



**CECS**

Center for the  
Evaluative  
Clinical Sciences

# **Physician Services: Linking Quality and Efficiency**

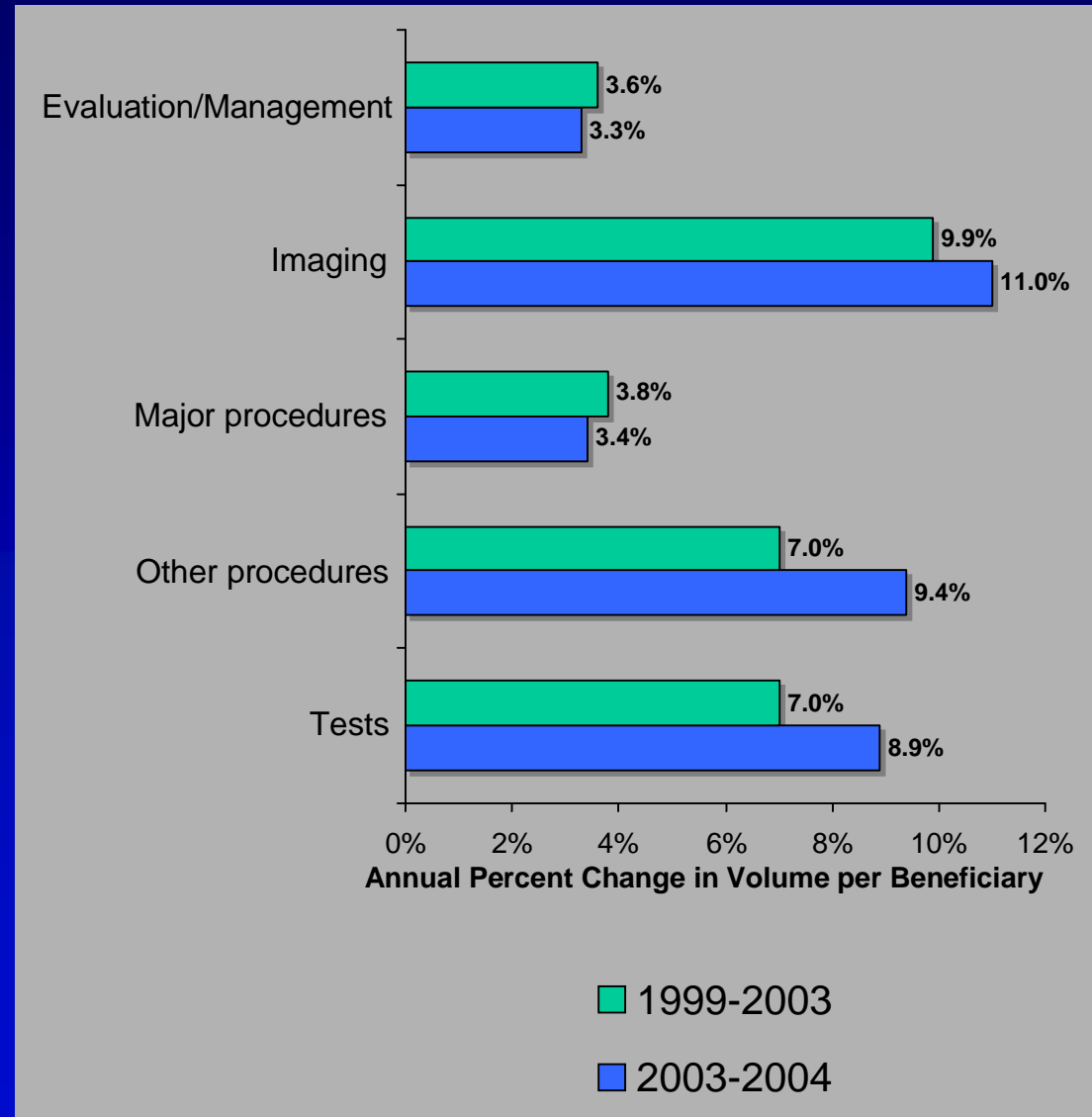
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**David C. Goodman, MD MS**

**Professor of Pediatrics and  
Community and Family Medicine  
Dartmouth Medical School  
Hanover, NH**

**The National Health Policy Forum  
March 2006**

# Change in Volume of Physician Services



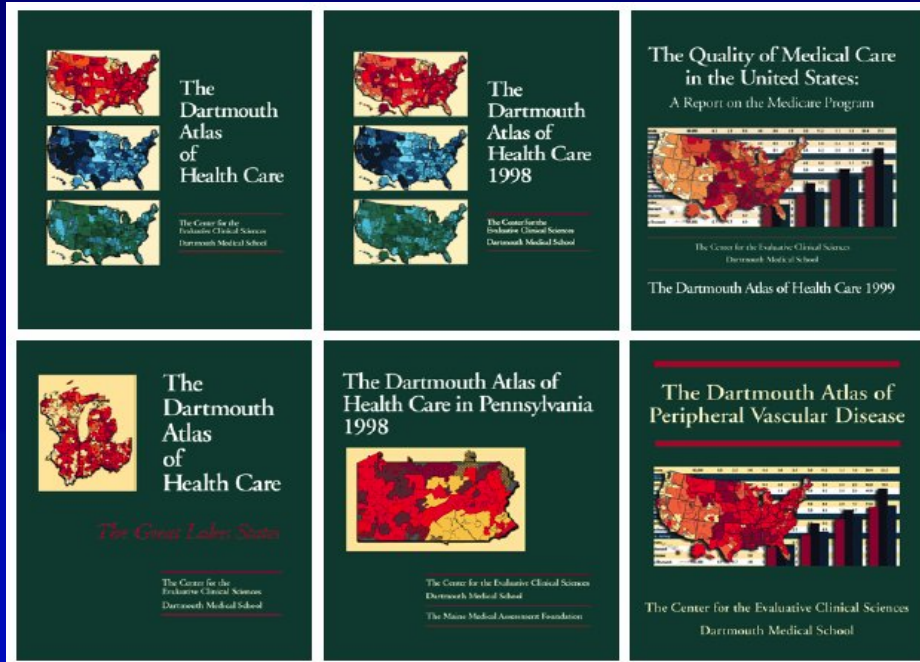
**Question 1: Are higher volumes of physician services necessary?**

**Question 2: Are there trade offs between medical care quality, health outcomes, and efficiency?**

**The answers can be found in examining current regional variation in physician services.**

# Dartmouth Atlas of Health Care

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**John E. Wennberg, MD MPH**

**Elliot Fisher, MD MPH**

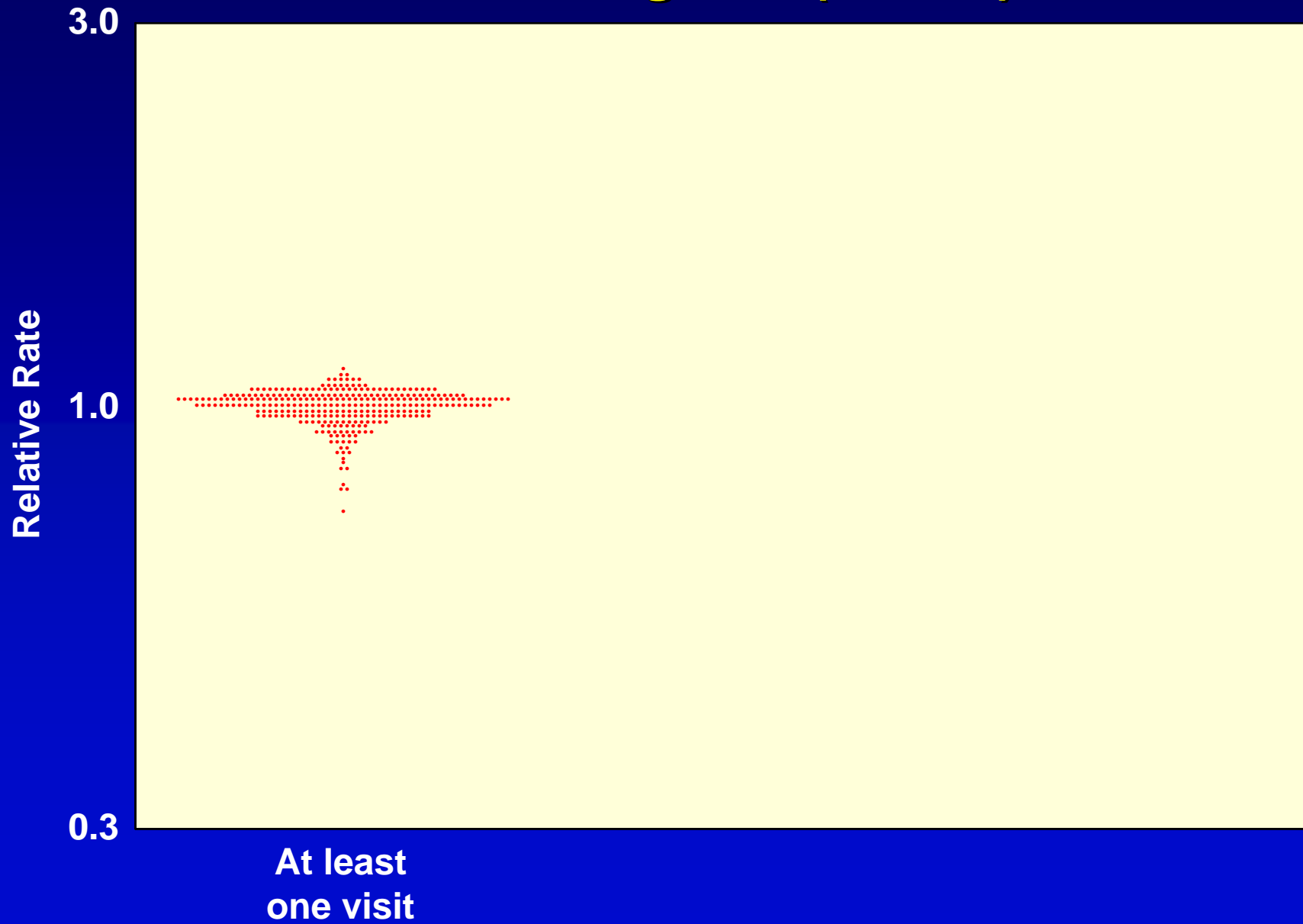
**Jonathan Skinner, PhD**

**Amitabh Chandra, PhD**

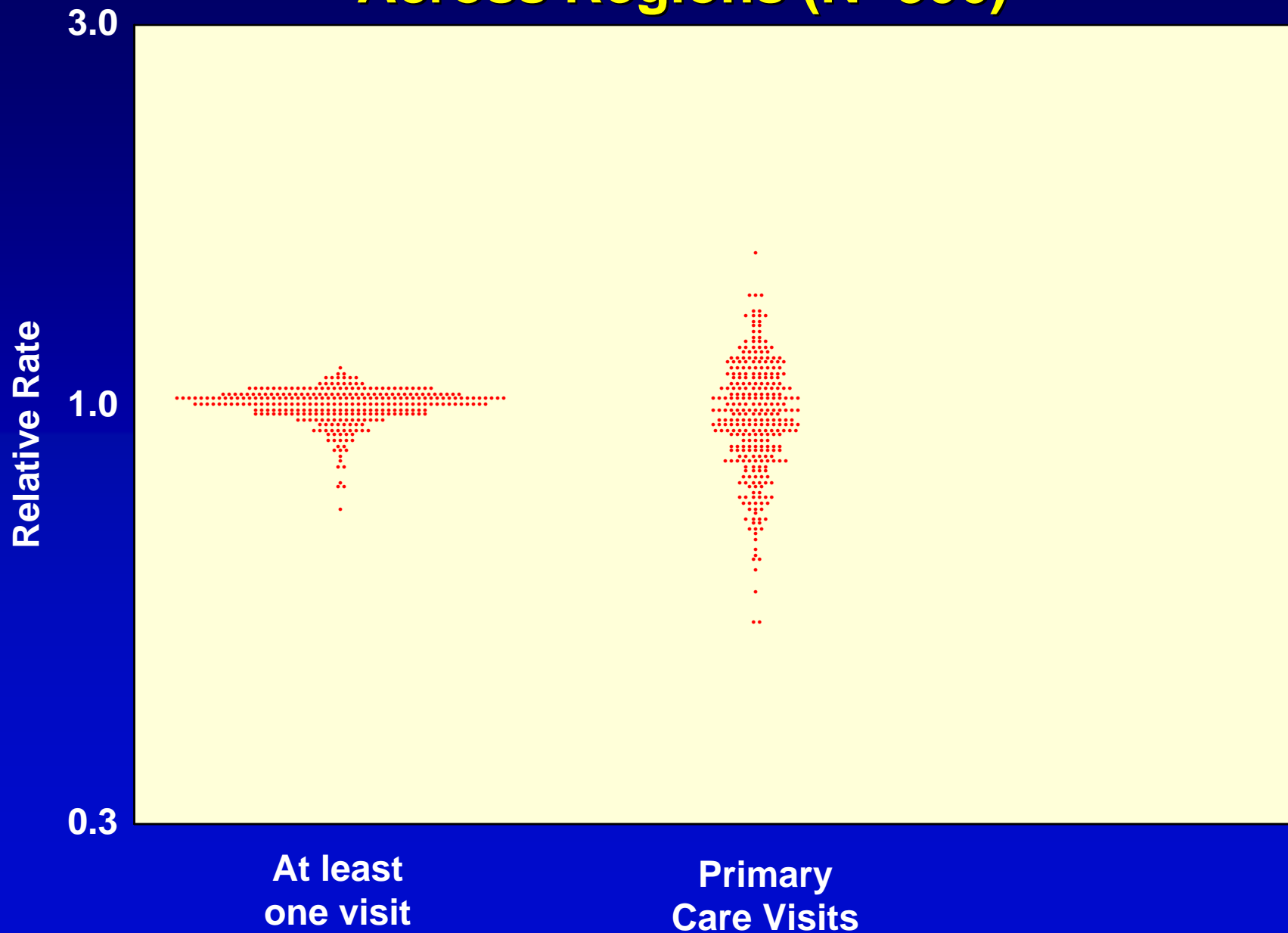
**Therese Stukel, PhD**

[www.dartmouthatlas.org](http://www.dartmouthatlas.org)

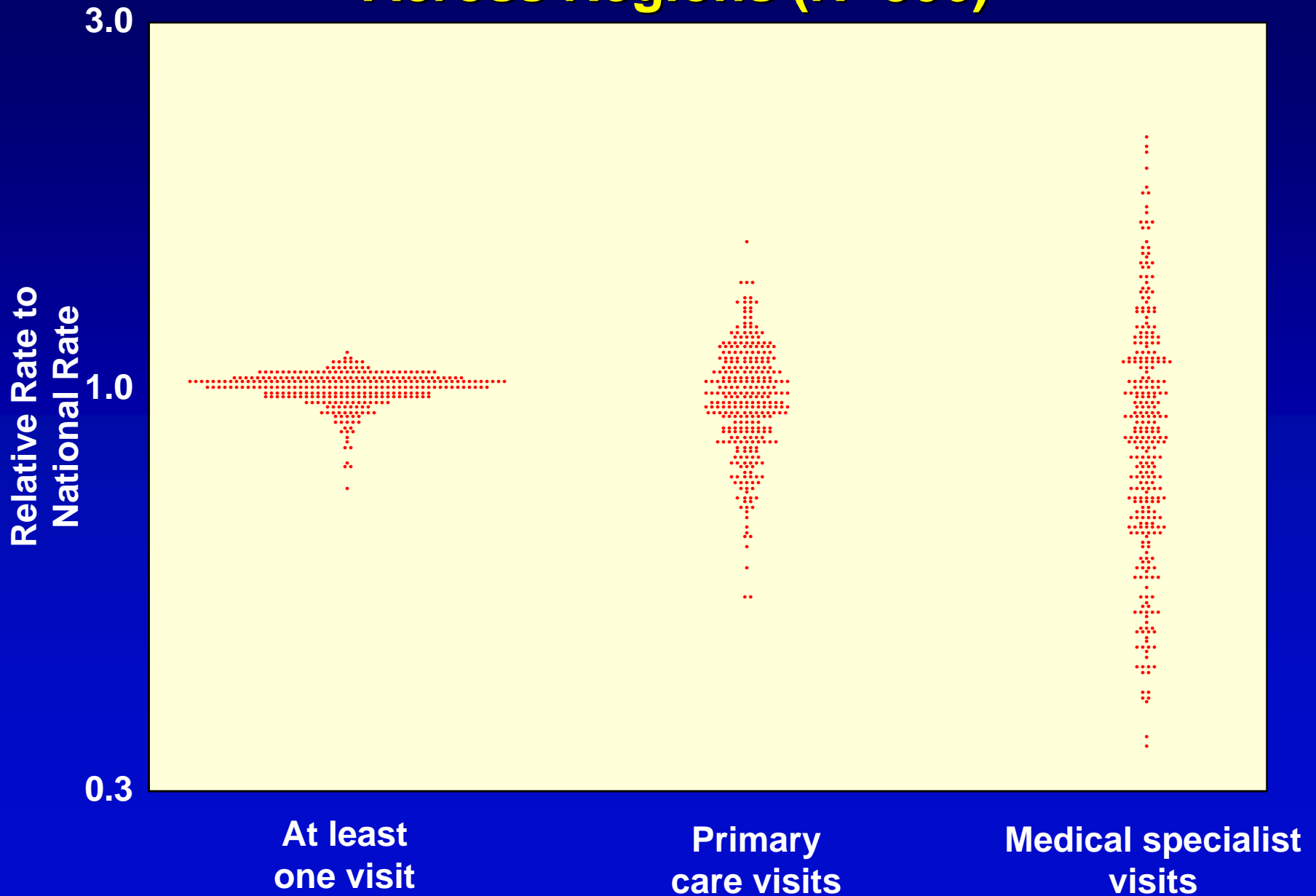
# Variation in Use of Physician Services Across Regions (N=306)



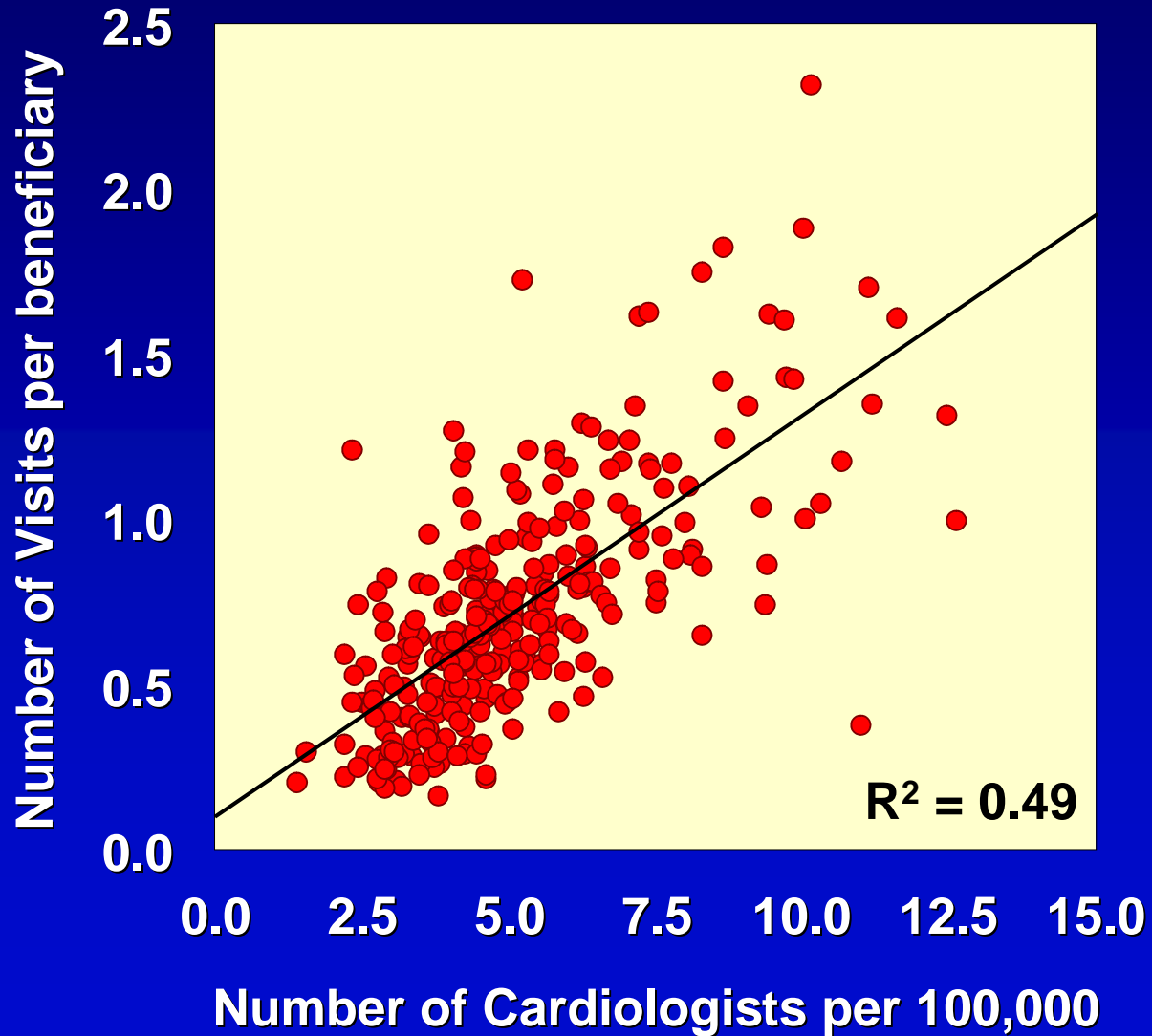
# Variation in Use of Physician Services Across Regions (N=306)



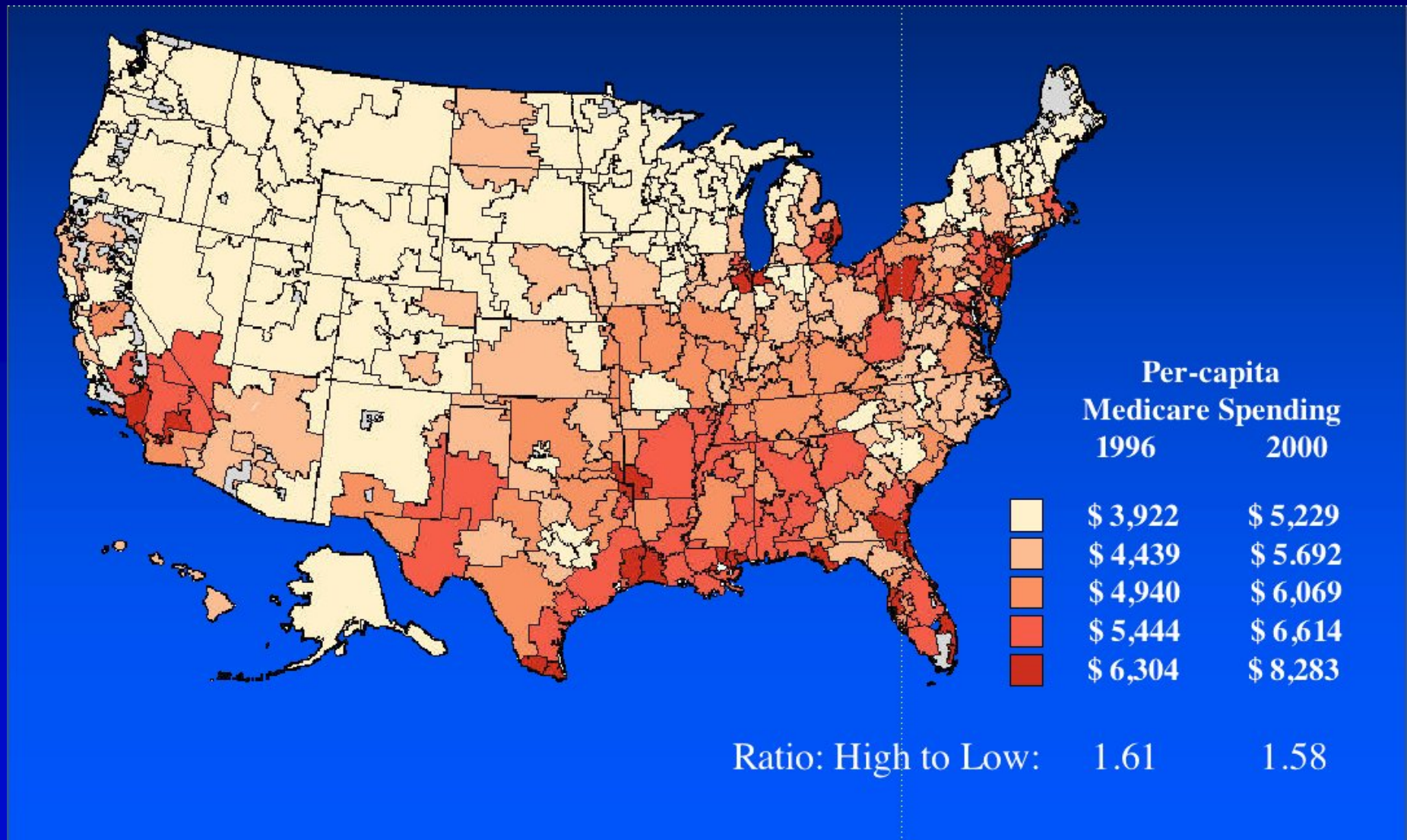
# Variation in Use of Physician Services Across Regions (N=306)



# Physician Supply and Physician Visits Cardiologists



# Variation in Per-Capita Medicare Spending Across Hospital Referral Regions (N=306)



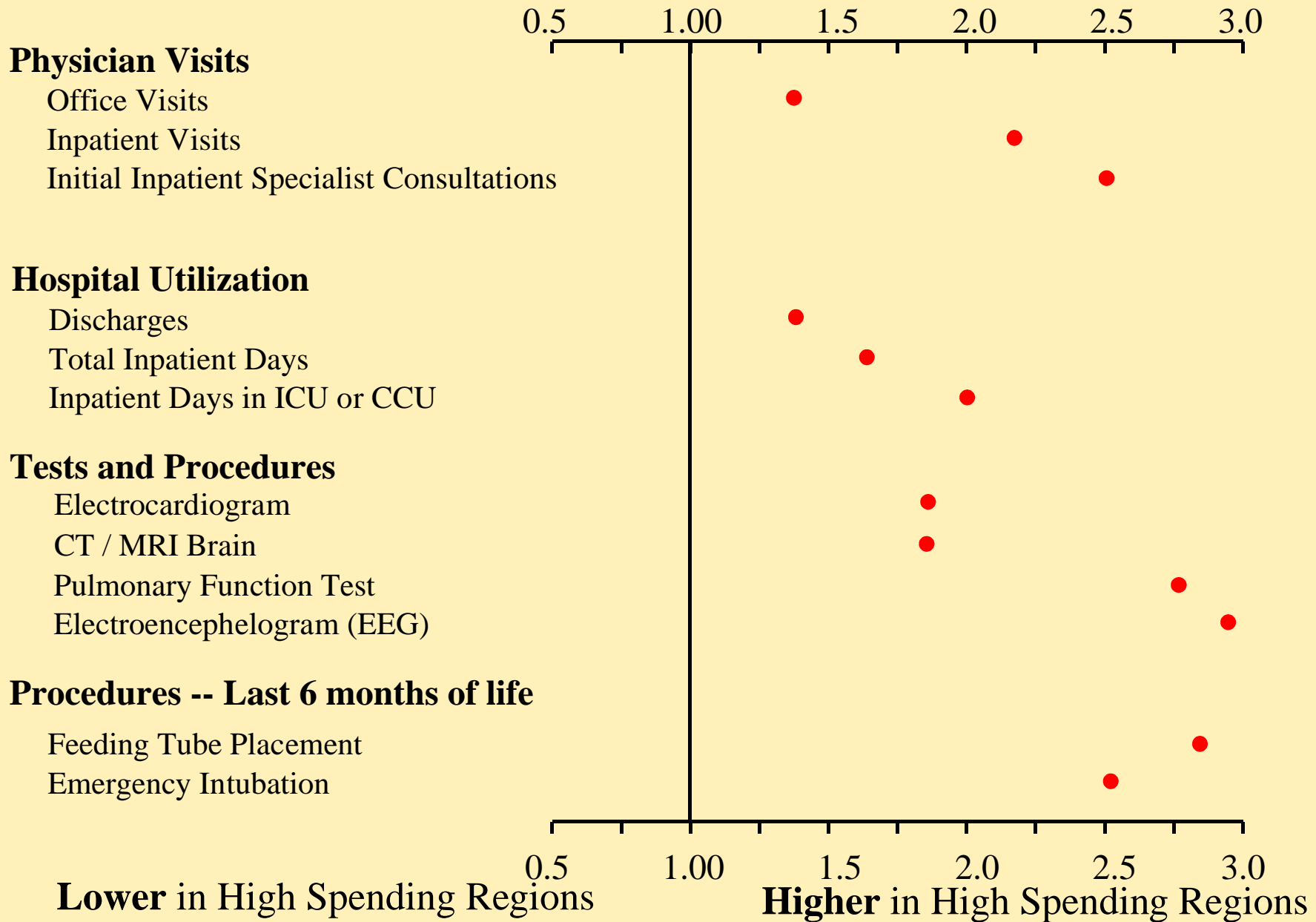
# Capacity -- the local supply of resources

## *Physician capacity and utilization*

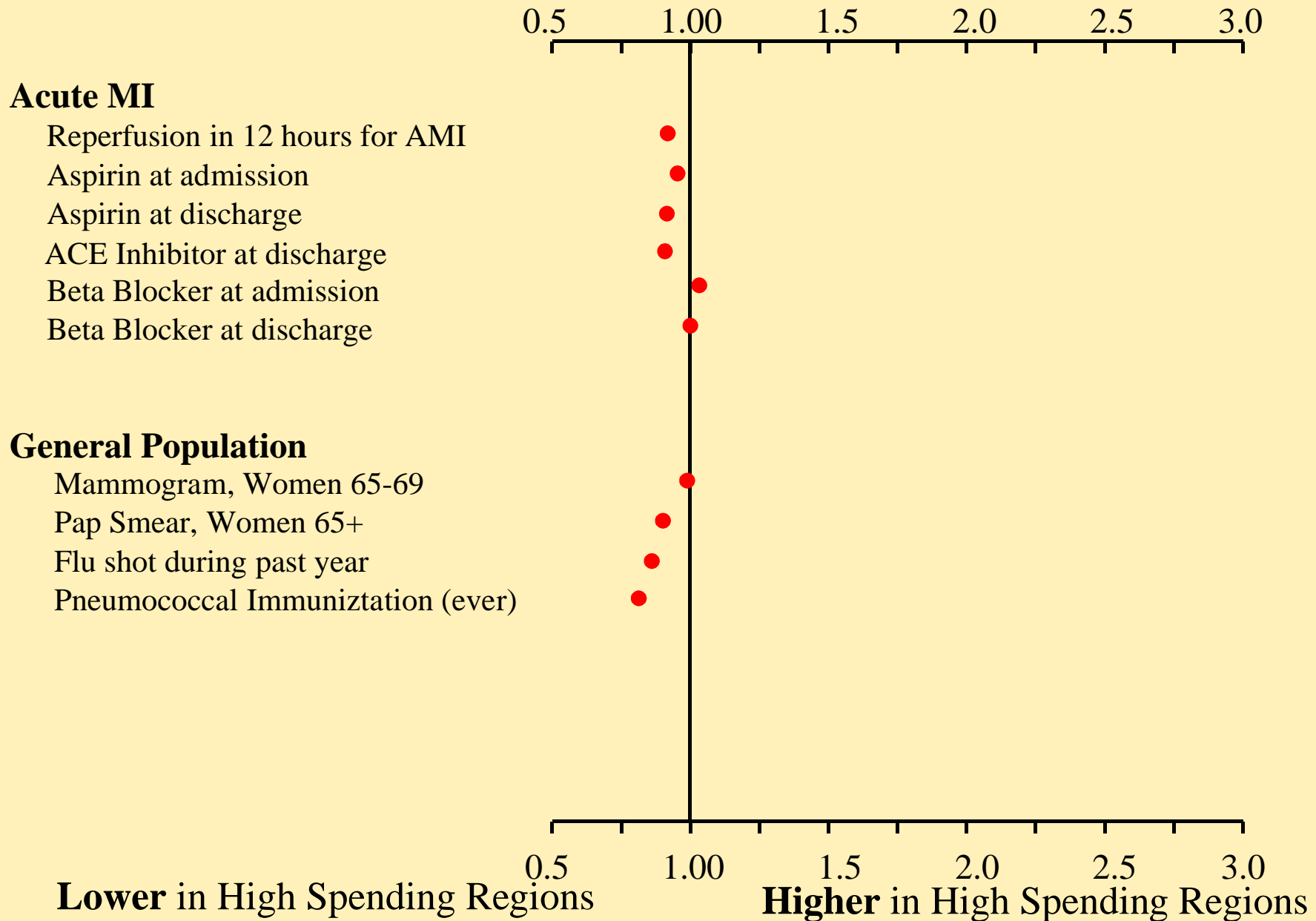
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	Lowest Quintile	Highest Quintile	Ratio
<b>Average Medicare Spending</b>	<b>\$3,922</b>	<b>\$6,304</b>	<b>1.61</b>
<b><i>Supply of Resources</i></b>			
<b>Hospital Beds / 1000</b>	<b>2.4</b>	<b>3.2</b>	<b>1.32</b>
<b>Physician Supply</b>	<b>185</b>	<b>242</b>	<b>1.31</b>

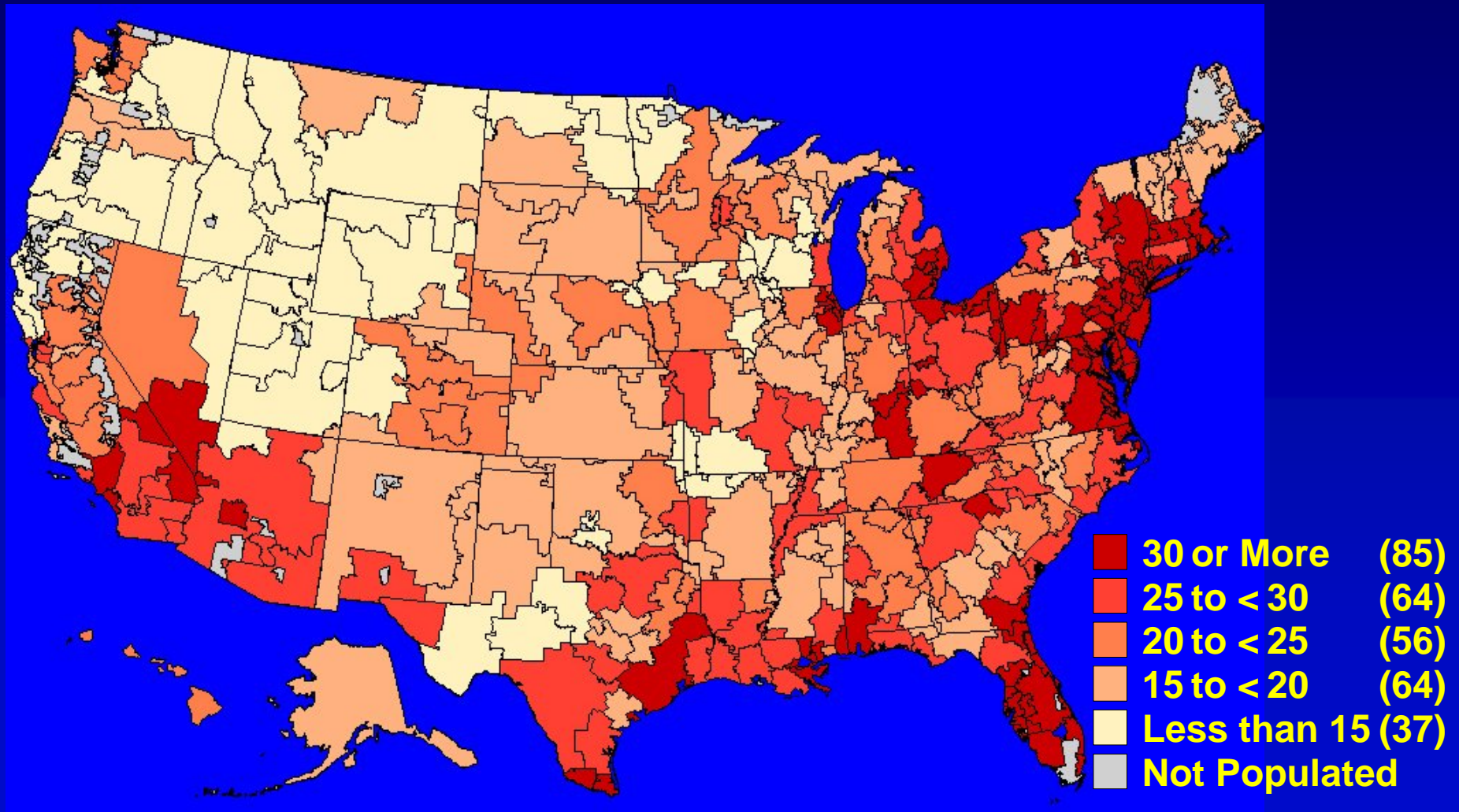
## Supply-Sensitive Care : Highest vs Lowest Spending Regions



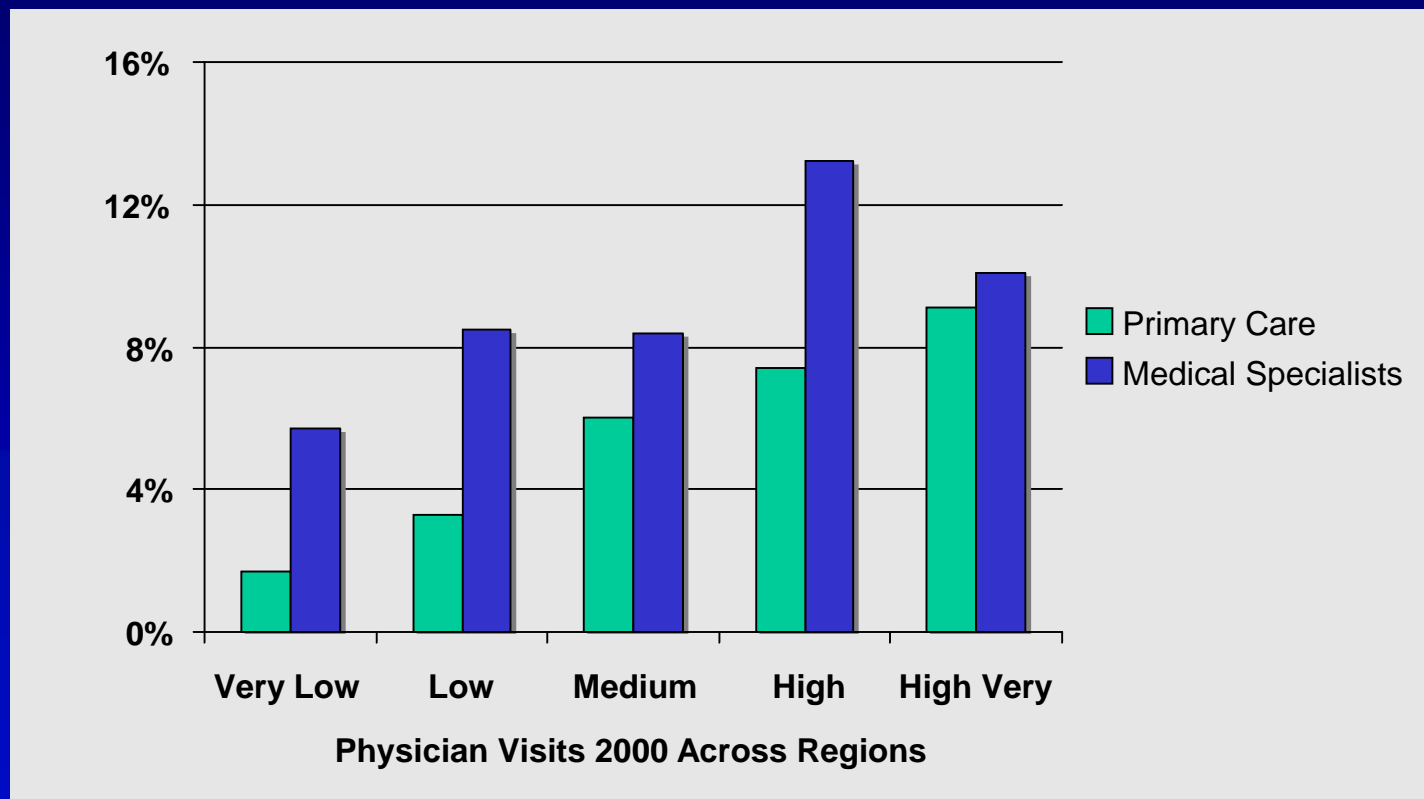
## *Effective Care: Ratio of Rates in Highest vs Lowest Spending Regions*



# Percent of Decedents Seeing 10 or More Different Physicians During the Last Six Months of Life (2003)



# Changes in Physician Visits for End-of Life Care, 2000 -> 2003



**Regions with higher physician visit rates in 2000 had the greatest growth in visit rates 2000 -> 2003.**

# **Quality and Efficiency are Linked Together**

**Why don't market forces drive the current health  
care system towards  
greater quality and efficiency?**

# “Fee for Service”

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- ***Perverse*** **1.** Directed away from what is right or good; perverted. **2.** Obstinate persisting in an error or fault; wrongly self-willed or stubborn.
- ***Incentive*** Something, such as the fear of punishment or the expectation of reward, that induces action or motivates effort.

# **The Role of Growing Physician Capacity in Quality and Efficiency**

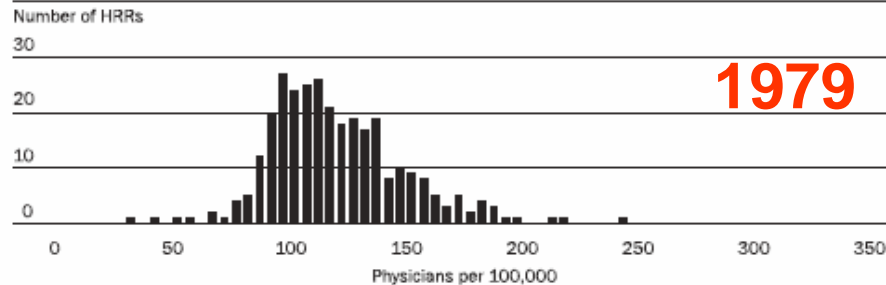
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## ***Council on Graduate Medical Education Recommendations 2005***

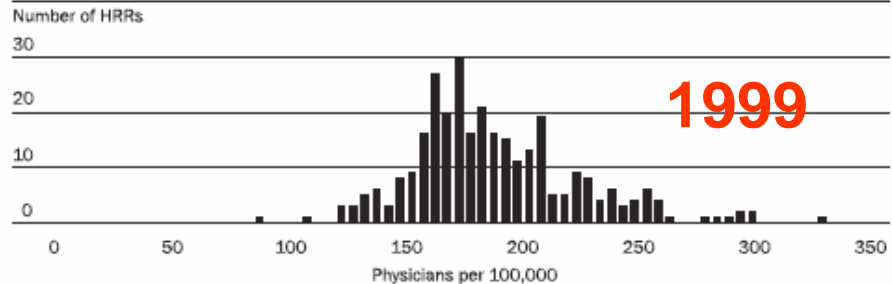
- **Increase U.S. medical school enrollment by 15% (i.e. 3,000).**
- **Retire goal of 50% generalists.**
- **Increase or remove Medicare Graduate Medical Education cap.**

# Growth in physician supply: Where do more physicians go?

**EXHIBIT 2**  
**Physicians Per 100,000 People Across Hospital Referral Regions (HRRs), 1979**



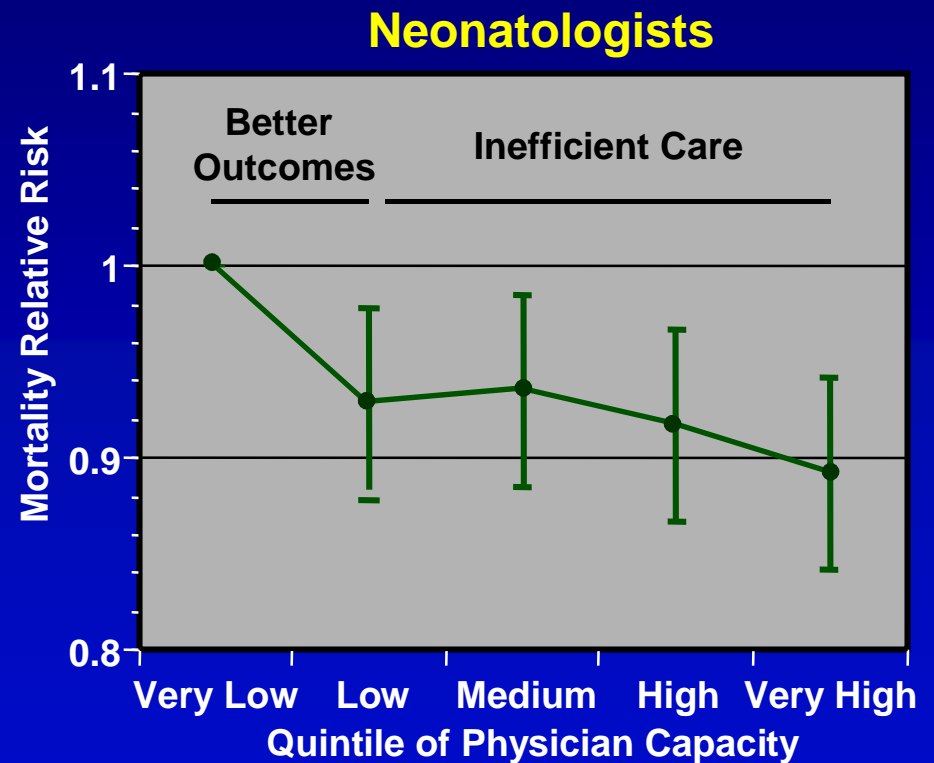
Physicians are more likely to  
settle in high supply  
regions.



**SOURCES:** American Medical Association and American Osteopathic Association Masterfiles.  
**NOTES:** The median HRR had 180 physicians per 100,000. The interquartile ratio was 1.26; extremal ratio, 3.60; coefficient of variation, 18.9.

# Do more physicians improve the health of populations?

- **Survival models 1995 US birth cohort**
- **N = 3.8 million live births**
- **Dependent variable: 28 day mortality**





**Medical Services**  
We advance medicine™



## Physician FTEs per 1,000 end-of-life Medicare beneficiaries

### NYU Medical Center

Total	Medical Specialists	Primary Care
28.3 FTEs	8.8	15.0



### Mayo Clinic

Total	Medical Specialists	Primary Care
8.9 FTEs	3.0	3.9

Source: Goodman, Health Affairs, March/April 2006.

## Physician Labor Input During Last 6 Months of Life Among Medicare Cohorts (standardized FTEs per 1,000 beneficiaries)

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	<b>Total</b>	<b>Primary Care</b>	<b>Medical Specialists</b>
NYU Medical Center	28.3	8.8	15.0
RWJ University Hospital (NJ)	19.8	4.3	12.2
Montefiore Med Center (NY)	16.5	6.5	7.1
MA General Hospital	15.3	6.3	5.5
Johns Hopkins Hospital	12.2	5.0	3.9
Yale-New Haven	10.6	3.4	4.4
UC, San Francisco	9.4	4.7	3.2
Mayo, Rochester MN	8.9	3.0	3.9
Medical College VA,	7.9	2.2	3.7

Source: Goodman, Health Affairs, March/April 2006.

**What improves patients' health and well being?**

**What doctors do is very important.**

**How many services a doctor performs is relatively unimportant.**

**And, how many doctors are providing care is relatively unimportant.**