



CECS

Center for the
Evaluative
Clinical Sciences



Can we use the health care workforce more efficiently?
Insights from variations in practice

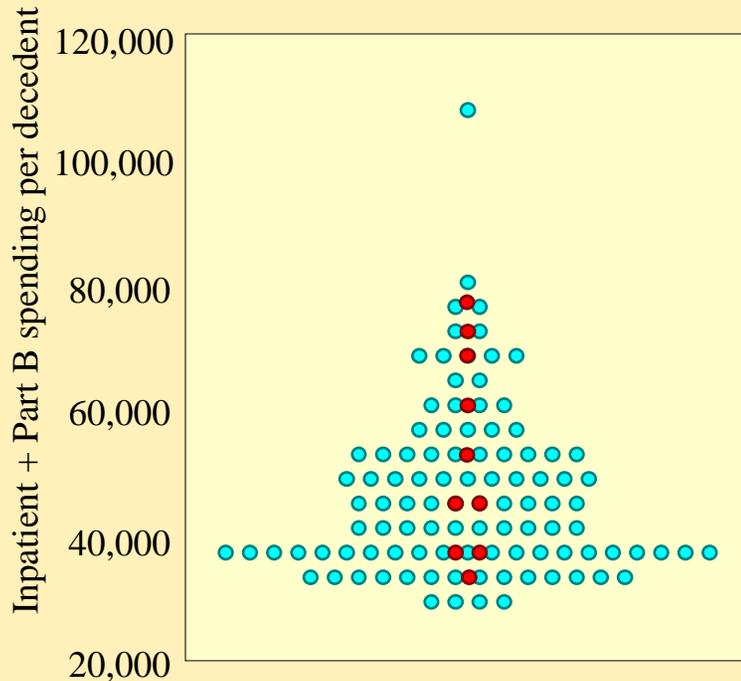
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Variations in spending and physician labor inputs among USN&WR top ten “honor roll” academic medical centers

Resource inputs per Medicare beneficiary with severe chronic disease

(Last 2 years of life, 2000-2003)



	<i>Spending</i>	<i>MD FTE</i>
UCLA Medical Center	72,793	50.4
New York-Presbyterian	69,962	
Johns Hopkins	60,653	
UCSF Medical Center	56,859	
Univ. of Washington	50,716	
Mass. General	47,880	
Barnes-Jewish	44,463	
Duke University Hosp.	37,765	
Mayo Clinic (St. Mary's)	37,271	
Cleveland Clinic	35,455	24.1

Spending, quality and the physician workforce

Is it possible to provide care with fewer physicians?

Higher intensity treatment -- what are we getting?

What's going on?

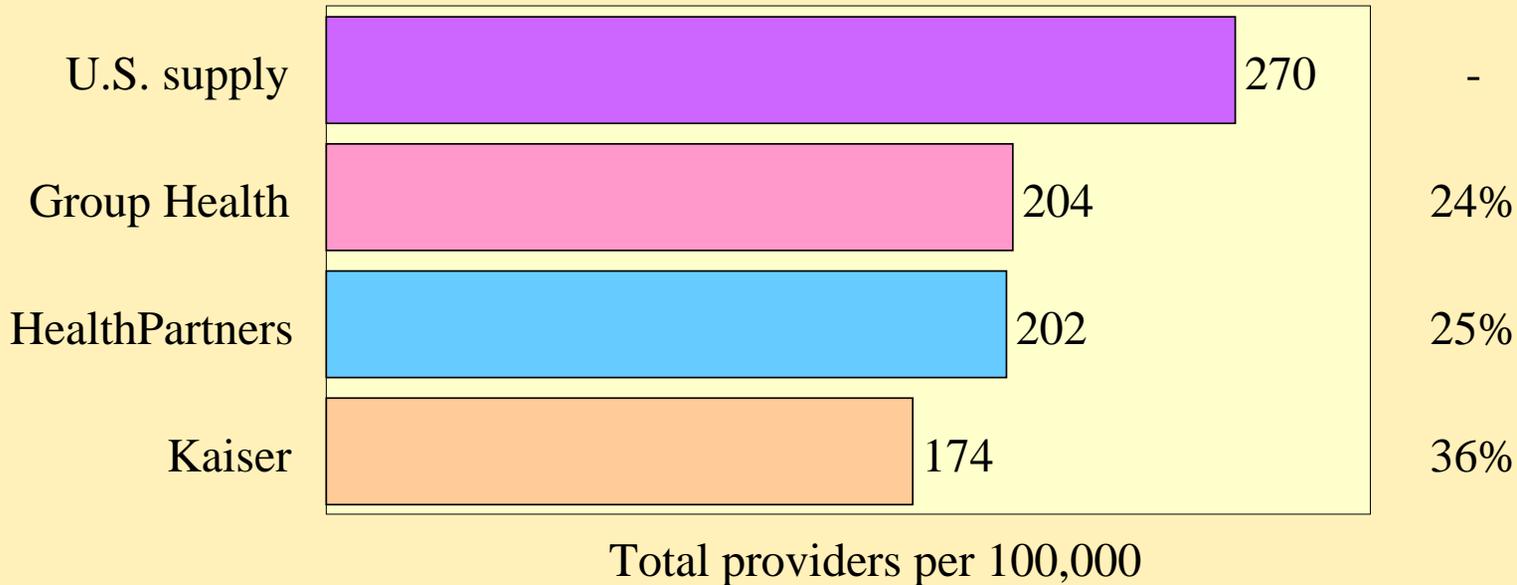
What we need to know: how to identify and foster high performing health systems

Is it possible to provide care with fewer physicians?

Prepaid group practices use fewer physicians

Adjusted physician supply per 100,000 in selected prepaid group practices

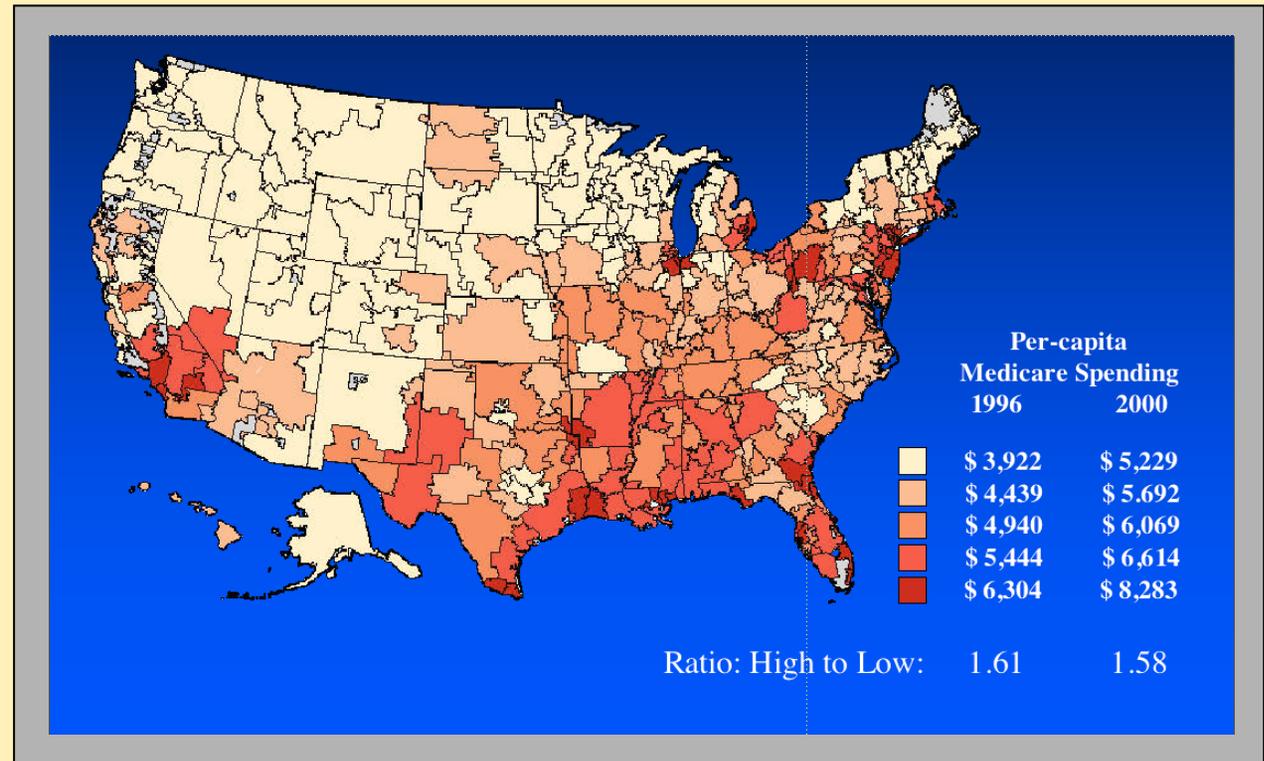
Reduction compared to US



Is it possible to provide care with fewer physicians?

Prepaid group practices use fewer physicians

Low intensity U.S. regions achieve equal or better results with fewer physicians



Is it possible to provide care with fewer physicians?

Prepaid group practices use fewer physicians

Low intensity U.S. regions achieve equal or better results with fewer physicians

Academic medical centers also differ dramatically in their intensity and use of physician labor

	Mayo	Duke	UCSF	UCLA	Cedars
Hospital days (L6M)*	12.9	14.0	13.2	19.2	23.1
Physician visits (L6M)*	23.8	23.3	30.4	52.1	71.3
Total Physician FTE (L2Y)**	20.3	21.1	24.5	40.6	52.2
Primary care FTE inputs (L2Y)**	7.0	6.4	10.8	9.3	12.8
Medical specialist FTE (L2Y)**	8.4	8.8	9.0	22.9	29.9

* Measures are per person / per decedent

** Measures are per 1000 decedents

Spending, quality and the physician workforce

Is it possible to provide care with fewer physicians?

Higher intensity treatment -- what are we getting?

The paradox of plenty

What do higher intensity regions -- and systems -- get?

Content / Quality of Care^{1,2}

Technical quality worse

No more major surgery

Greater use of supply sensitive services

(1) Ann Intern Med: 2003; 138: 273-298

(2) Health Affairs web exclusives, October 7, 2004

(3) Health Affairs, web exclusives, Nov 16, 2005

(4) Health Affairs web exclusives, Feb 7, 2006

(5) Ann Intern Med: 2006; 144: 641-649

Content of care

higher vs lower intensity academic medical centers

Risk adjusted use of physician services during the first six months of follow-up among patients cared for by U.S. Academic Medical Centers

	Quintile of AMC Intensity			<i>Ratio High to Low</i>
	<i>Lowest</i>	<i>Middle</i>	<i>Highest</i>	
Hip Fracture				
Evaluation and Management	\$894	\$1,054	\$1,628	1.82
Imaging	471	503	596	1.26
Diagnostic tests	96	134	181	1.90
Minor Procedures	366	409	535	1.46
Major Procedures	1,517	1,526	1,538	1.01
AMI				
Evaluation and Management	1,120	1,234	1,548	1.56
Imaging	1,054	1,139	1,265	1.20
Diagnostic tests	180	209	311	1.73
Minor Procedures	302	335	467	1.54
Major Procedures	2,769	2,777	2,852	1.03

The paradox of plenty

What do higher intensity regions -- and systems -- get?

Content / Quality of Care^{1,2}

*Technical quality worse
No more elective surgery
Greater use of supply sensitive services*

Health Outcomes^{1,2}

*Slightly higher mortality
No better function*

Physician's perceptions⁵

*Worse communication among physicians
Greater difficulty ensuring continuity of care
Greater difficulty providing high quality care
Greater perception of scarcity*

Patient-perceived quality^{1,3}

*Lower satisfaction with hospital care
Worse access to primary care*

Trends over time⁴

*Greater growth in per-capita resource use
Lower gains in survival (following AMI)*

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Spending, quality and the physician workforce

Context: why is this an important question?

Is it possible to provide good care with fewer physicians?

Higher intensity treatment -- what are we getting?

What's going on?

Differences in spending

What are the underlying causes?

Patient preferences?^{1,2}

*Slight preference for specialist care in high spending
No difference for tests (if MD says not needed)
No difference in preferences for aggressive EOL care*

Malpractice environment^{3,4}

*Explains less than 10% of state differences in spending
Little impact on growth in utilization across states*

Capacity / payment system⁵

*Capacity strongly correlated, but explains less than 50%
Payment system ensures all stay busy*

Clinical judgment^{6,7}

- (1) Pritchard et al. *J Am Geriatric Society*; 46:1242-1250, 199
- (2) Anthony et al, under review
- (3) Kessler et al. *Quarterly Journal of Medicine* 1996;111(2):353-90
- (4) Baicker, Chandra, NBER Working Paper W10709
- (5) Fisher et al. *Ann Intern Med*: 2003; 138: 273-298
- (6) Sirovich et al. *Archives of Internal Medicine*. 165(19):2252-6.
- (7) Sirovich et al, *J Gen Intern Med*. 2006;21(Suppl4):164.

Physician propensity to intervene

Primary Care Physician Surveys

Percent of patients for whom physicians would recommend the intervention in low and high spending regions in each scenario:

	Low Spending Regions	High Spending Regions	Trend significant
Cardiology referral for chest pain and abnormal stress test	91	93	no
MRI for back pain and mildly abnormal nerve function	69	82	yes
Drug treatment of high cholesterol with no other risk factors	44	53	yes
Urology referral for mild symptoms of prostatic enlargement	23	32	yes
Prostate cancer screening test for 60 year old white male	68	78	yes
Visit for patient with isolated high blood pressure in 3 months or less	22	49	yes

Differences in spending

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*Capacity strongly correlated, but explains less than 50%
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Clinical judgment^{6,7}

*No difference in decisions with strong evidence
More likely to intervene in “gray” areas
(when to see patient, when to refer, when to admit)*

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- (2) Anthony et al, under review
- (3) Kessler et al. *Quarterly Journal of Medicine* 1996;111(2):353-90
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What I think I know

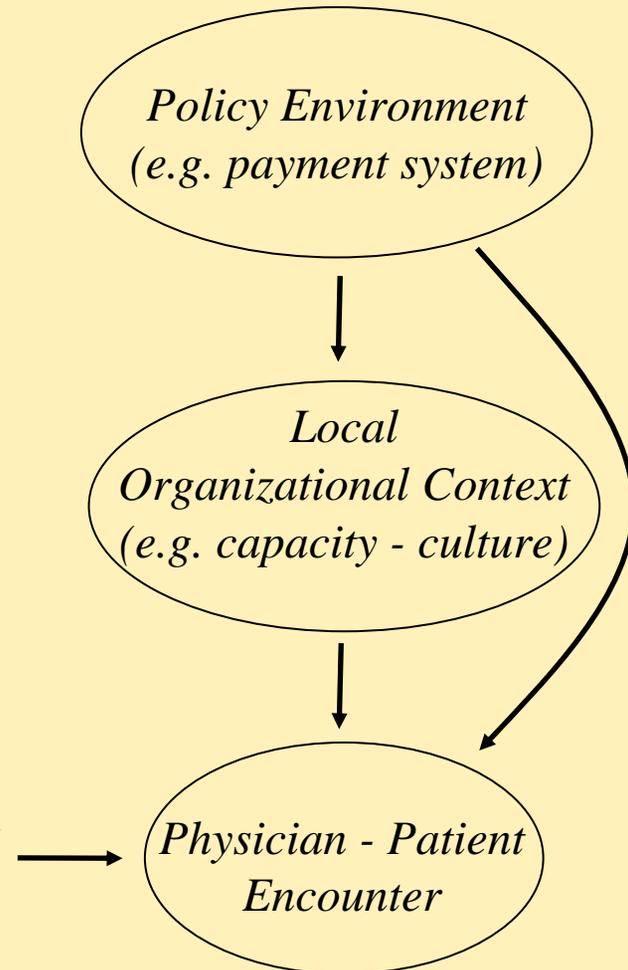
Local capacity and clinical culture drive practice and spending

Clinical evidence (e.g. RCTs, guidelines) is a critically important -- but very limited -- influence on clinical decision-making.

Physicians practice within a local organizational context and policy environment that profoundly influences their decision-making. Payment system ensures that existing (and new capacity) is fully utilized. Growth in capacity helps drive the evolution of new (more intensive) local social norms.

Consequence: *reasonable* individual clinical and local decisions lead, in aggregate, to higher utilization rates, greater costs -- *and inadvertently* -- worse outcomes

*Clinical Evidence
Professionalism*



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What we need to know: how to identify and foster high performing health systems

Some thoughts on moving forward

We need to consider underlying causes of rising costs, poor quality

Underlying cause

Failure to recognize key role of *local* system (capacity, clinical culture) as driver

Assumption that more is better
Equating less care with rationing

Payment system that rewards more care, increased capacity, high margin treatments, entrepreneurial behavior

General Approach

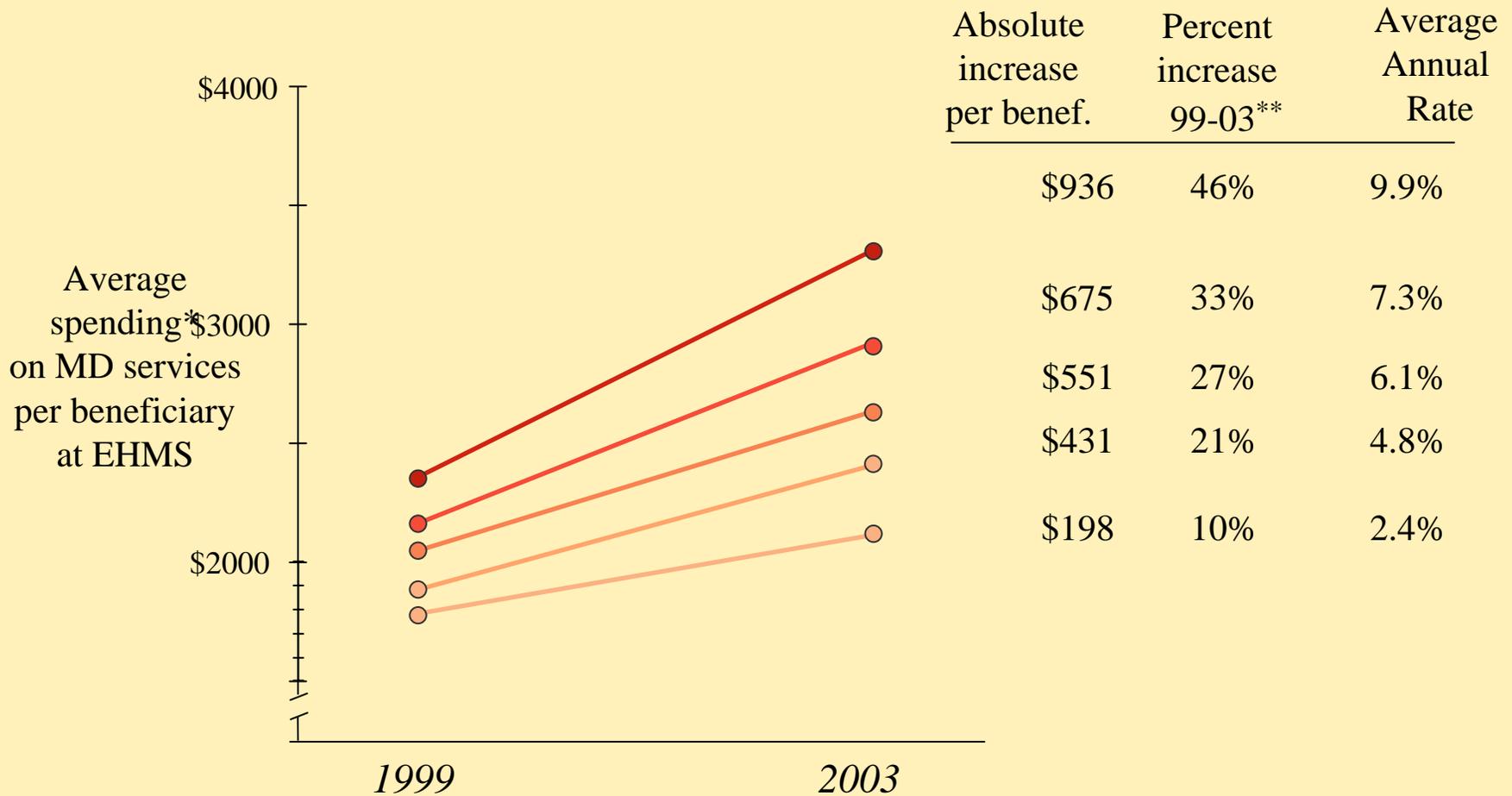
Foster development of local organizations (delivery systems) accountable for care (with incentives to limit future growth)

Balanced information on risks / benefits
Comprehensive performance measures

Reform of payment system (long term)
Shared savings as interim approach

Payment reform: group accountability, shared savings

Per-beneficiary spending in EHMS (n = 4772) sorted into quintiles by magnitude of per-beneficiary growth (1999-2003)

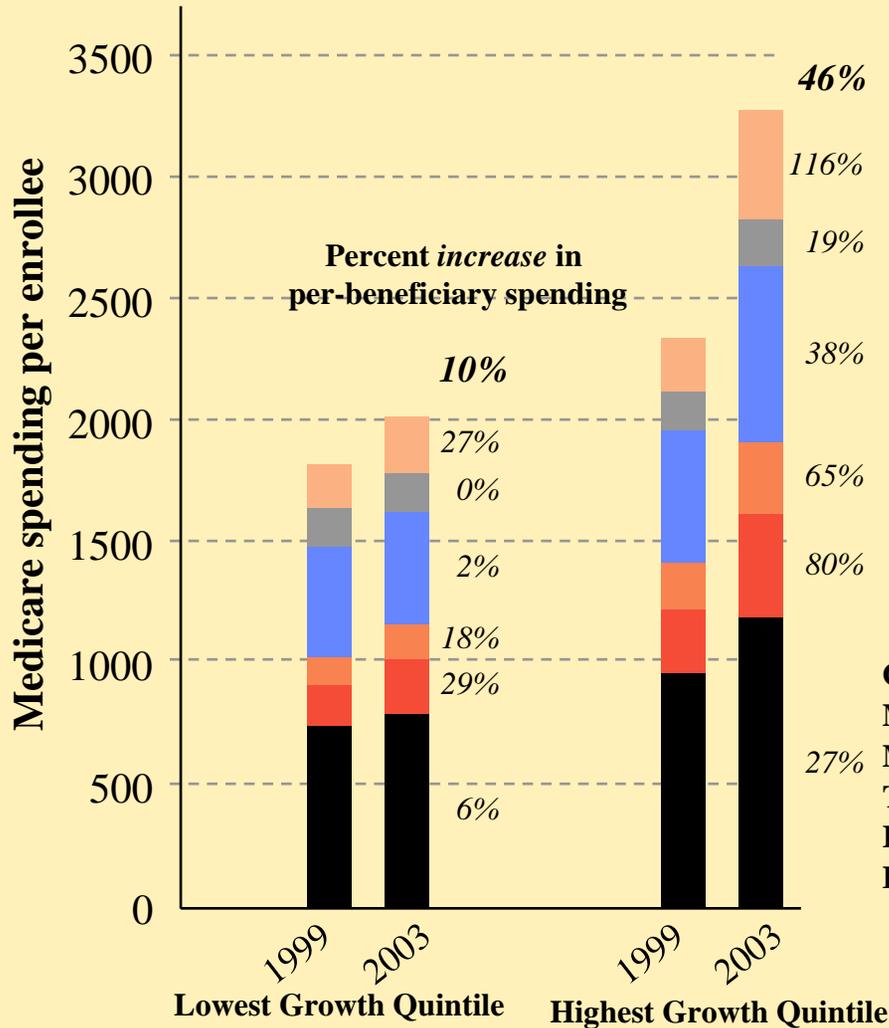


* Using standardized payments, using 2003 RVU

** Percent increase calculated relative to average 1999 per-beneficiary spending

Payment reform: group accountability, shared savings

Per-beneficiary spending in EHMS by BETOS category (highest and lowest quintiles of per-beneficiary growth (1999-2003))



Differences in growth likely due to:

- *active recruitment of physicians*
- *physician location decisions*
- *expansion of facilities (imaging)*

Control of spending will require altering incentives for growth

Other (light orange)
Major Procedures (grey)
Minor Procedures (blue)
Tests (orange)
Imaging (red)
E and M (black)

Each Quintile includes approximately 20% of the Medicare population

Moving forward

Further expansion of the active physician workforce should be carefully considered

The perception of scarcity does not necessarily imply shortages, but rather a mismatch between demand and “availability”.

There are risks to expansion: actual costs; potential harms; opportunity costs.

Different regions -- and organizations -- appear to produce equal or better health outcomes with fewer physician labor inputs -- and a different mix.

A key question: how can we foster the development of high performing organizations -- those capable of providing high quality care with fewer resources.