Variations in Spending and Quality

The Journey to Accountable Care

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John E. Wennberg Distinguished Professor, Geisel School of Medicine

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Challenges facing global health systems

Rising costs, uneven quality

Chicago Teachers Worried Over Health Benefit Costs Strike

TOPICS: HEALTH COSTS, STATES

SEP 10, 2012

Concerned over negotiating the cost of their health benefits with their school district, Chicago teachers walk off the job for the first time in 25 years.

James, J. Journal of Patient Safety: 2013; 9:122

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REVIEW ARTICLE

A New, Evidence-based Estimate of Patient Harms Associated with Hospital Care

John T. James, PhD

210,000 to 400,000 deaths per year

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Opportunity
Learning from Variations in Practice and Spending

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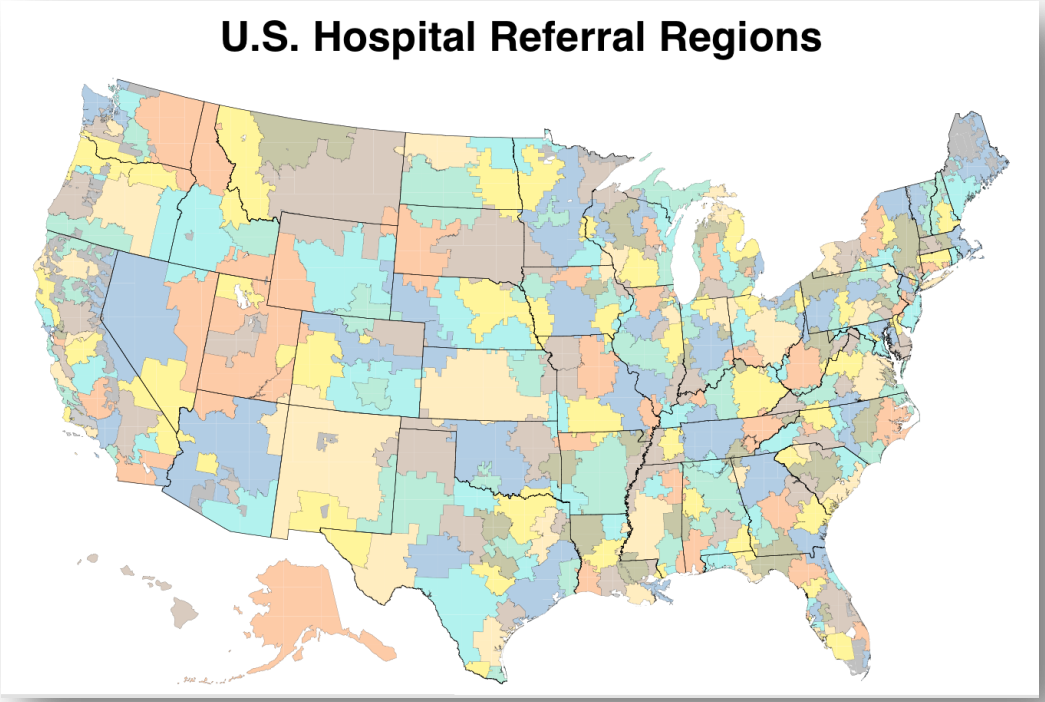
Understanding Variations in Quality

Differences in rates of specific interventions and outcomes



Dartmouth Atlas of Health Care

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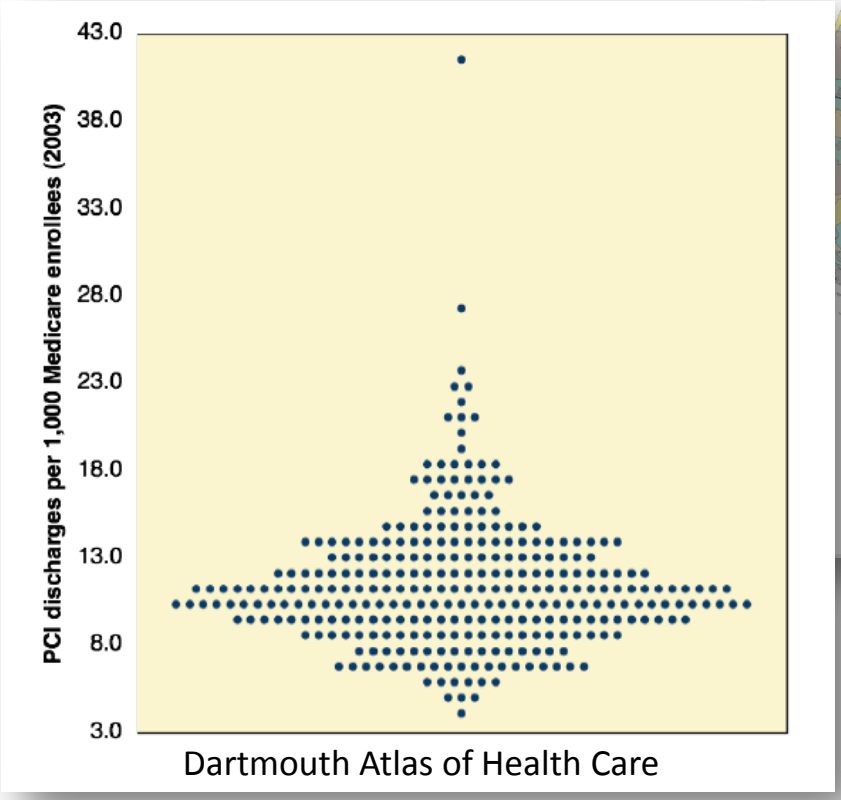
Understanding Variations in Quality

Differences in rates of specific interventions and outcomes

Percutaneous Coronary Interventions

Age-sex-race adjusted rate per 1000 by HRR



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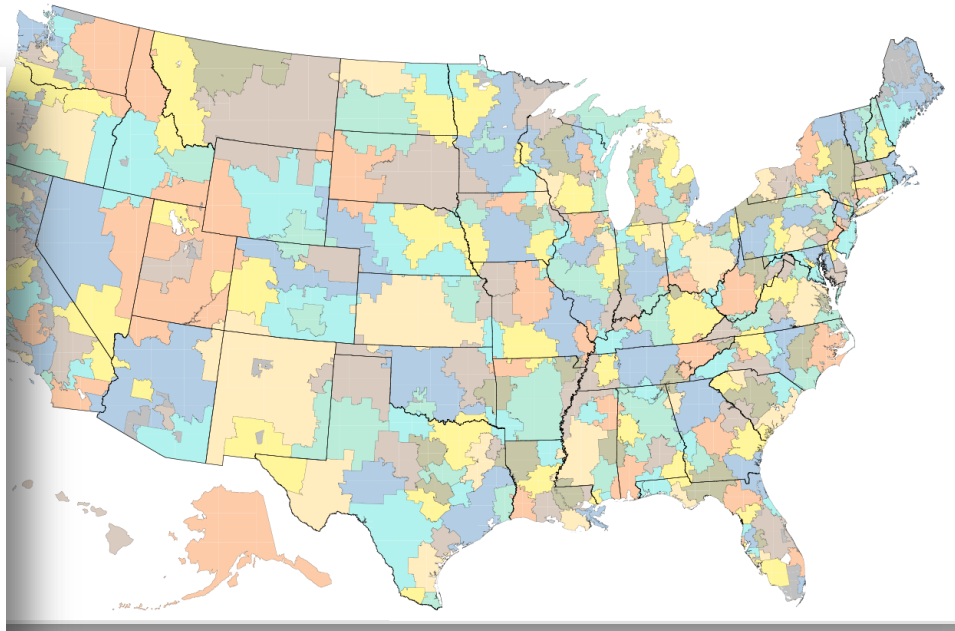
U.S. Hospital Referral Regions



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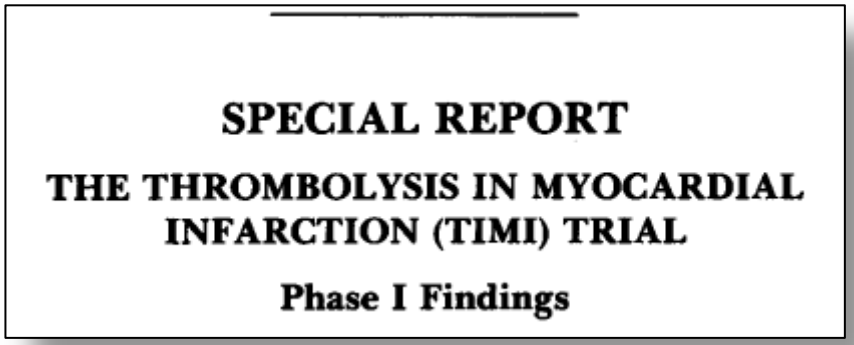
Understanding Variations in Quality

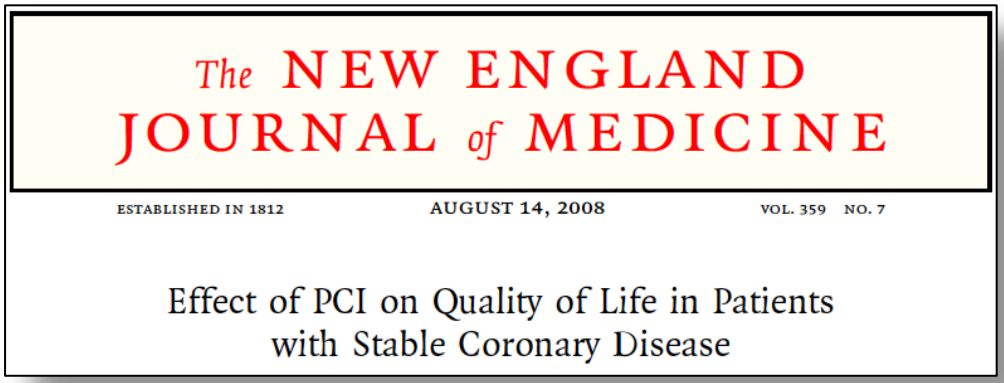
Inadequate evidence – uncertainty about outcomes



SPECIAL REPORT

THE THROMBOLYSIS IN MYOCARDIAL INFARCTION (TIMI) TRIAL

Phase I Findings



The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 AUGUST 14, 2008 VOL. 359 NO. 7

Effect of PCI on Quality of Life in Patients with Stable Coronary Disease

The TIMI Study Group, N Engl J Med 1985; 312:932-936
Weintraub et al. N Engl J Med 2008;359:677-87.

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Understanding Variations in Quality

Failure to deliver effective care safely and reliably

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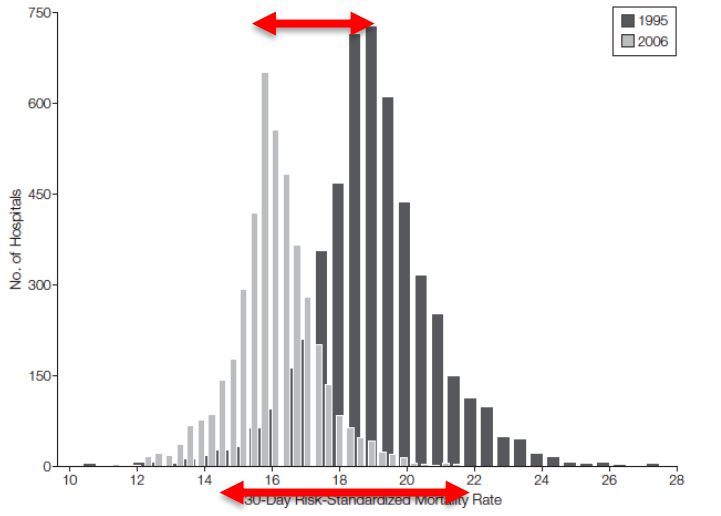
SPECIAL ARTICLE

Strategies for Reducing the Door-to-Balloon Time in Acute Myocardial Infarction

Elizabeth H. Bradley, Ph.D., Jeph Herrin, Ph.D., Yongfei Wang, M.S., Barbara A. Barton, R.N., Tashonna R. Webster, M.P.H., Jennifer A. Mattera, M.P.H., Sarah A. Roumanis, R.N., Jeptha P. Curtis, M.D., Brahmajee K. Nallamothu, M.D., David J. Magid, M.D., M.P.H., Robert L. McNamara, M.D., M.H.S., Janet Parkosewich, R.N., M.S.N., Jerod M. Loeb, Ph.D., and Harlan M. Krumholz, M.D.

Figure. Change in Acute Myocardial Infarction 30-Day All-Cause Risk-Standardized Mortality From 1995 to 2006



Bradley EH et al. ***NEJM*****. 2006;355(22):2308-20.**
Krumholz et al. ***JAMA. 2009;302(7):767-773***

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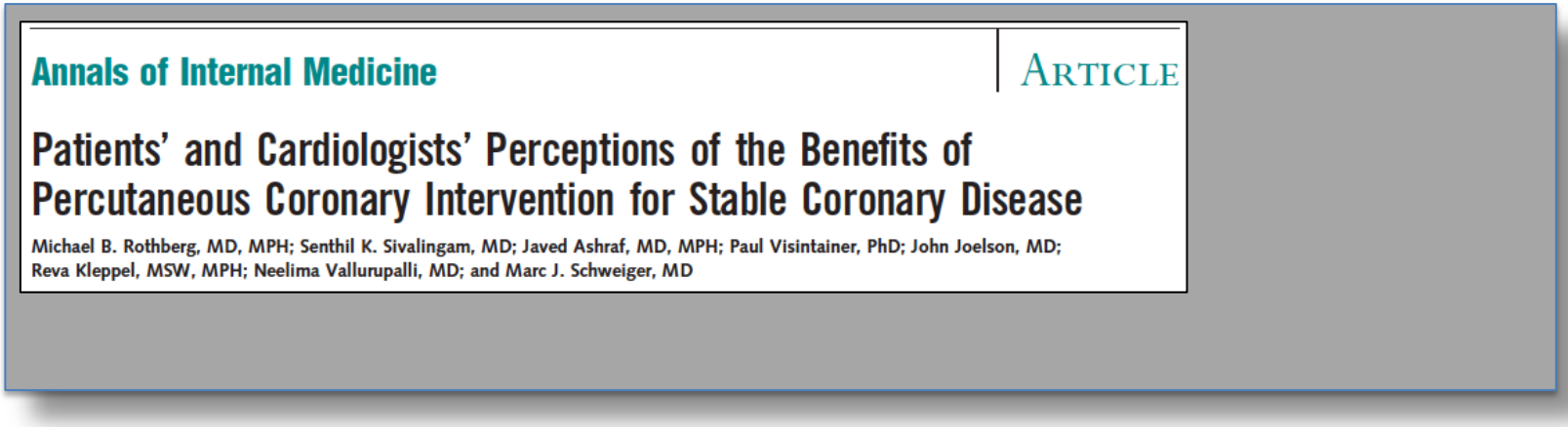
Failure to align care with informed patient preferences



Chan PS, et al. . *JAMA* 2011;306(1):53-61.
Rothberg, MB et al. *Ann Intern Med.* 2010;153:307-313.

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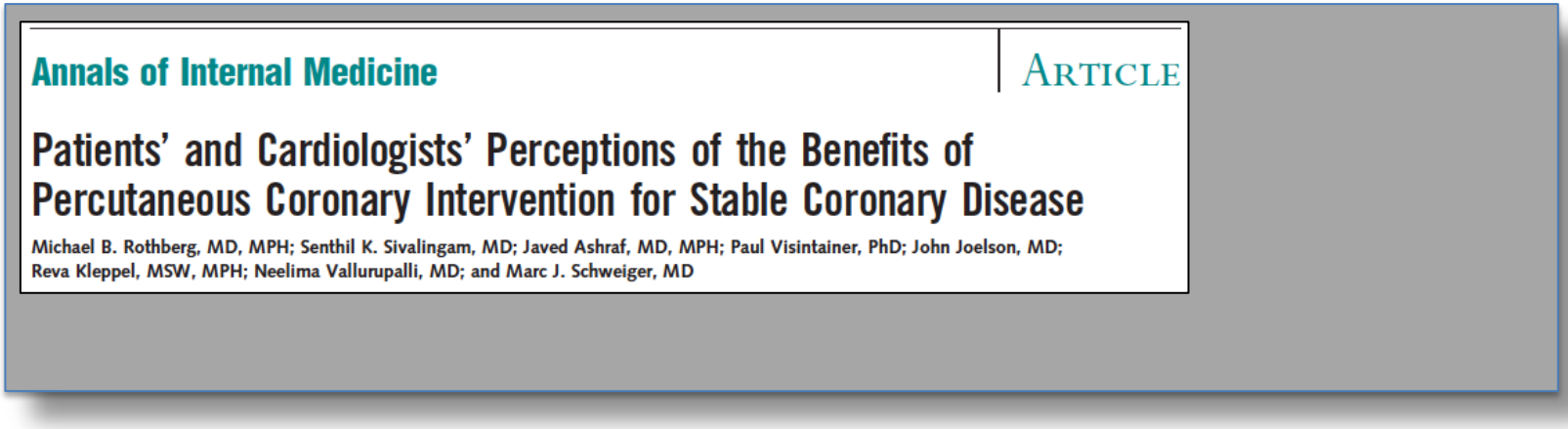

Patients:	**88% believed PCI would reduce risk of MI**
Cardiologists:	**43% would do PCI even if no benefit**

Chan PS, et al. . *JAMA* 2011;306(1):53-61.
Rothberg, MB et al. *Ann Intern Med.* 2010;153:307-313.

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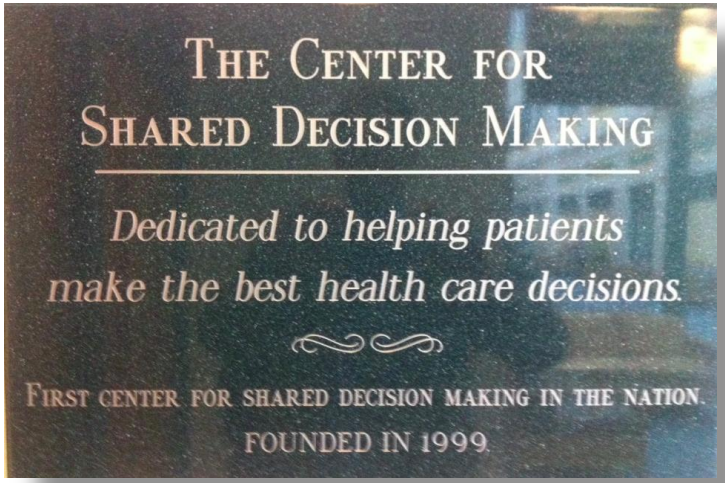
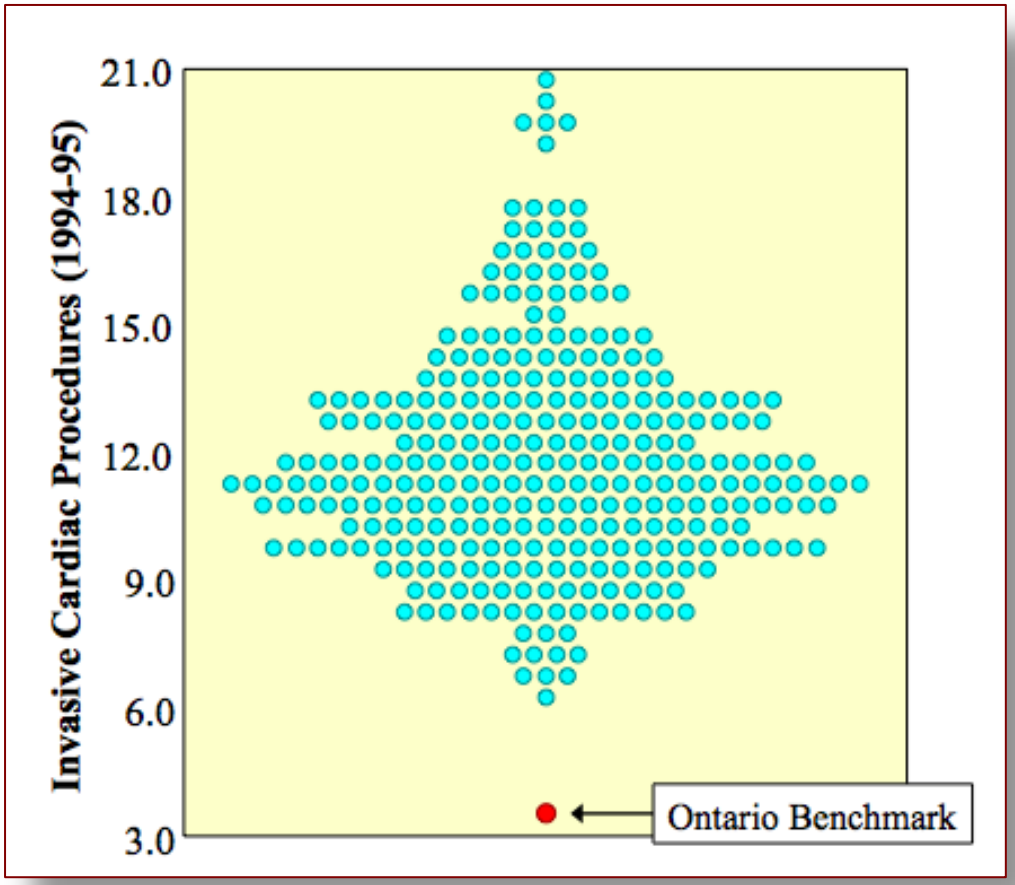
Understanding Variations in Quality

The importance of shared decision-making



Wrong-side surgery: 1 in 1000
Wrong-patient surgery 1 in 5



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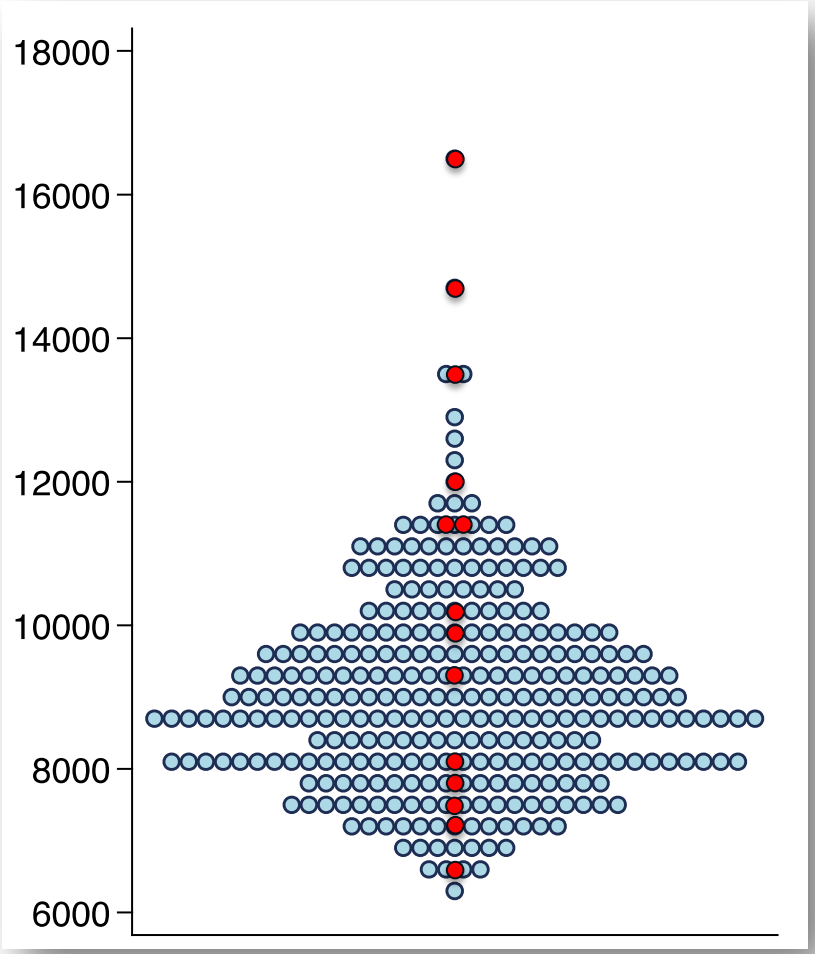
Understanding Variations in Spending

Per-capita 2009 Medicare Spending, age, sex, race adjusted



Miami, FL	$16,639
McAllen, TX	$14,576
Manhattan, NY	$13,453
Los Angeles, CA	$12,711
Detroit, MI	$11,647
Chicago, IL	$11,646
Philadelphia, PA	$10,640
San Francisco, CA	$9,913
Cincinnati, OH	$9,388
Lebanon, NH	$8,124
Minneapolis, MN	$7,734
Des Moines, IA	$7,382
Rochester, MN	$7,120
La Crosse, WI	$6,532

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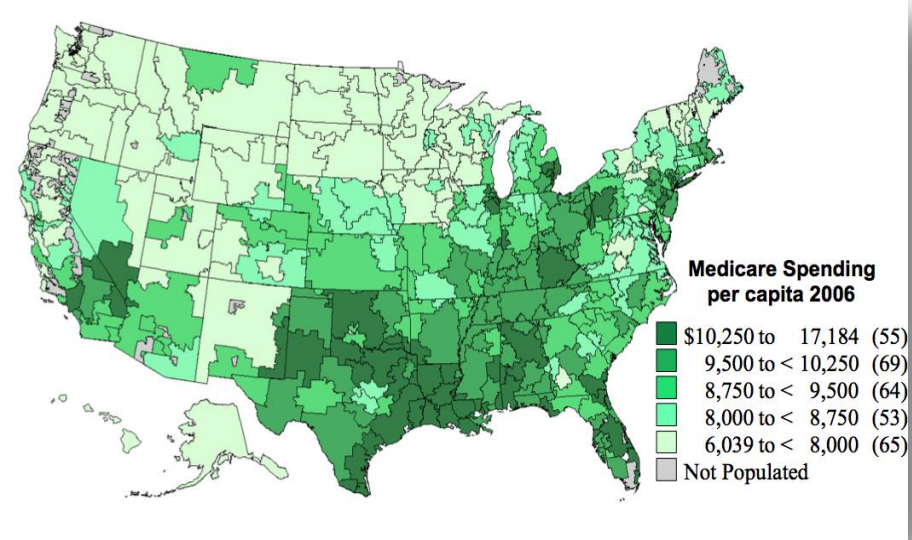
Understanding Variations in Spending

60% greater in high cost regions: where is the money going?



Per-Capita Spending

Low (pale): $3,992

High (green): $6,304

Difference: $2,312 (61%)

Initial Study

- 1 million Medicare beneficiaries with heart attack, colon cancer, hip fracture
- Followed for up to five years after initial hospitalization
- Compared content, quality and outcomes of care across spending levels

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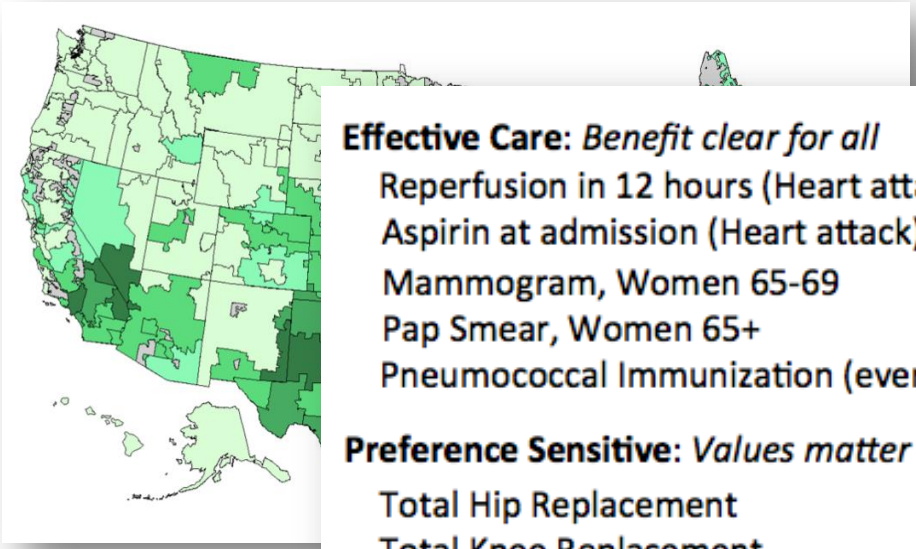
Understanding Variations in Spending

Where is the money going? Ratio of high to low spending



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

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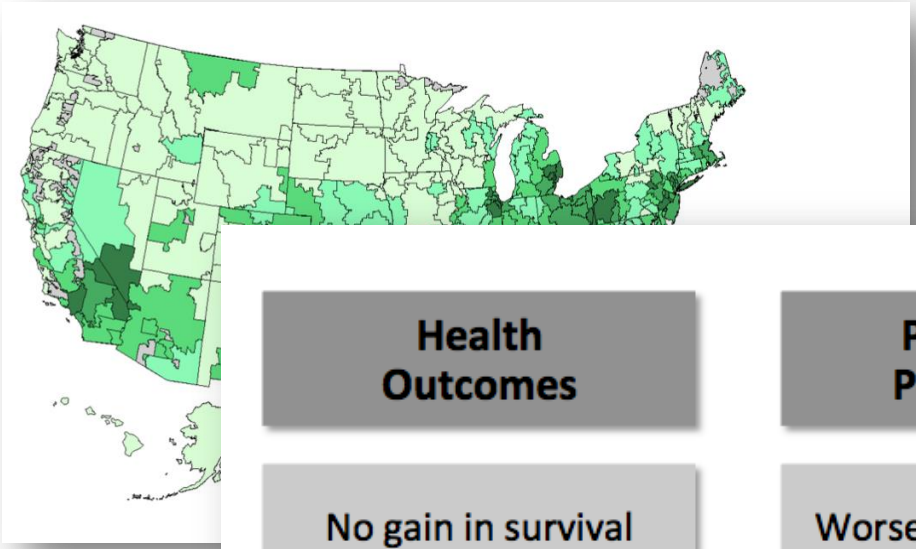
Any benefit from greater use of supply-sensitive care?



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

Sources: (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: 2008; 299: 2406-2412.

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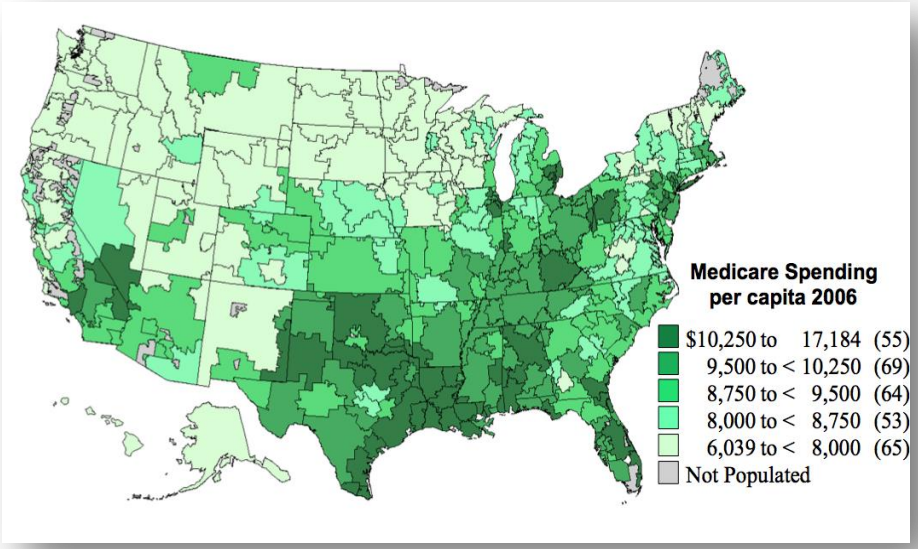
Understanding Variations in Spending

Why the variations?



Why the variation in spending?

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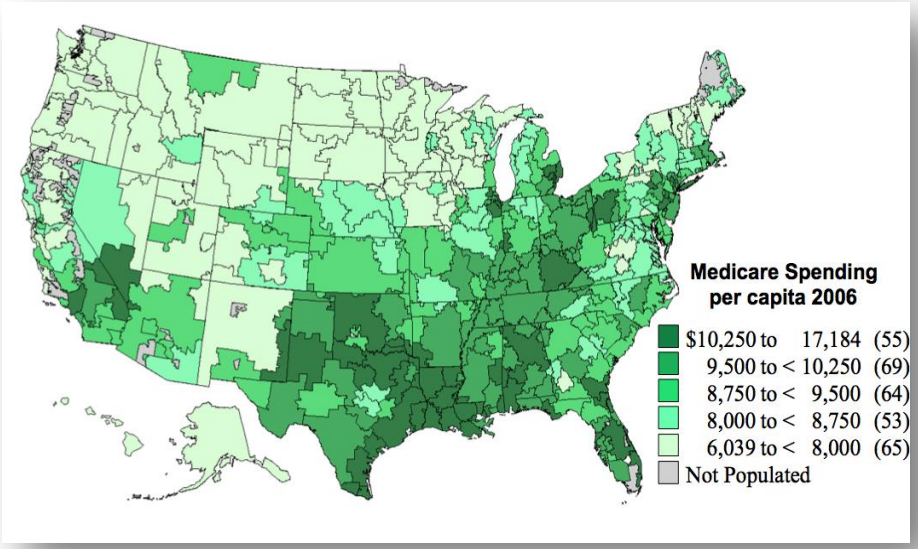

Why the variation in spending?

Not preferences or malpractice

Not just fee-for-service

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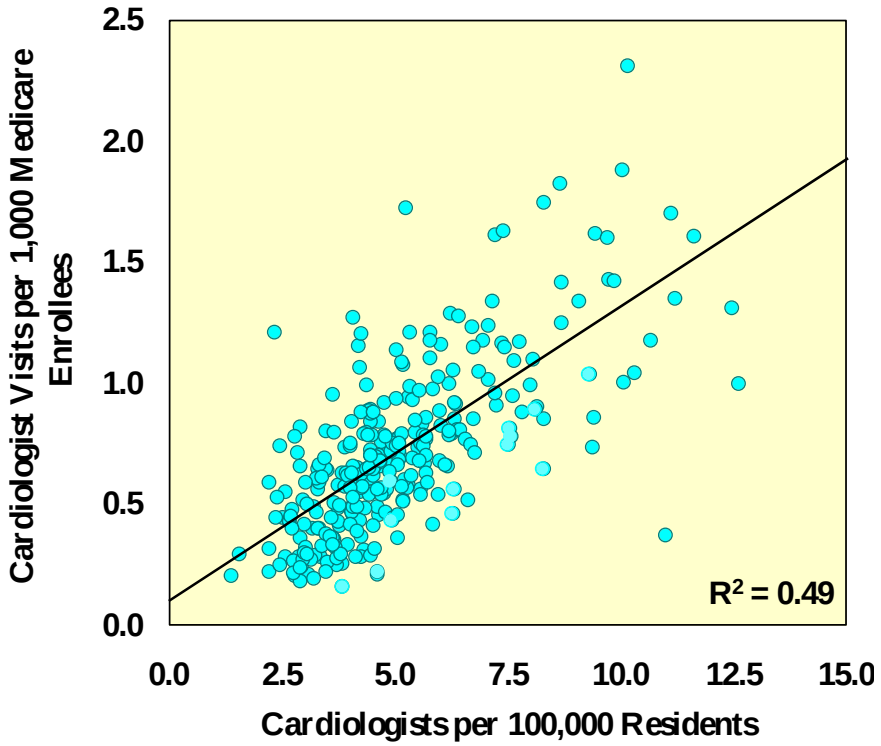

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Supply is important (about 50%)

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Understanding Variations in Spending

Why the variations?

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

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Clinical judgment?

- Evidence-based care – NO
- Supply-sensitive decisions?

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Understanding Variations in Spending

Why the variations?

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

Other vignettes included:

- **Admission for mild heart failure**
- **Referral to specialist**
- **Order advanced imaging for back pain**

Why the variation in spending?

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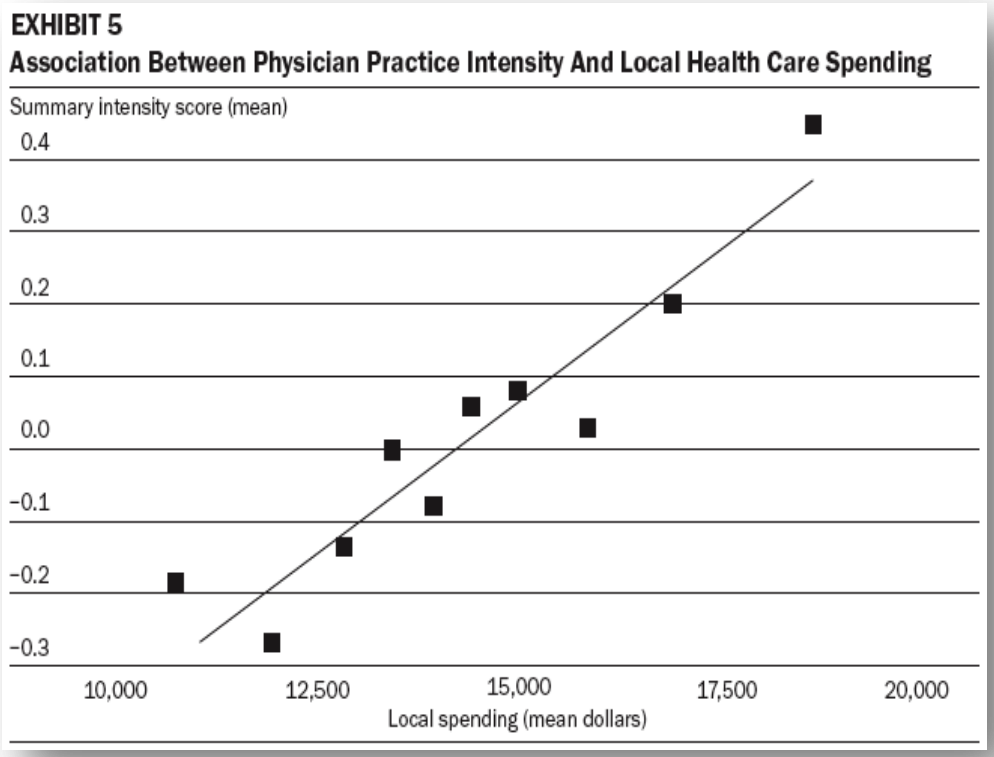

Why the variation in spending?

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Clinical judgment?

- Evidence-based care – NO
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- Intensity score predicts spending

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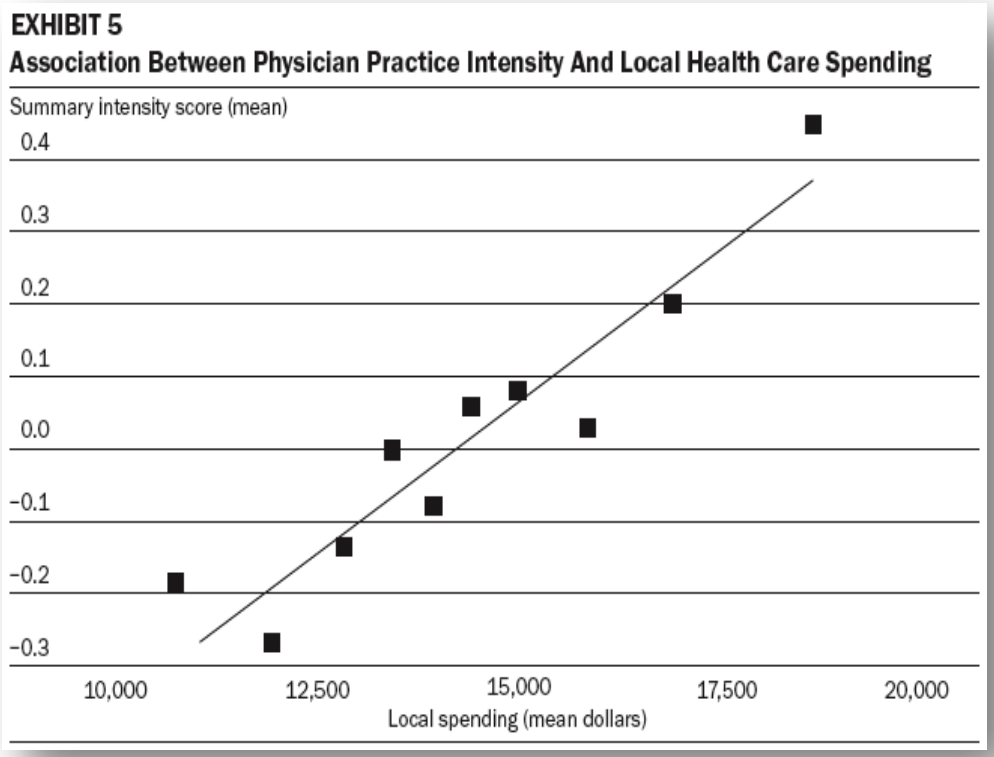

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→ Why <u>local</u> propensity to "do more"

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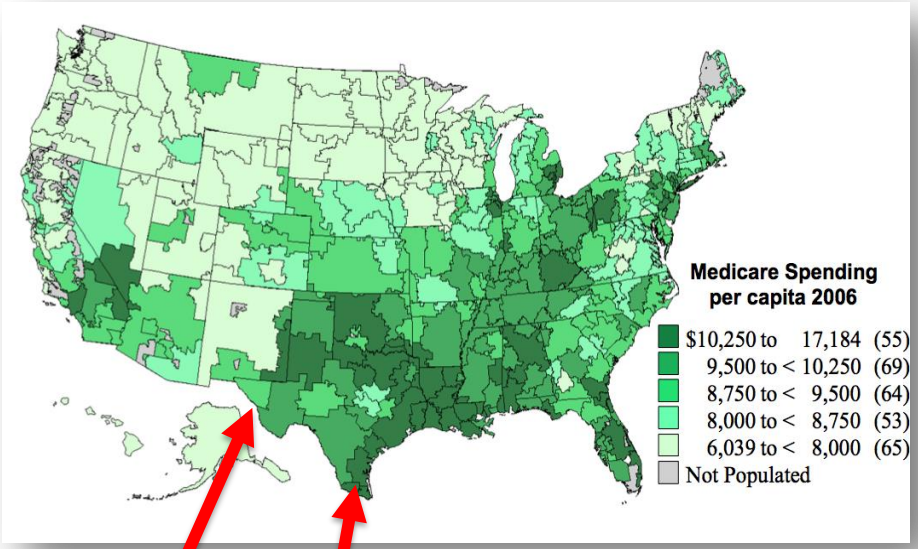

El Paso

McAllen

Why the variation in spending?
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Supply is important (about 50%)

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- Evidence-based care – NO
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→ Why local propensity to "do more"

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THE COST CONUNDRUM

What a Texas town can teach us about health care.

by Atul Gawande

JUNE 1, 2009

"Here … a medical community came to treat patients … as profit centers."

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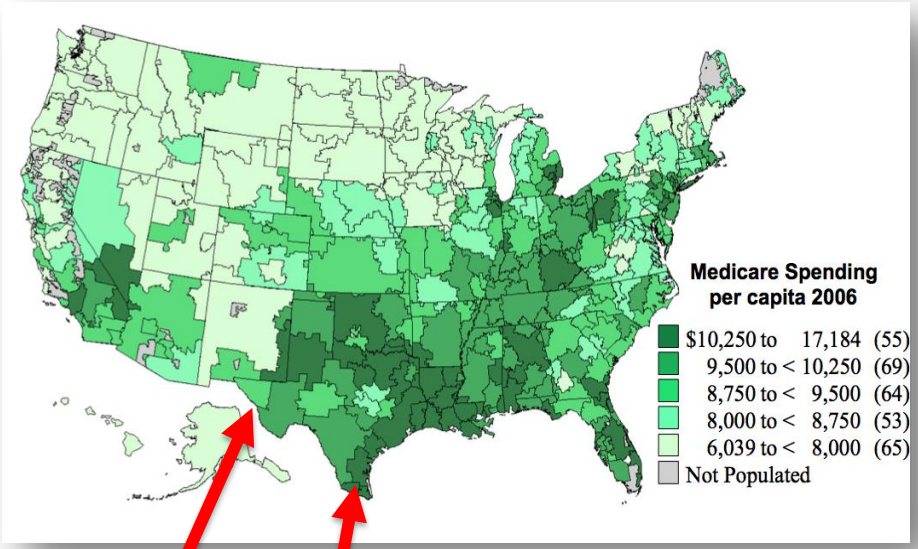

El Paso

McAllen

"This is the problem we have to solve."

President Barack Obama
June 4, 2009


THE NEW YORKER

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Origins
Principles to guide reform

Underlying Problem	Key Principles
Supply drives utilization. Local capacity and practice styles are powerful determinants of decisions and spending.	**Address the problem of supply-driven care** through shared-decision-making; rethink how and where care is delivered.
Absent or poor data leaves practice unexamined and unable to improve; choices uninformed by evidence.	**Better information** that engages physicians, supports improvement; informs consumers and patients.
Flawed conceptual model: Health is produced by face-to-face visits with physicians. Care is fragmented.	**New model**: *It's the system*. Establish organizations capable of redesigning practice and eliminating waste.
Wrong incentives reinforce model, reward fragmentation, induce overuse of unnecessary care.	**Rethink our incentives**: Realign incentives – both financial and professional – with aims.

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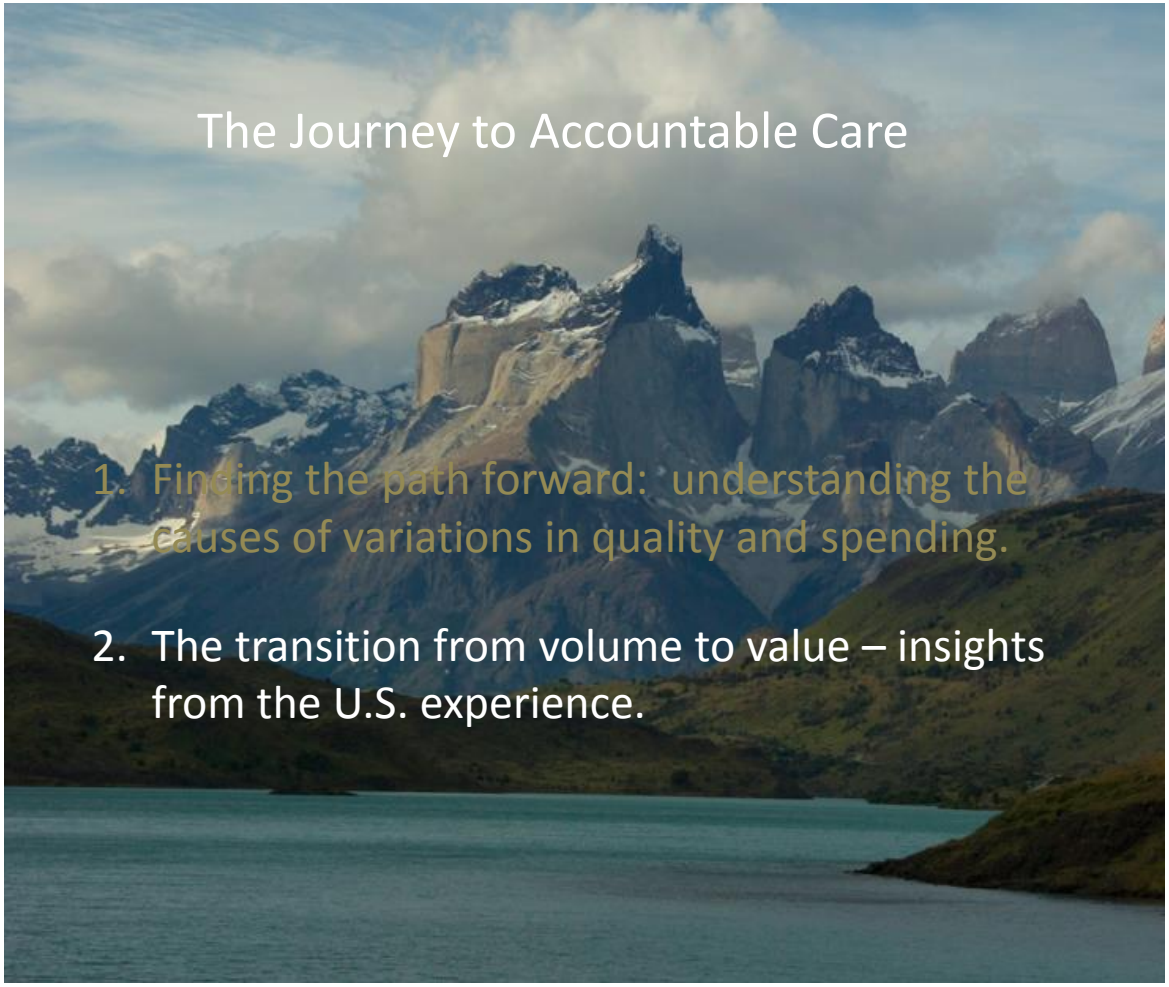
Challenge
Variations in Practice and Spending



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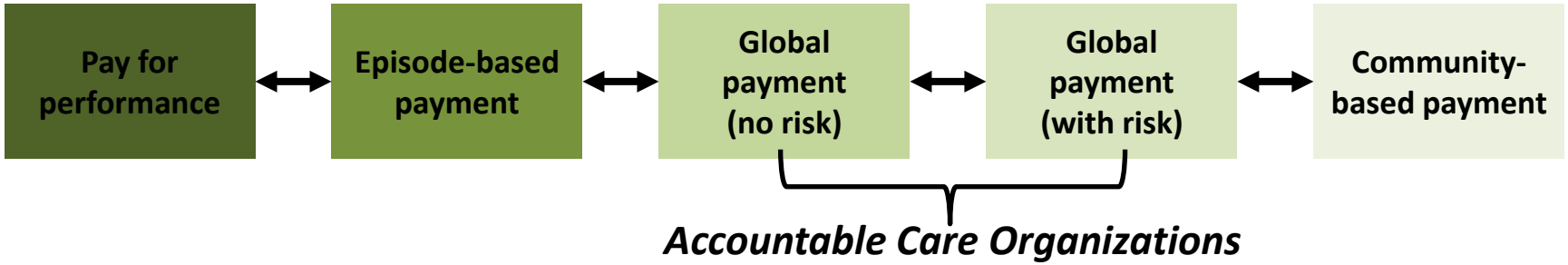
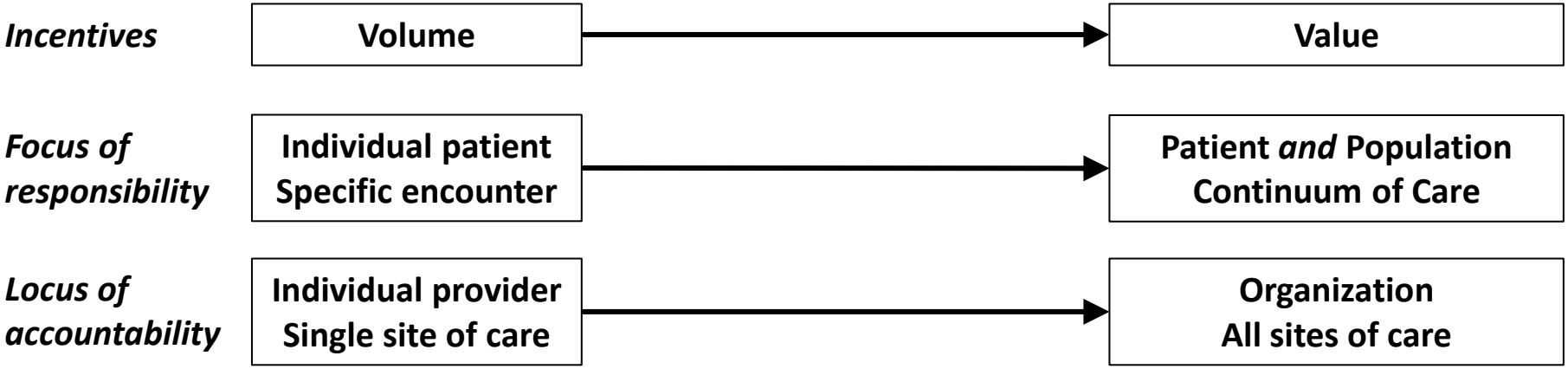
Where are we now?

The transition from volume to value is underway





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Where are we now?

Emerging value-based payment models

Medical Home

Theory: Small monthly payment to support core primary care functions; payment is in addition to fee-for-service

Limitations:

Leaves responsibility largely on shoulders of primary care clinicians

No incentives for specialists or hospitals to support improvement

No incentive to reduce referrals or total cost of care (in most models)

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No incentive to reduce referrals or total cost of care (in most models)

Episode (Bundled) Payments

Theory: single payment for episode (e.g. joint replacement); encourages collaboration across providers to improve care

Limitations:

Boundaries are difficult to define;

Requires someone to accept bundled payment and manage care

Incentive to provide more episodes remains (rewards volume)

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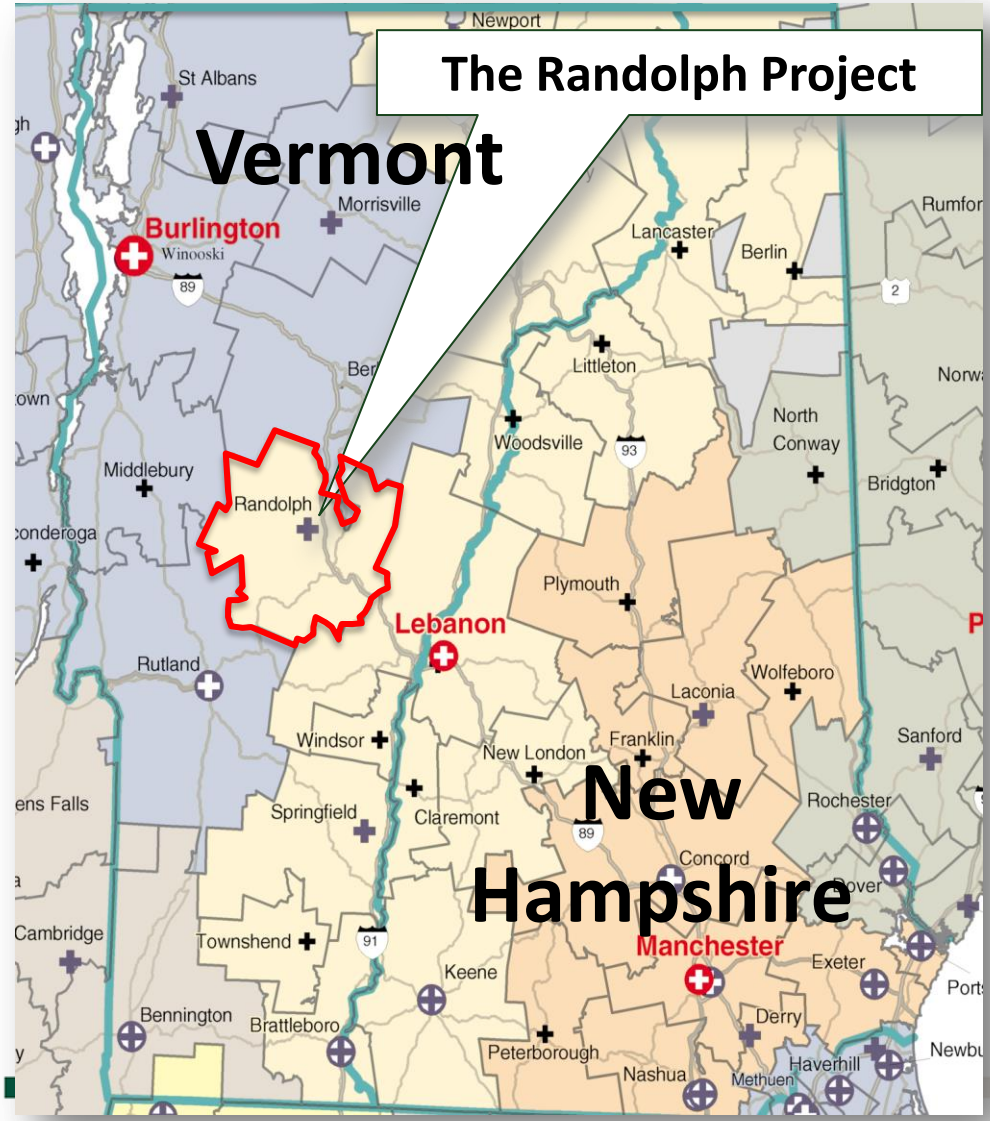
Accountable Care Organizations

Pilot Project



Context:

- Rural community
- 5000 residents
- General hospital – 15 beds
- Nursing home – 30 beds
- 20 primary care providers (MD, RN)
- General surgery, Obstetrics

Concept:

- Determine total current spending
- Project spending forward
- Determine actual spending
- Share savings

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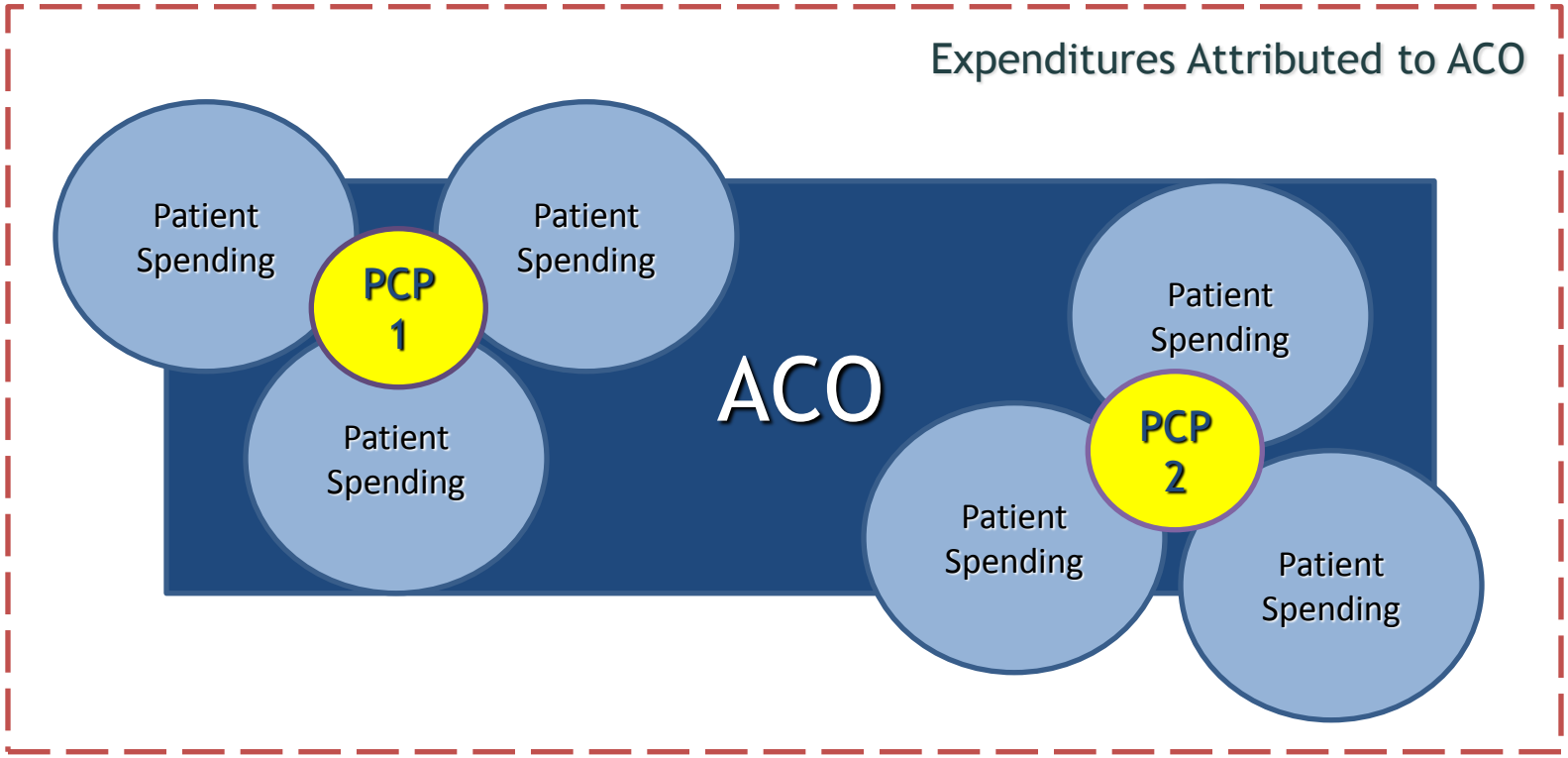
Accountable Care Organizations

Calculating ACO Spending

1. Identify primary care providers (PCP) in the ACO: MD & Nurse Practitioners
2. Determine patients cared for by these providers
3. Calculate spending for **all** services (ACO and non-ACO providers)
   Note: only some of spending will be by ACO providers (dark blue box)

.



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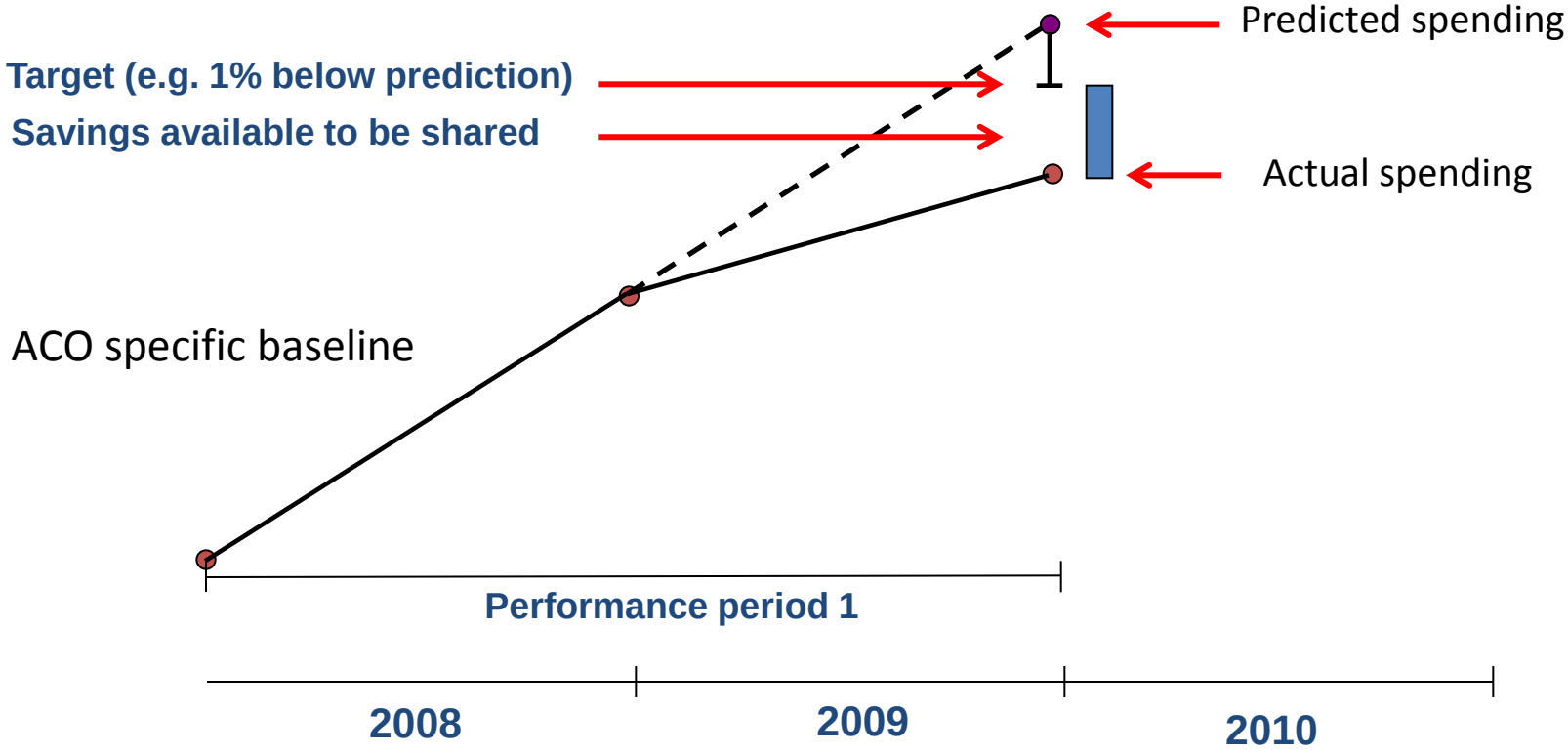
Accountable Care Organizations

Determining spending targets and shared savings



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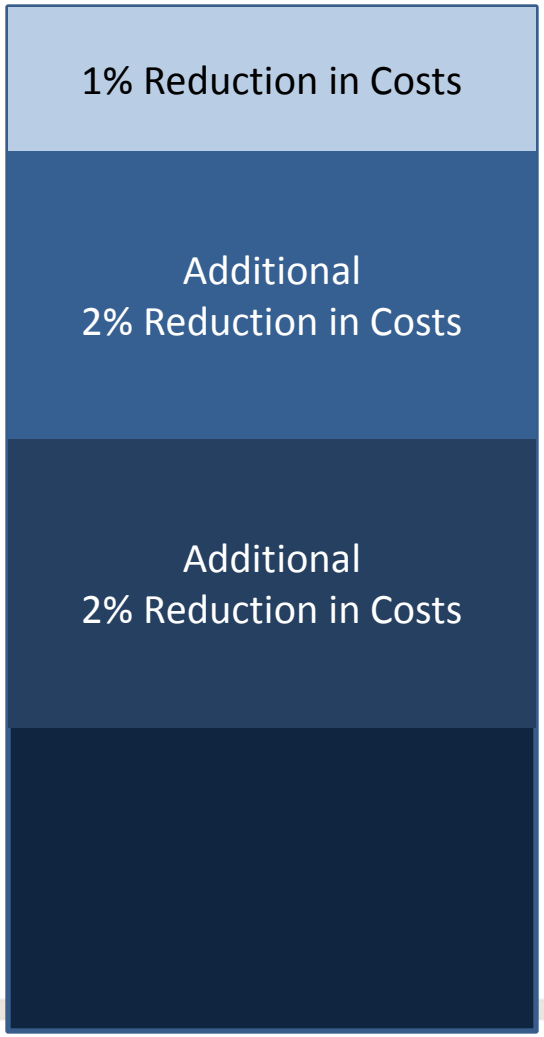
Accountable Care Organizations

How might savings be distributed?

All of the savings go to Payers



Projected FFS spending based on target growth rate

Level at which shared savings begin

Actual ACO FFS spending

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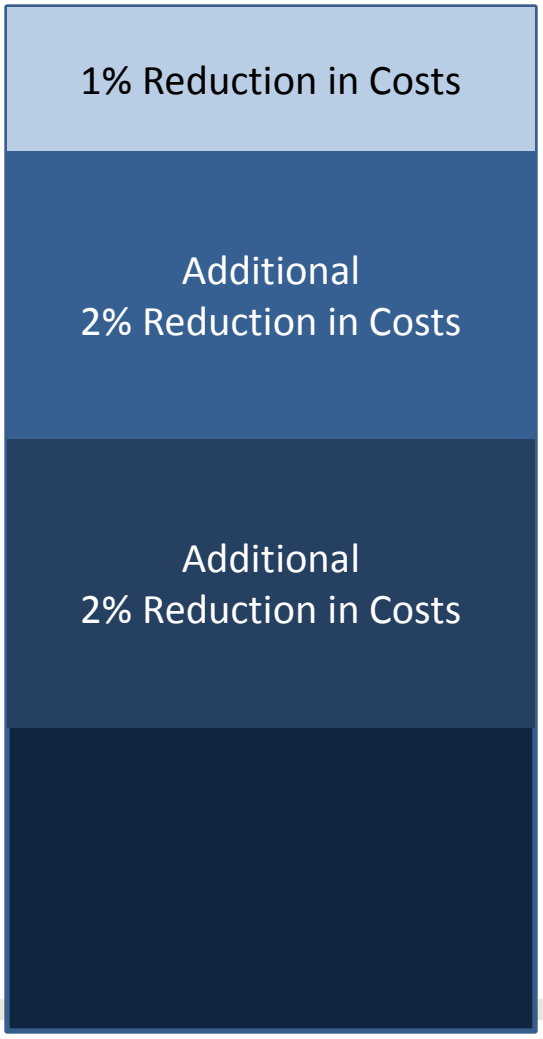
Accountable Care Organizations

How might savings be distributed?

All of the savings go to Payers

Shared Savings:
90% to ACO
10% to Payers

Shared Savings:
75% to ACO
25% to Payers



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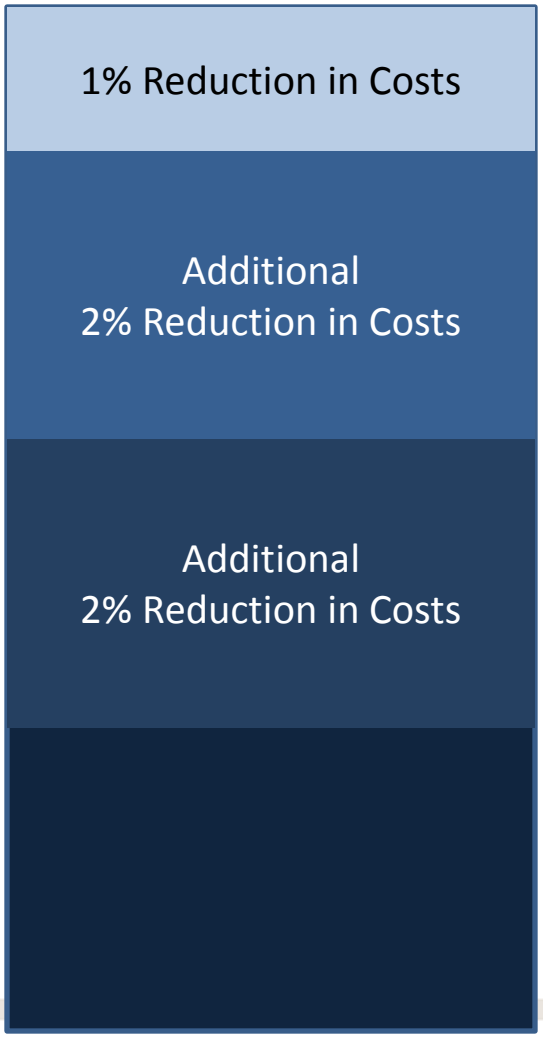

Projected FFS spending based on target growth rate

Level at which shared savings begin

Having larger share of early savings go to ACOs creates incentive to participate

Actual ACO FFS spending

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Shared Savings:
90% to ACO
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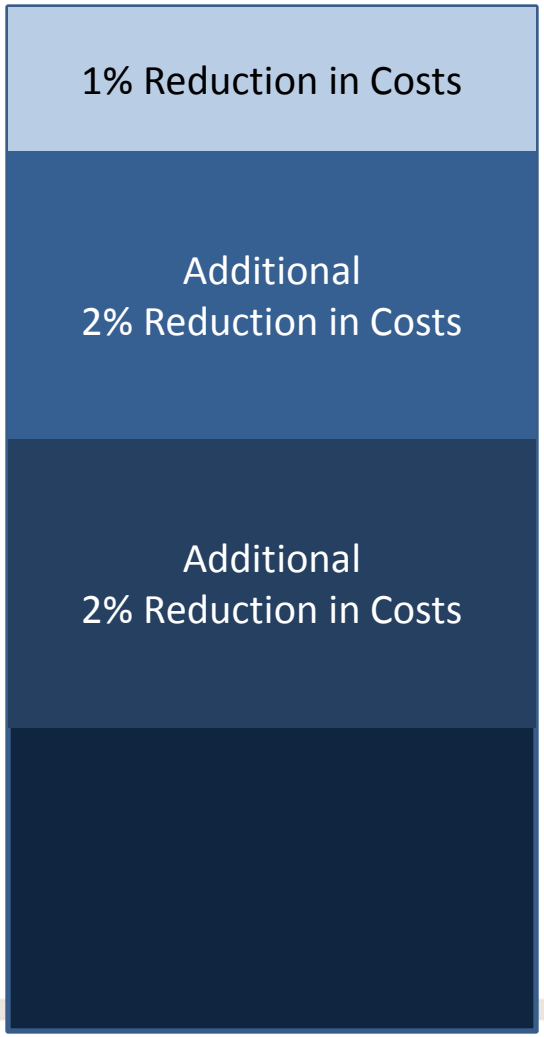
As savings increase, share to **payers** should increase



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Actual ACO FFS spending

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Accountable Care Organizations

Share of savings also depends upon achieving quality targets

Patient/Caregiver Experience

1. CAHPS: Getting Timely Care, Appointments, and Information
2. CAHPS: How Well Your Doctors Communicate
3. CAHPS: Patients' Rating of Doctor
4. CAHPS: Access to Specialists
5. CAHPS: Health Promotion and Education
6. CAHPS: Shared Decision Making
7. CAHPS: Health Status/Functional Status

Care Coordination/ Patient Safety

8. Risk-Standardized, All Condition Readmission
9. Ambulatory Sensitive Conditions Admissions: Chronic Obstructive Pulmonary Disease or Asthma in Older Adults (AHRQ Prevention Quality Indicator (PQI) #5)
10. Ambulatory Sensitive Conditions Admissions: Congestive Heart Failure (AHRQ Prevention Quality Indicator (PQI) #8
11. Percent of Primary Care Physicians who Successfully Qualify for an EHR Program Incentive Payment
12. Medication Reconciliation: Reconciliation After Discharge from an Inpatient Facility
13. Falls: Screening for Fall Risk

Preventive Health

14. Influenza Immunization
15. Pneumococcal Vaccination
16. Adult Weight Screening and Follow-up
17. Tobacco Use Assessment and Tobacco Cessation Intervention
18. Depression Screening
19. Colorectal Cancer Screening
20. Mammography Screening
21. Screening for High Blood Pressure

At Risk Populations

Diabetes Composite (All or Nothing Scoring):

22. Hemoglobin A1c Control (<8 percent)
23. Low Density Lipoprotein (<100)
24. Blood Pressure <140/90
25. Tobacco Non Use
26. Aspirin Use

27. Diabetes Mellitus: Hemoglobin A1c Poor Control (>9 percent)
28. Hypertension (HTN): Controlling High Blood Pressure
29. Ischemic Vascular Disease (IVD): Complete Lipid Panel & LDL Control (<100 mg/dL)
30. Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic
31. Heart Failure: Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction
32. Coronary Artery Disease (CAD) Composite: All or Nothing Scoring: Drug Therapy for Lowering LDL-Cholesterol
33. Coronary Artery Disease (CAD) Composite: All or Nothing Scoring: Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Patients with CAD and Diabetes and/or Left Ventricular Systolic Dysfunction

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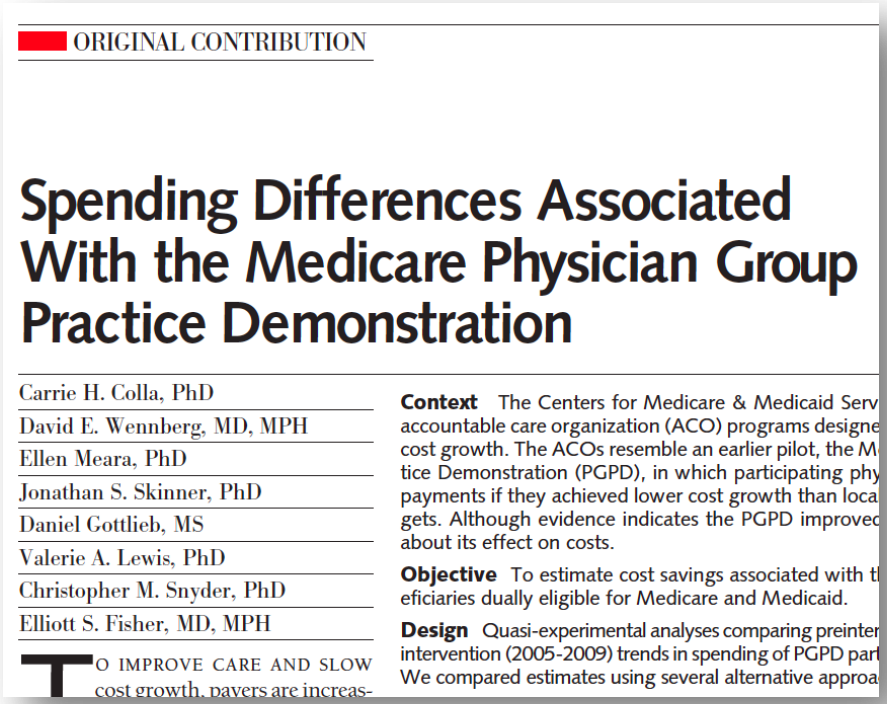
Accountable Care Organizations

Initial National Pilot Project



ORIGINAL CONTRIBUTION

Spending Differences Associated With the Medicare Physician Group Practice Demonstration

Carrie H. Colla, PhD
David E. Wennberg, MD, MPH
Ellen Meara, PhD
Jonathan S. Skinner, PhD
Daniel Gottlieb, MS
Valerie A. Lewis, PhD
Christopher M. Snyder, PhD
Elliott S. Fisher, MD, MPH

Context The Centers for Medicare & Medicaid Serv
accountable care organization (ACO) programs designe
cost growth. The ACOs resemble an earlier pilot, the M
tice Demonstration (PGPD), in which participating phy
payments if they achieved lower cost growth than loca
gets. Although evidence indicates the PGPD improvec
about its effect on costs.

Objective To estimate cost savings associated with t
eficiaries dually eligible for Medicare and Medicaid.

Design Quasi-experimental analyses comparing preinter
intervention (2005-2009) trends in spending of PGPD part
We compared estimates using several alternative approa

TO IMPROVE CARE AND SLOW cost growth, payers are increas-

Physician Group Practice (ACO) Demonstration

Savings Achieved

	All Patients	High-cost Patients
All Systems	1%	5%
Marshfield	9%	11%

Colla et al. JAMA 2012; 308 (10): 1015

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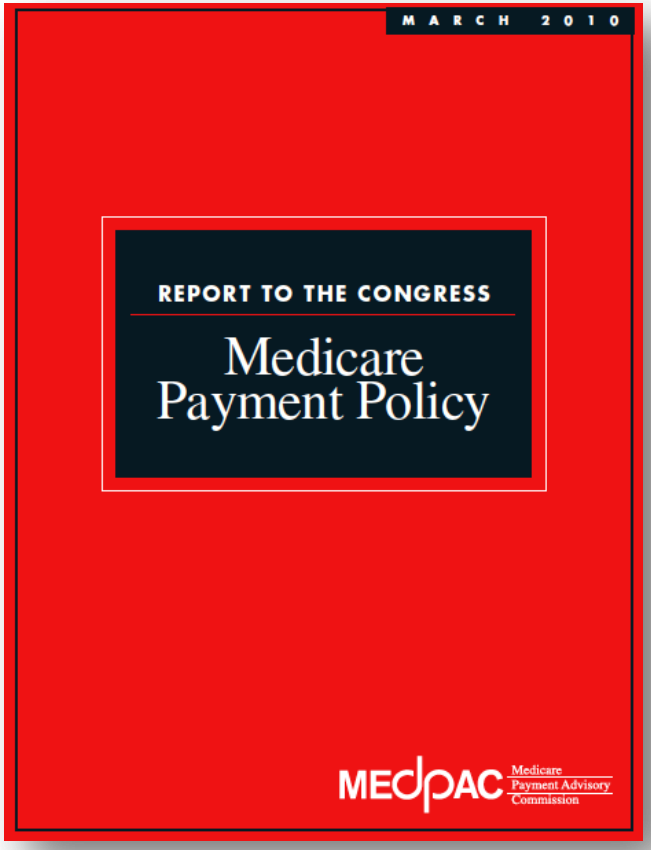
Accountable Care Organizations

General Approach



Design principles

- Population cared for by physician groups
  - Defined by geography (local service area)
  - Patients *choose* their PCP
  - Patients attributed to primary care providers
- Target budget
  - Projected from recent total one year costs
  - Shared savings if spending is below target
- Existing *or* new organizations:
  - Make it easy to start down the path (low risk)
  - Provider-payer partnerships common
- Focus on outcomes
  - Quality improvement a requirement
  - Total cost of care
- Patient choice

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Where are we now?

ACOs are largest component of US payment reform

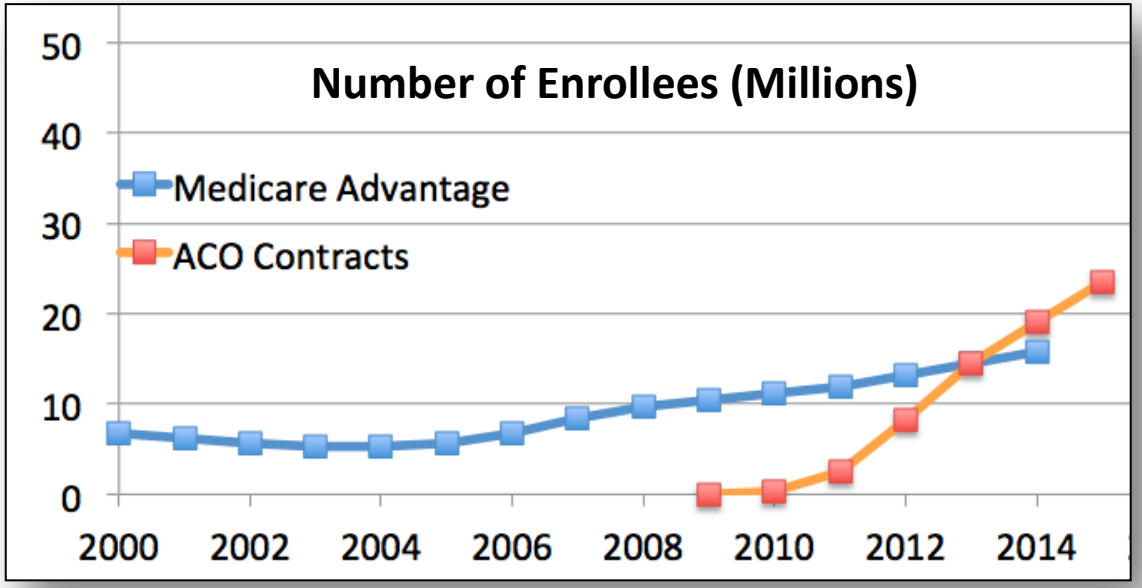
ACO payment model continues to expand: 751 ACOs (August 2015)

Leadership

Physician Group:	308
Hospital led:	339
Other	104

Types of Contracts

Government only	352
Commercial only	245
Both:	142



Sources: Kaiser Family Foundation; Leavitt Partners

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What do ACOs look like?

Hospital-based ACO – Iowa Health (Now Unity Point)

LONG-TERM STRATEGIC PLAN

IOWA HEALTH SYSTEM
Best Outcome for Every Patient Every Time

REPOSITION IOWA HEALTH SYSTEM FROM A HOSPITAL-CENTRIC, EPISODIC DELIVERY MODEL TO A PHYSICIAN-DRIVEN, PATIENT-CENTERED INTEGRATED CARE SYSTEM

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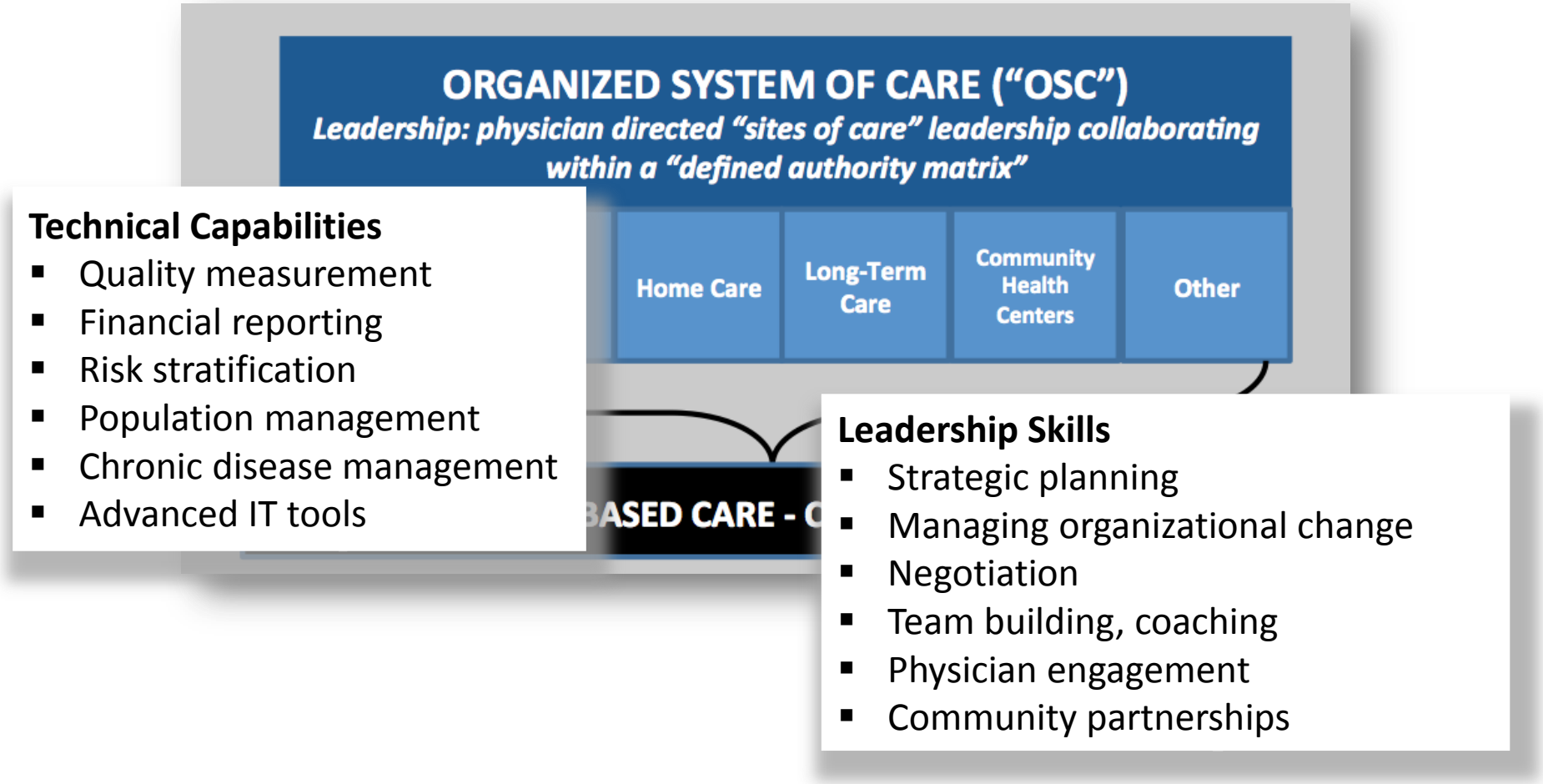
Hospital-based ACO – Iowa Health (Now Unity Point)

New relationships and responsibilities require new capabilities



Technical Capabilities

- Quality measurement
- Financial reporting
- Risk stratification
- Population management
- Chronic disease management
- Advanced IT tools

Leadership Skills

- Strategic planning
- Managing organizational change
- Negotiation
- Team building, coaching
- Physician engagement
- Community partnerships

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What do ACOs look like?

Physician-led ACO

Optimus Healthcare Partners, Summit NJ	
Organizational Structure	Partnership between two IPAs: Vista Health Systems IPA and Central Jersey Physician Network
Physicians	550 physicians; mostly solo / small office practices; 60+ specialists
Payer-Partners	Private: Horizon Blue Cross Blue Shield; others pending Public: MSSP
ACO Governance	Four physician-driven committees: quality, finance, medical/management/utilization, credentialing
Payment Model	Private: PCP care management fees, netted against shared savings Public: Upside only Shared Savings,
Attributed Patients	Private: 40,000 patients under BCBS contract Public: 27,000 Medicare beneficiaries under MSSP
Distribution of Shared Savings	30% to Optimus operations; 70% to providers (almost all to physicians).

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What are we learning?

Early results are promising

Quality:

ACO performing better than FFS

ACOs are almost all meeting required quality targets

Cost:

Overall savings:

- **Magnitude of savings is modest:**

  Medicare Shared Savings Program (MSSP): 0.3% - 1%;

  Pioneer (years 1 and 2): 0.5% - 2%

- **Savings increase over time:**

  Pioneer: total savings grew: $88m → $96m → $120m

  MSSP: 27% of ACOs had savings year 1; 37% by end of year 2

  Massachusetts BCBS ACO – at 4 years, savings were 6.8%

But

Only half of ACOs achieving savings at outset; only 25% receiving bonus

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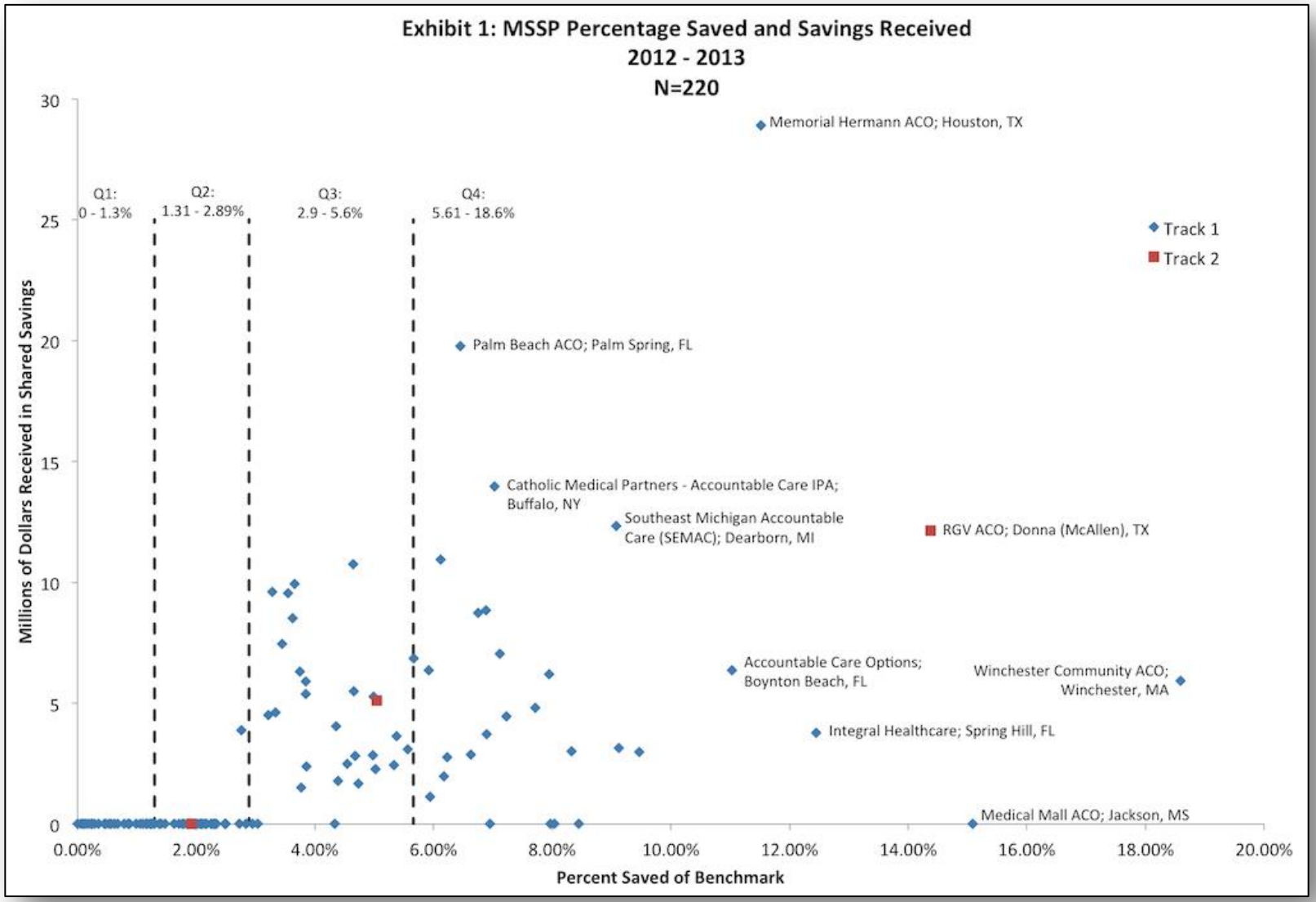
What are we learning now?

Performance varies – Medicare Shared Savings Program



Colla, Heiser, Fisher, Tierney: Health Affairs, June 2015

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What are we learning now?

Can research help guide further reforms?

Empirical evidence – better performance in:

- High cost regions / high cost ACOs
- Smaller ACOs
- Prior experience with risk contracts
- Stronger care management capabilities
- More "high cost / high need" enrollees

Impressions

Leadership:

- Commitment to move organization to ACO model
- Capacity to learn and execute

Data: to support patient management and care improvement

Degree of alignment: of payment across payers (single business model)

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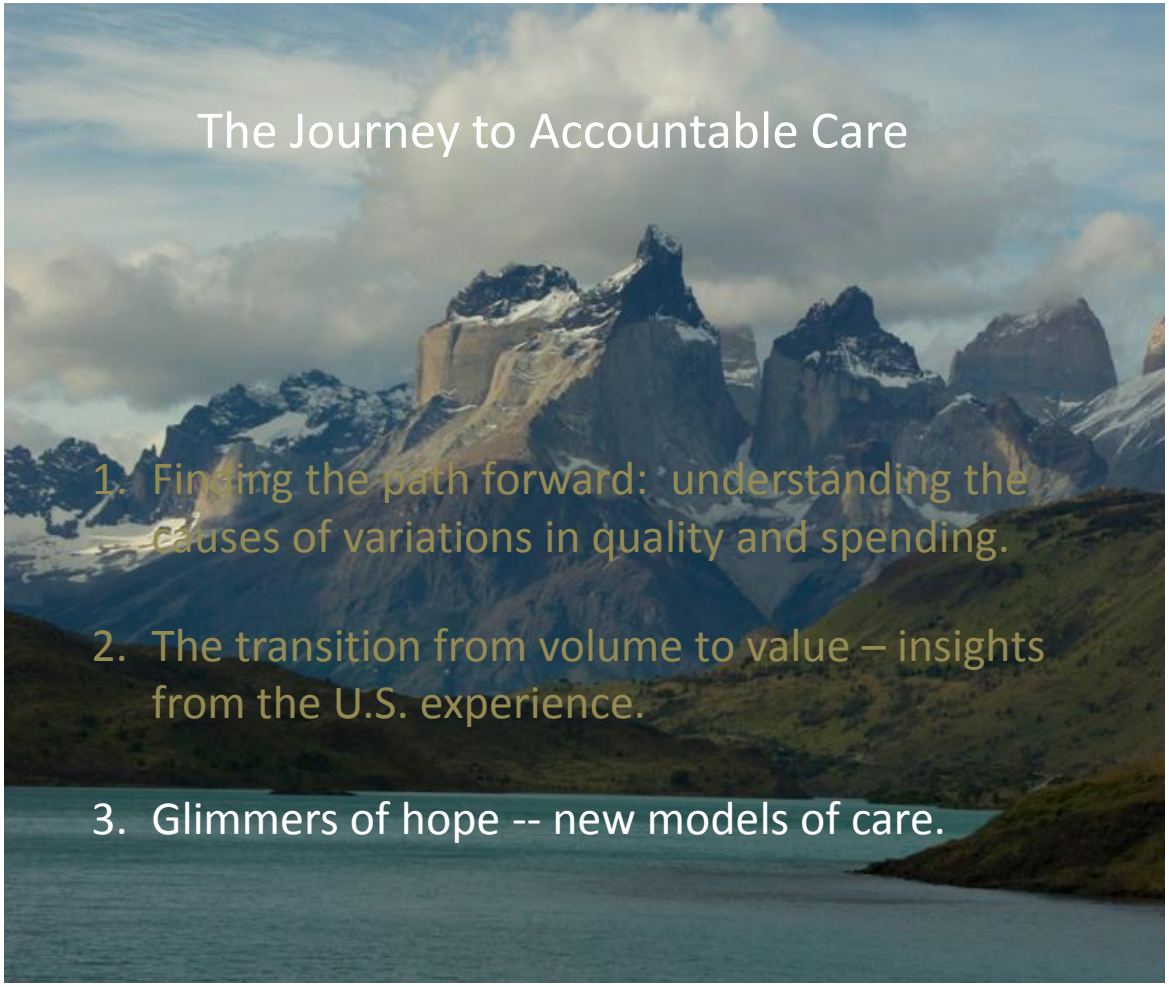
Challenge
Variations in Practice and Spending



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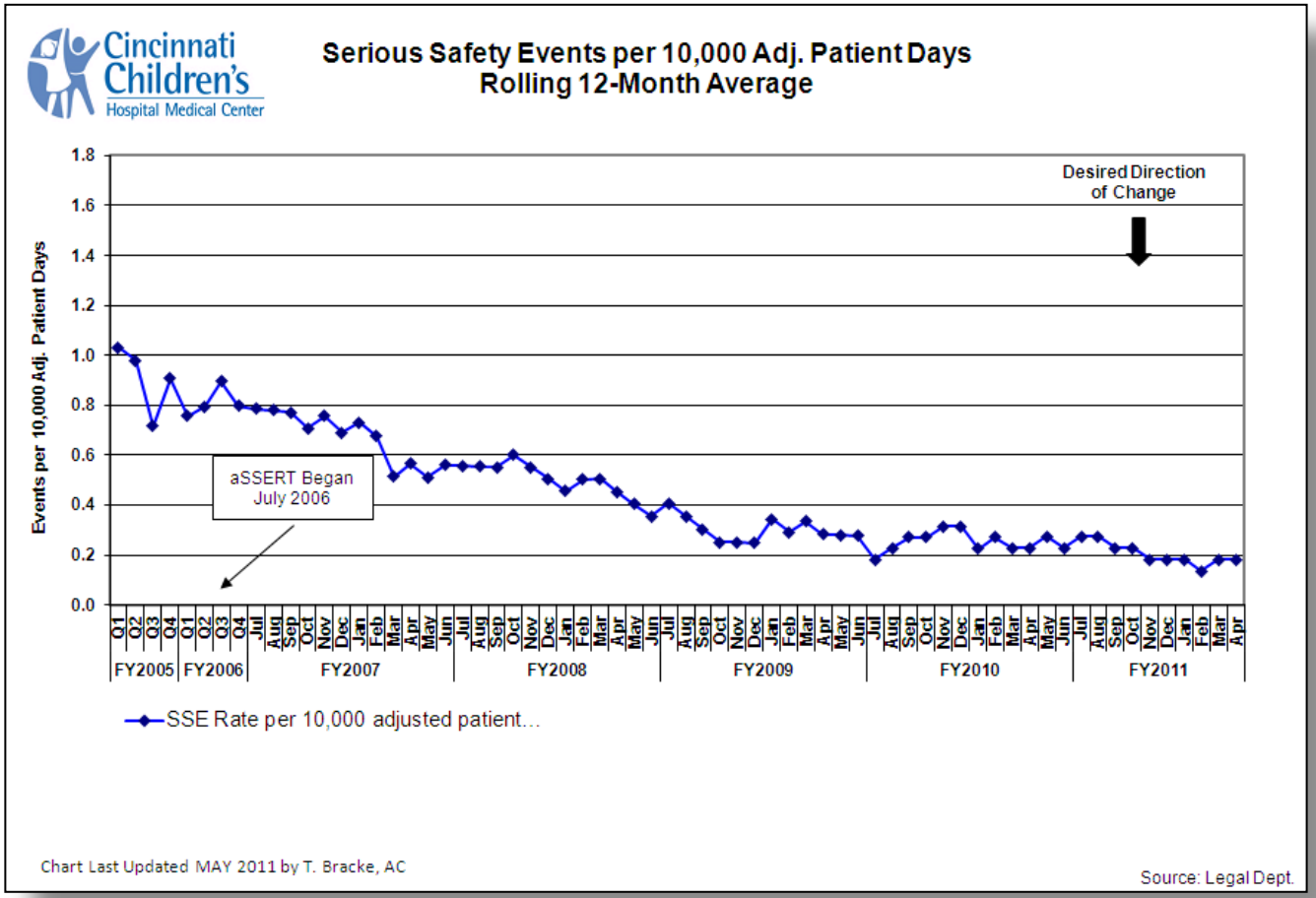
Science of Improvement is Taking Root

Improving adherence to evidence-based practice



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Science of Improvement is Taking Root

Improving adherence to evidence-based practice

Cincinnati Children's Hospital Medical Center

Serious Safety Events per 10,000 Adj. Patient Days
Rolling 12-Month Average

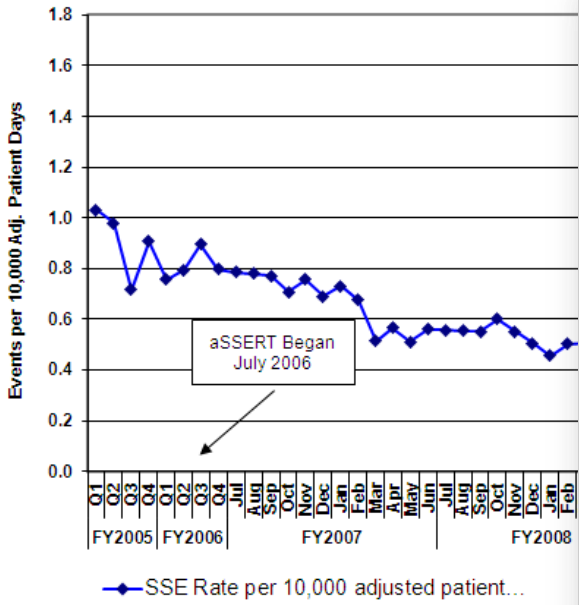
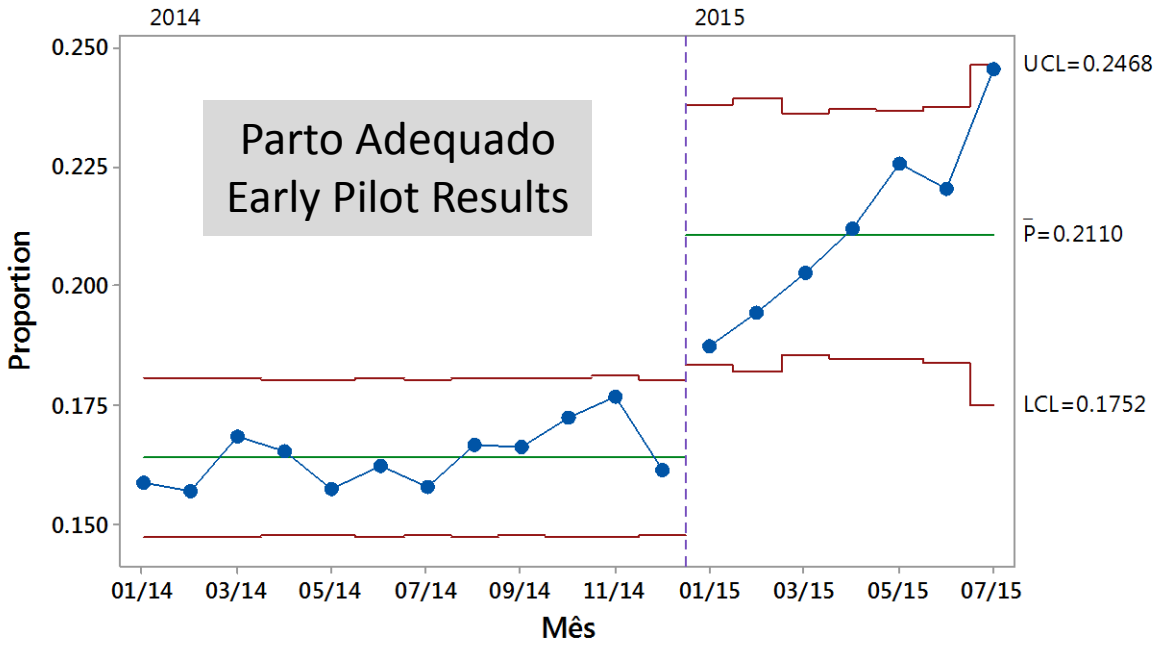


Chart Last Updated MAY 2011 by T. Bracke, AC

Percentual de partos vaginais - Grupo Piloto



Tests performed with unequal sample sizes

60 anos ALBERT EINSTEIN Sociedade Beneficente Israelita Brasileira A

ANS Agência Nacional de Saúde Suplementar

Institute for Healthcare Improvement

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New Models of Primary Care

Team-based care; Health Coaching; Shared-decision-making

MEDICAL HOMES: A SOLUTION?

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

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

Harry Shriver

Reid R. et al. Health Affairs, 2010; 29 (5):835

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

Harry Shriver

Introduced shared decision-making in Primary Care for lower extremity joint replacements in 2009

Over 6 months

- 38% fewer knee replacements
- 26% fewer hip replacements
- 12 – 21% lower costs

Reid R. et al. Health Affairs, 2010; 29 (5):835
Arterburn D, et al. Health Affairs 2012; 31(9):2094

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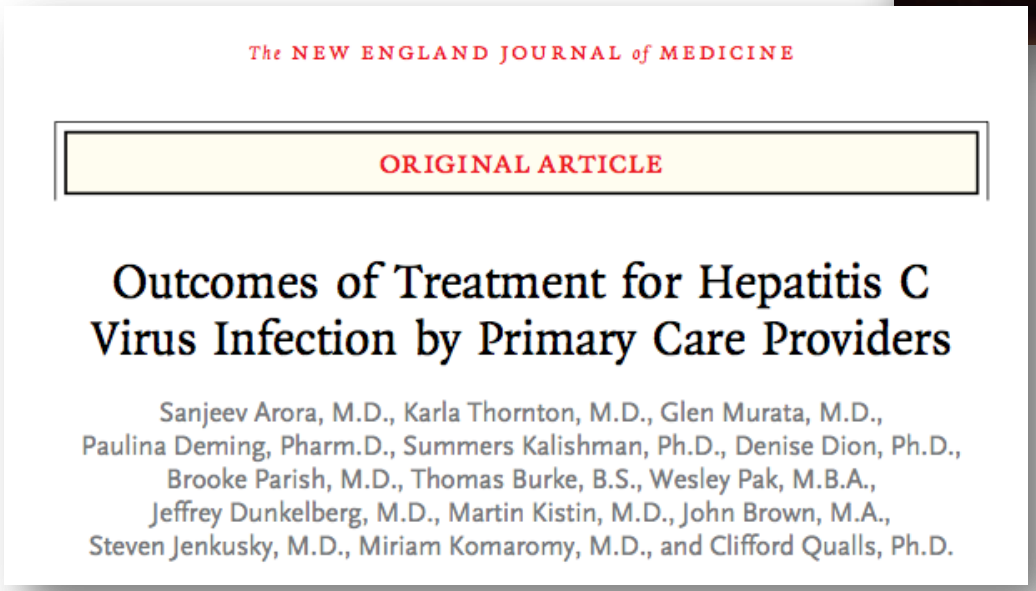
New Models of Specialty Care

Training, Protocols, and Telemedicine



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Outcomes of Treatment for Hepatitis C Virus Infection by Primary Care Providers

Sanjeev Arora, M.D., Karla Thornton, M.D., Glen Murata, M.D., Paulina Deming, Pharm.D., Summers Kalishman, Ph.D., Denise Dion, Ph.D., Brooke Parish, M.D., Thomas Burke, B.S., Wesley Pak, M.B.A., Jeffrey Dunkelberg, M.D., Martin Kistin, M.D., John Brown, M.A., Steven Jenkusky, M.D., Miriam Komaromy, M.D., and Clifford Qualls, Ph.D.

Arora A. et al. New England Journal of Medicine; 2011; 364:2119

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What does the future hold?

It is up to us

Kori Krueger, MD
Marshfield Clinic

Physician Group Practice (ACO) Demonstration

Savings Achieved

	All Patients	High-cost Group
All Systems	1%	5%
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What does the future hold?

It is up to us

Kori Krueger, MD
Marshfield Clinic

System incentives: shared savings; focus on all patients
Measures: quality, outcomes, and costs
Data feedback: MD performance shared, to motivate
Improvement? Teams to support practice change

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