for patients and communities
Absent or poor data leaves practice unexamined and public assuming that more is always better.	**Better information** that engages physicians, supports improvement; informs consumers
Flawed conceptual model. Health is produced only by individual actions of "good" clinicians, working hard.	**New model: It's the system.** Establish organizations *accountable for aims* and capable of *redesigning practice* and *managing capacity*
Wrong incentives reinforce model, reward fragmentation, induce more care and entrepreneurial behavior.	**Rethink our incentives:** Realign incentives – both financial and professional – with aims.

Variations in practice and spending

The Dartmouth Atlas



1. Is more always better?
2. What's going on? What might we do?
3. **The new policy environment**



The new policy environment

Clarifying aims and performance measures

Emerging alignment on aims: National Priorities Partners

Better health: improving population health
Better care: improving safety, reliability, coordination and patient engagement
Lower costs: eliminating overuse

Performance measurement – the critical lever

National Quality Forum "Episode Measurement Framework"

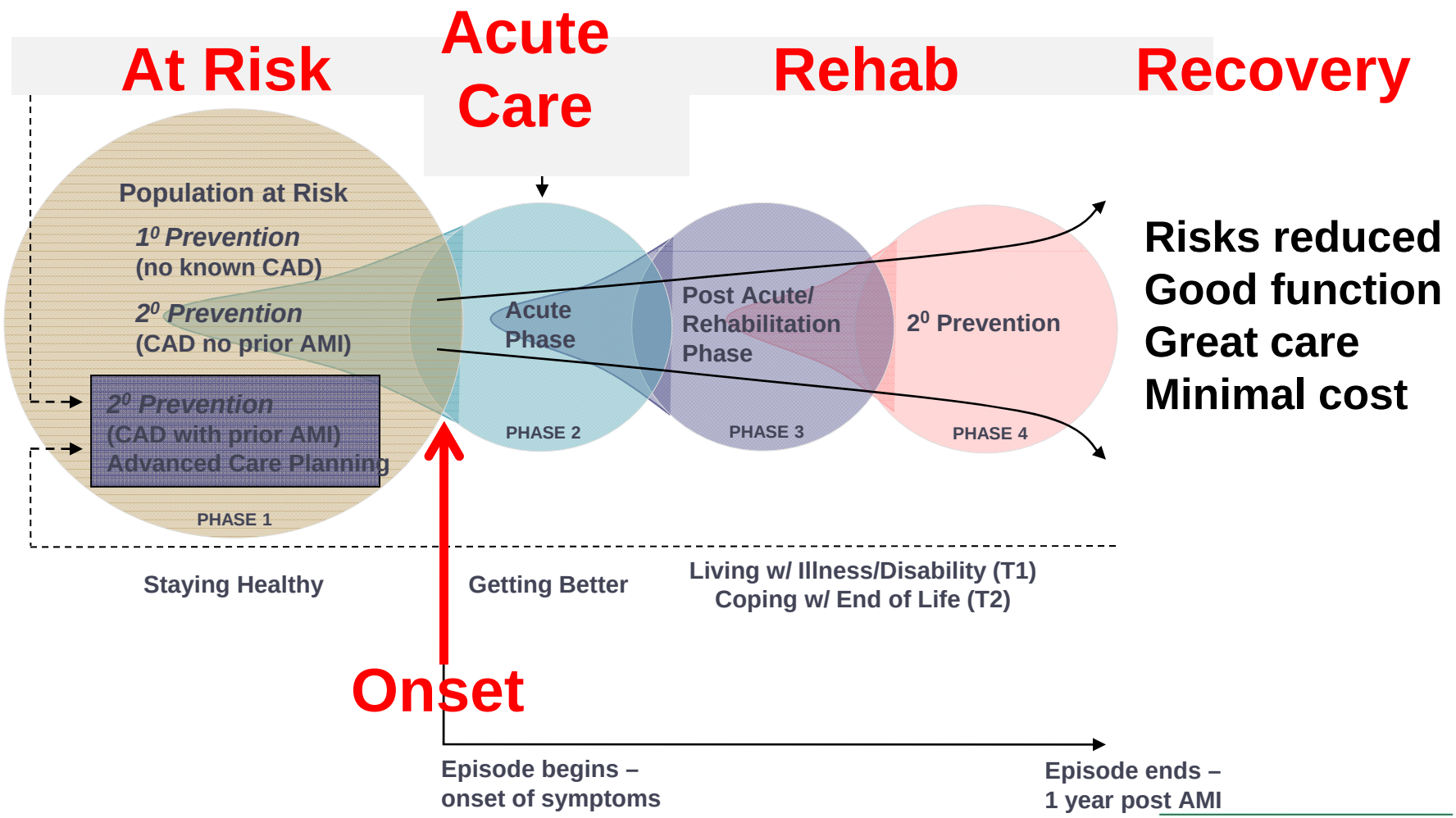
Core issue: *how did the patient do over the relevant time-course?*

Value is multidimensional: outcomes, risks, quality, costs

Requires organizational accountability for patients over time

Integrating aims and measures

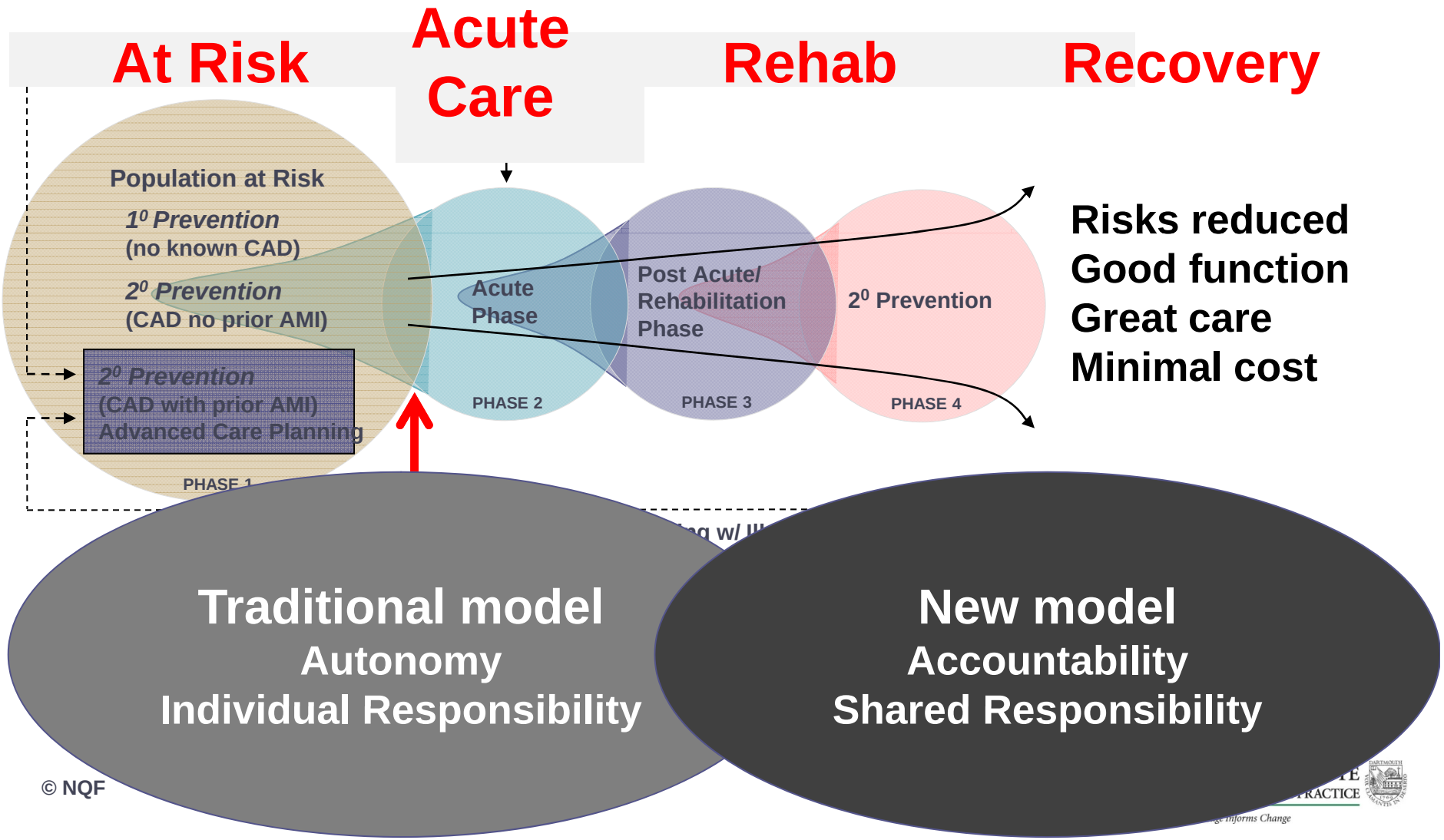
*Consider the care of a patient with an **Acute Myocardial Infarction***



THE DARTMOUTH INSTITUTE
FOR HEALTH POLICY & CLINICAL PRACTICE
Where Knowledge Informs Change

Integrating aims and measures

*Consider the care of a patient with an **Acute Myocardial Infarction***



New Models of Care and Payment

Bundled payments -- Medical Home

Episode (bundled) payments:

Single payment creates incentive for providers to work together to improve care and reduce costs within the episode

Examples: inpatient and post acute care; major elective procedures

Challenges: requires organization and measures; may not reduce costs

Patient-centered medical home

Practice redesign to support core functions of primary care: enhanced access; pro-active care management of population; team-based care

Payment reform to support currently non-reimbursed activities

Examples: evidence from integrated systems promising

Challenges: may not reduce costs; free standing medical home leaves responsibility to primary care MD

New Models of Care and Payment
Accountable Care Organizations

Theory

Establish provider organizations that can effectively manage the full continuum of care as a real or virtually integrated local delivery system

Performance measurement – to ensure focus on demonstrably improving care and lowering costs

Payment reform: establish target spending levels; shared savings – under fee-for-service or partial capitation; no beneficiary "lock-in".

Potential ACOs

Integrated delivery systems – academic medical centers

Hospitals with aligned (or owned) physician practices

Physician networks (e.g. Independent Practice Associations)

Community networks / community foundations (putting both hospitals and physicians under community governance with common aims)

Allows incomes to be preserved while total revenues decline

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

New Models of Care and Payment
Accountable Care Organizations

Evidence limited but promising

Physician Group Practice demonstration – mixed results

Where critical mass of payers engaged – more promising results

Geisinger Health System: (1) Medicare spending fell by 15% relative to US (92-96) (2) Teachers given $7,000 raise (over 3 years)

ACOs only reform approach that provides accountability for total costs – and incentives to eliminate unneeded capacity (and share in savings)

National interest, federal support likely, payers engaged

Legislation includes ACOs as national program (Senate) or pilots (House)

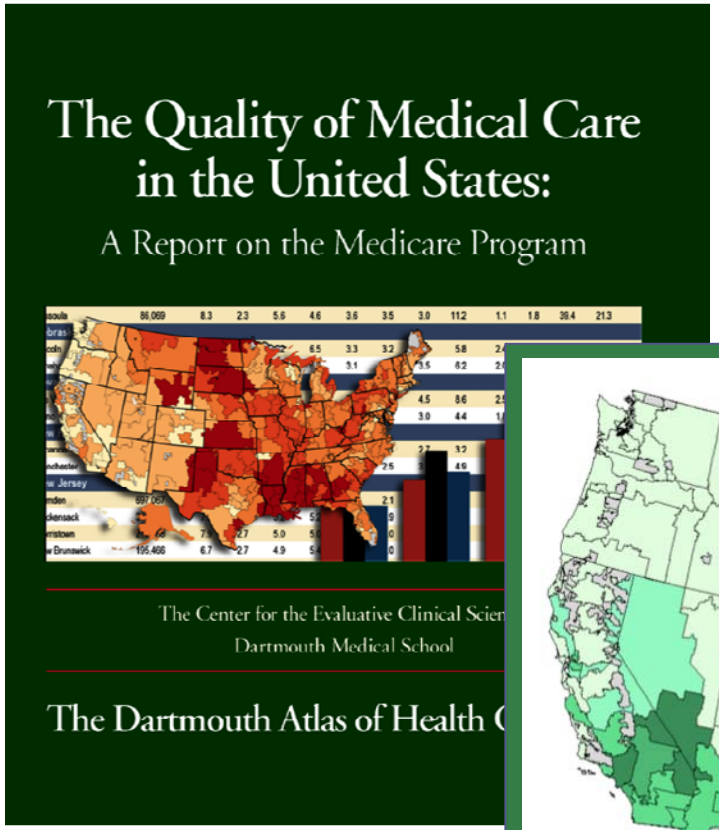
Several states moving forward: MA, VT, NC (network)

Brookings-Dartmouth collaborative – strong interest

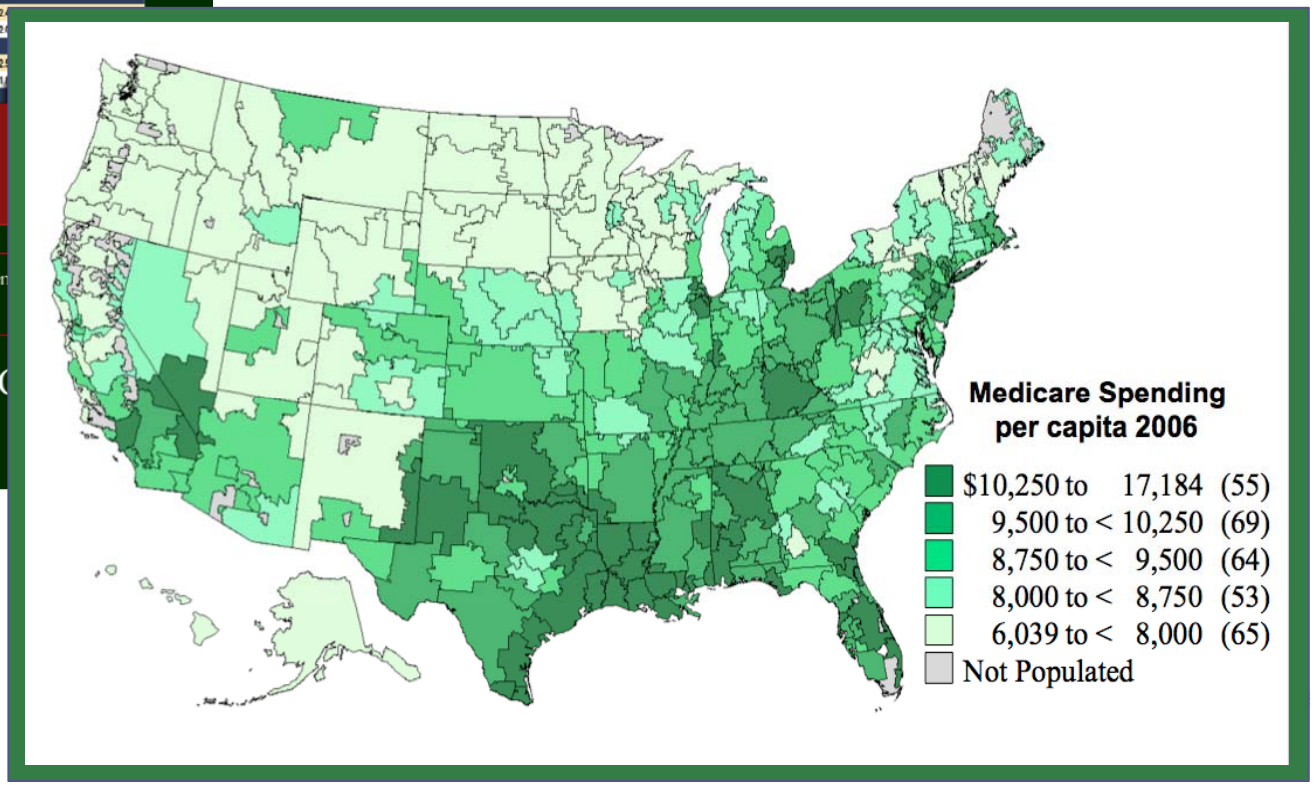
Fisher et al. Creating Accountable Care Organizations, Health Affairs 26(1) 2007:w44-w57.

Variations in practice and spending

The Dartmouth Atlas



1. Is more always better?
2. What's going on? What might we do?
3. The new policy environment
4. **Moving forward**



Moving forward:

Emerging evidence on “re-engineering”

Emerging evidence on “re-engineering” in integrated systems

- **Patient-centered medical home** (PCMH) pilots
- **Shared EHRs; e-communications** (Kaiser, Group Health)
- **Population based chronic disease management:** new roles for specialists
  - Diabetes care: (Intermountain);
    Chronic renal disease (Kaiser)
- **Cleveland Clinic** -- re-engineering clinical processes
  - Has hired 40 process engineers; 4 to 1 Return on Investment
  - Substantial savings, improved quality

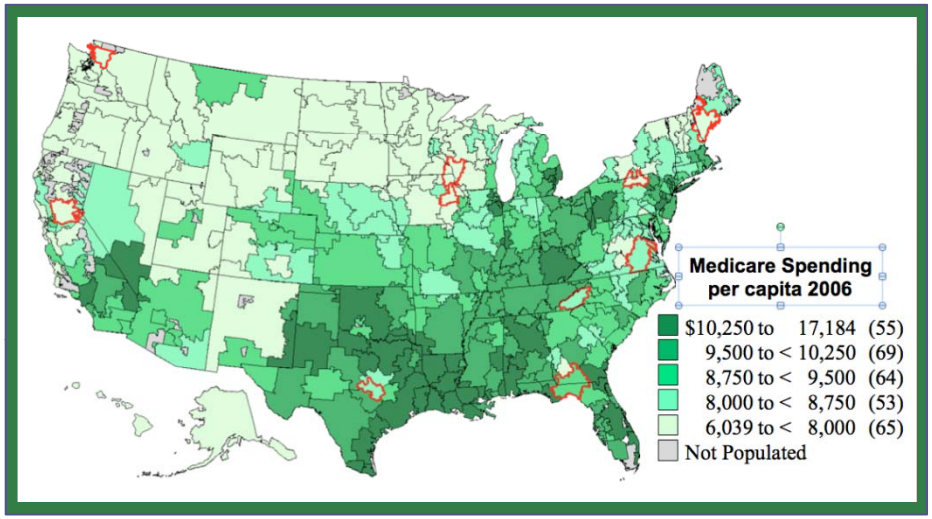
New professional roles emerging

- Primary care physicians as team leaders (or co-leaders)
- Specialists as source of expert knowledge, not just care providers

Implies vastly different workforce supply, composition and training

Moving forward

Local leadership and engagement likely to be important



"How do they do that?" conference

Everett, WA
Sacramento, CA
La Crosse, WI
Cedar Rapids, IA
Temple, TX
Portland, ME
Sayre, PA
Richmond, VA
Asheville, NC
Tallahassee, FL

Lighter colors = lower spending

Common themes

Shared aims, accountable to community

Strong foundation of primary care

Physician engagement as leaders

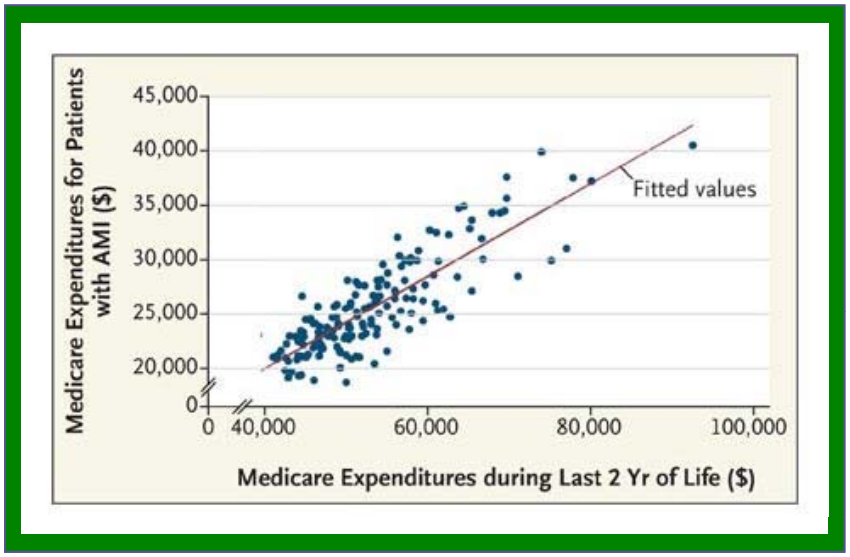
Savings through reduced use of hospital

Use of data to drive change

Additional Material

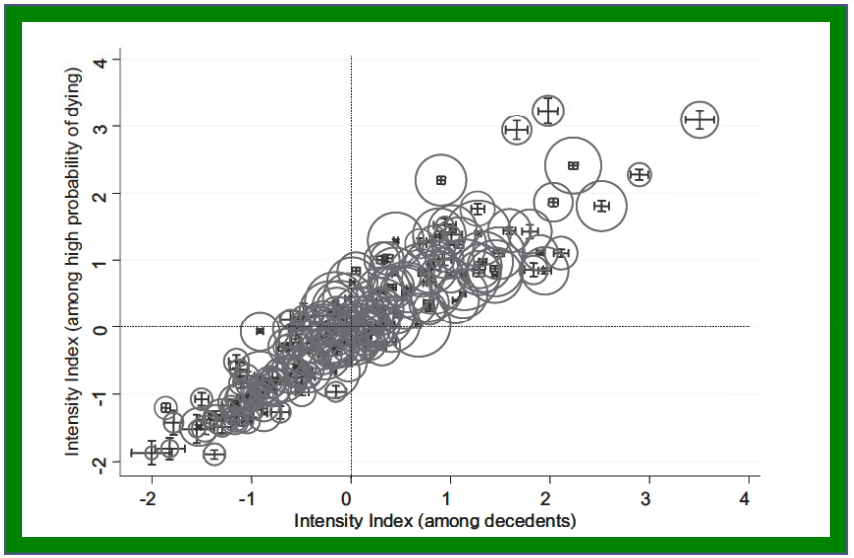
Some current points of confusion

Look forward or look back? It doesn't matter



End-of-life spending vs average one-year risk adjusted spending for AMI at 144 U.S. hospitals with at least 200 patients (2001-2005).

Skinner J et al. N Engl J Med 2010;362:569-574

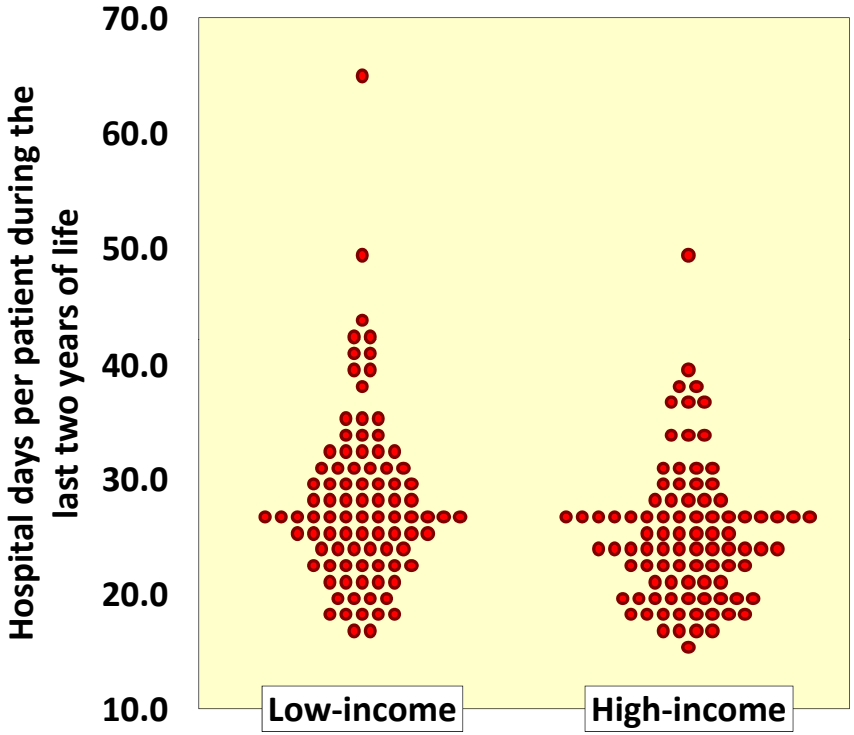


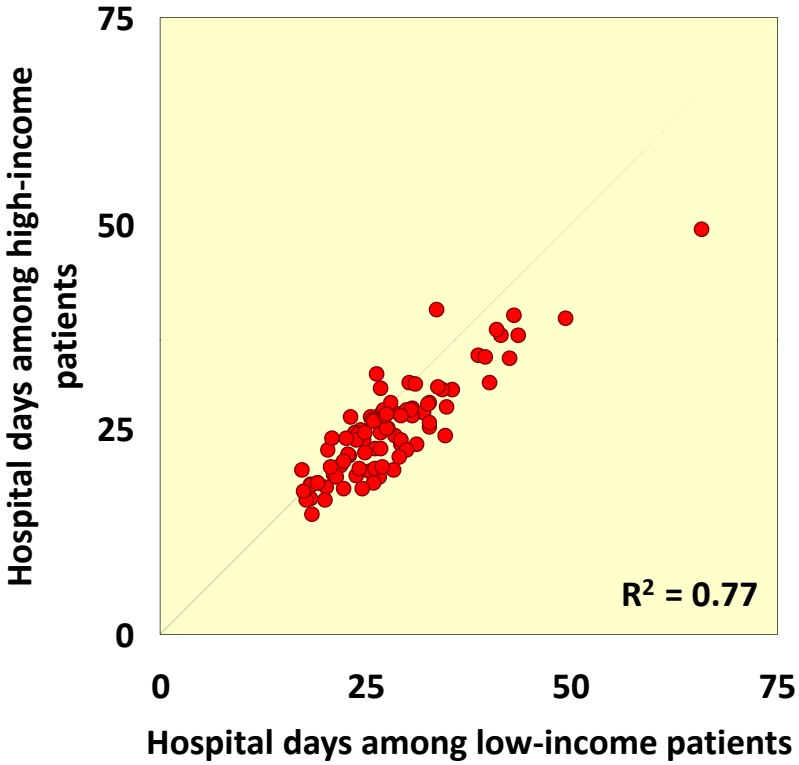
Association between look forward treatment intensity measure and look back intensity (end-of-life patients only) in Pennsylvania hospitals.

Barnato et al *Med Care 2009;47: 1098–1105*

Some current points of confusion

Poverty





Across large U.S. hospitals, hospital use (and spending, not shown) varies by over two fold for both low income and high income beneficiaries.

Systems that use the hospital as site of care for high income patients do the same for their low income patients.

Wennberg, Skinner. Forthcoming

THE DARTMOUTH INSTITUTE
FOR HEALTH POLICY & CLINICAL PRACTICE
Where Knowledge Informs Change

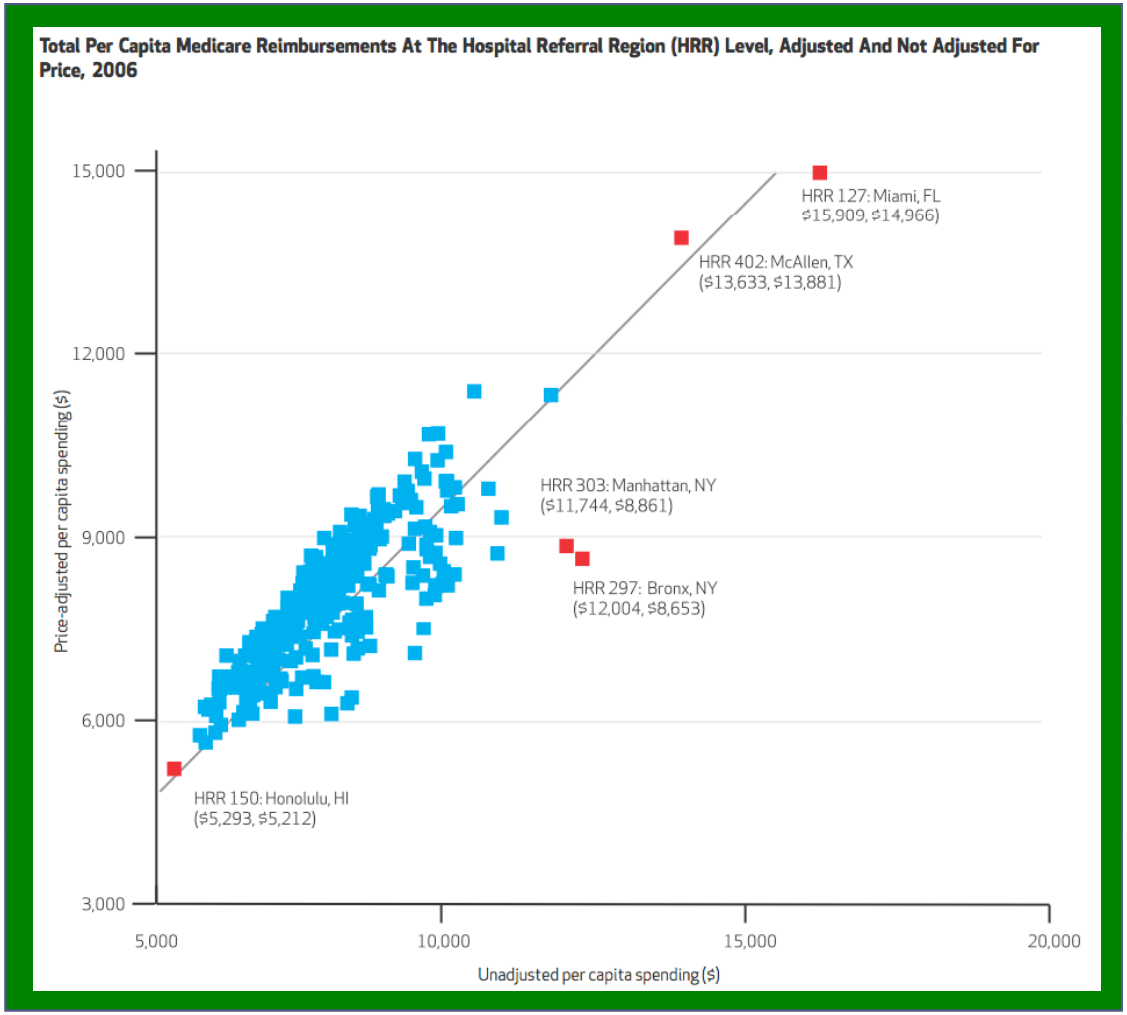
Some current points of confusion

Poverty, Prices

Analysis compared unadjusted and price-adjusted per-capita spending across all U.S. HRRs.

Slight reduction in magnitude of variation.

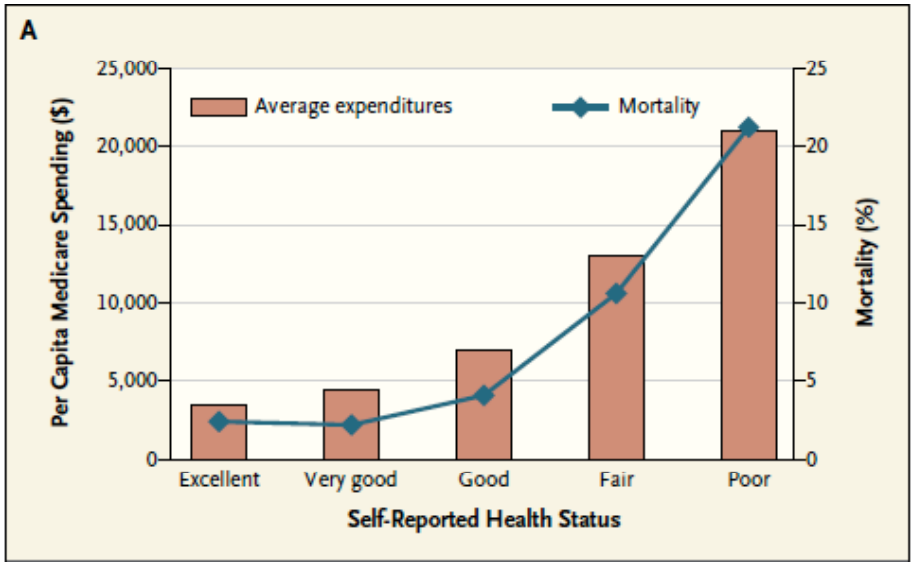
Medical education and DSH payments were important in a few areas (notably NYC).



Gottlieb et al. Health Affairs 2010 published online, January 28.

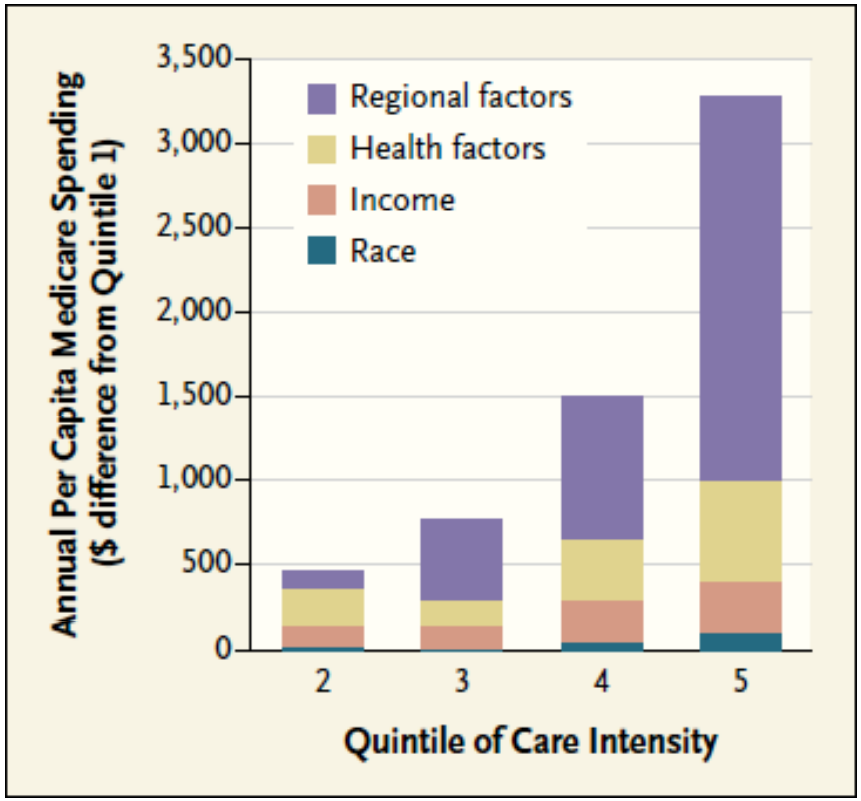
Some current points of confusion

Poverty, Prices, Health



Health is the most important determinant of spending

But explains only a small fraction of regional differences in spending



Sutherland, Skinner, Fisher. NEJM 2009; 366:1227