

# Estimating Spending for Healthcare

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# Background

- ◆ State Hospital Association

- ◆ EC Health Net

- Economic Impact Analysis
- Local spending analysis

# Health Care Spending

- ◆ Hospitals
- ◆ Professional Services
  - doctors, dentists
- ◆ Long Term Care
  - home health care, nursing homes
- ◆ Personal Medical Supplies
  - Durables, non-durables, n.e.c.

# Current Methodology

1. Adjust state per-capita spending with local purchase coefficients (LPCs)
2. Multiply by the local population

# A Standard Set of LPCs (?)

◆ <b>Hospitals:</b>	61%
◆ <b>Physicians:</b>	75%
◆ <b>Dental:</b>	75%
◆ <b>Personal Medical Supplies:</b>	75%
◆ <b>Home Health Care:</b>	100%
◆ <b>Nursing Homes:</b>	100%

# Hospitals (61% local)

- ◆ "A 1996 study compared local to non-local use by 300,500 Medicaid eligible people who reside in 49 rural counties in Southeast Kentucky. The aggregate of the 49 counties retained 61% of all hospital expenditures."
- ◆ Okay for KY, but dated.
- ◆ What about local spending?
  - Private health insurance
  - Out-of-pocket

# Physicians *et al.* (75% local)

- ◆ “BPHC provided a formula [to 330 CHC], based on age and sex of the service area population that derived the total number of all ambulatory care visits. The formula estimates that 75% of all ambulatory care visits would be to primary care physicians “
- ◆ NACH: 1,000 community health centers
- ◆ Magic black-box formula
- ◆ Also applied to dentists, durables, non-durables.

# Long Term Care (100% local)

- ◆ Reasonable Assumption
- ◆ Home health care is residence based.
- ◆ Nursing homes mostly local
  - Exception: Competitive markets
  - Exception: Shortage areas

# New Methods

- ◆ Focus on local spending
- ◆ Allow variability between counties
- ◆ Simple, practical, repeatable

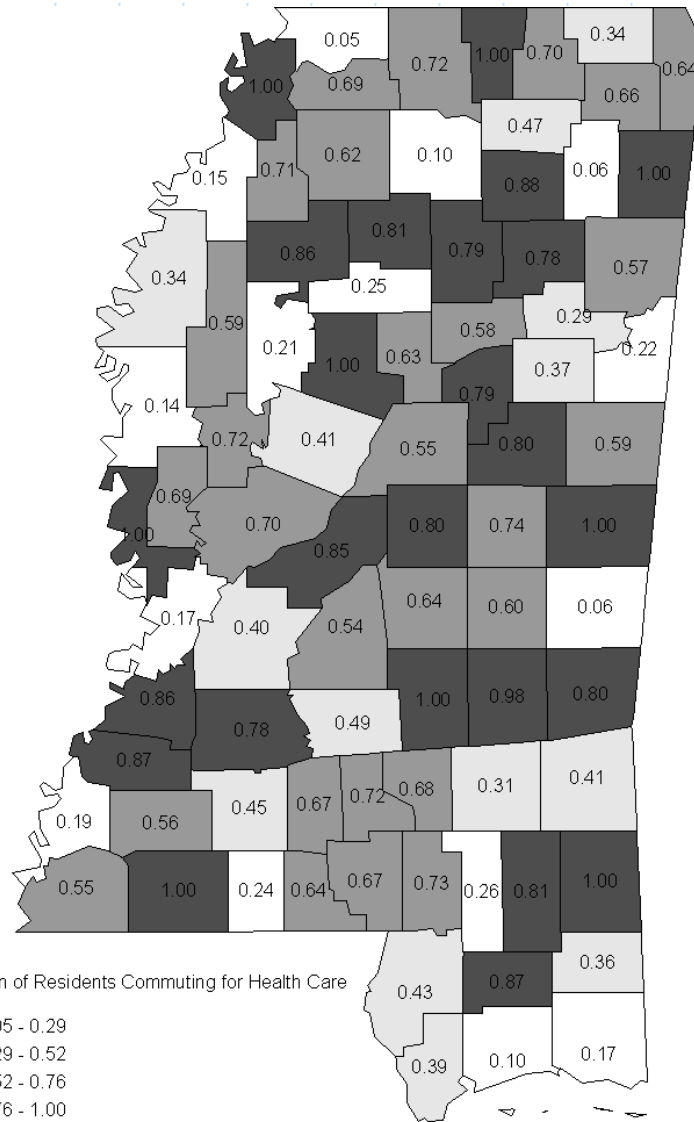
# Hospitals

## ◆ Surveys

- Expensive
- Time consuming

## ◆ Hospital Discharge Data

- Residents discharged from local hospital
  - ◆ Location of hospital
  - ◆ Location of patient



# Professional Care

- ◆ Percentage of population served by existing health care professionals
- ◆  $LPC = \text{Served} / \text{Population}$
- ◆ State Benchmarks
- ◆ Federal Benchmarks (HPSA)
  - Primary Care Physicians (3000:1)
  - Dentists (4000:1)

# Personal Care

- ◆ Trade Area Capture Analysis

- ◆  $LPC = TAC / Population$

- ◆ Proxy: drug store sales

# Trade Area Capture

## ◆ Data

- Retail sales
  - ◆ State
  - ◆ County
- Per-capita income
  - ◆ State
  - ◆ county

RETAIL<sub>local</sub>

RETAIL<sub>state per capita</sub> X PCI%

$$PCI\% = PCI_{local} / PCI_{state}$$

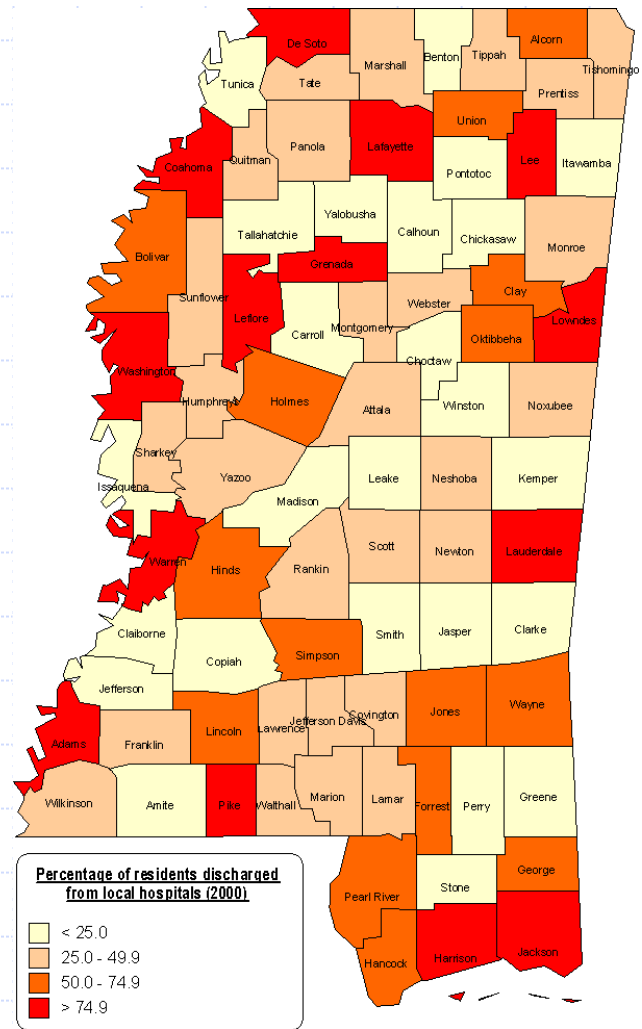
# Case Study

- ◆ Compare local spending in 2003
  - Mississippi: 82 counties
  - Old Method:
    - ◆ Standard set of LPCs
  - New Method
    - ◆ Standard methodology of estimating LPCs
    - ◆ Comparisons

◆ Percentage of residents discharged from local hospital

Mean: 41.2%

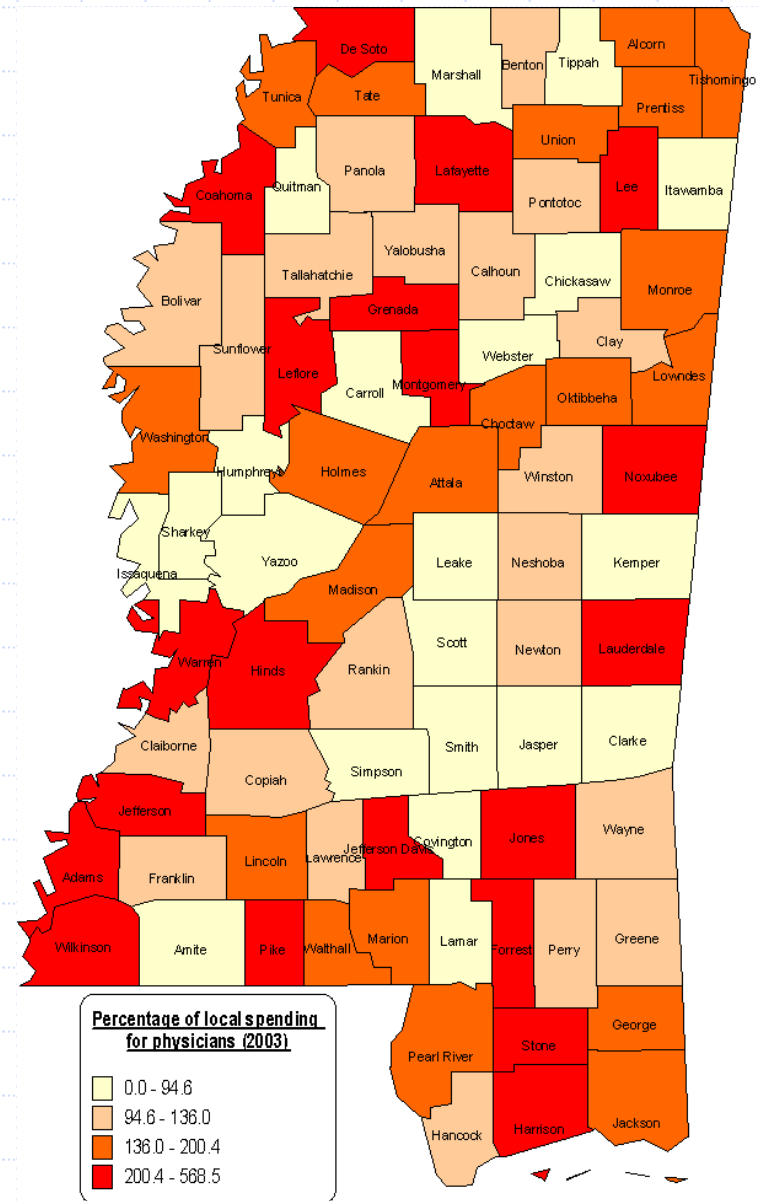
Std Dev.: 27.6%



# Local Spending for Primary Care Physicians

Mean: 146.7%

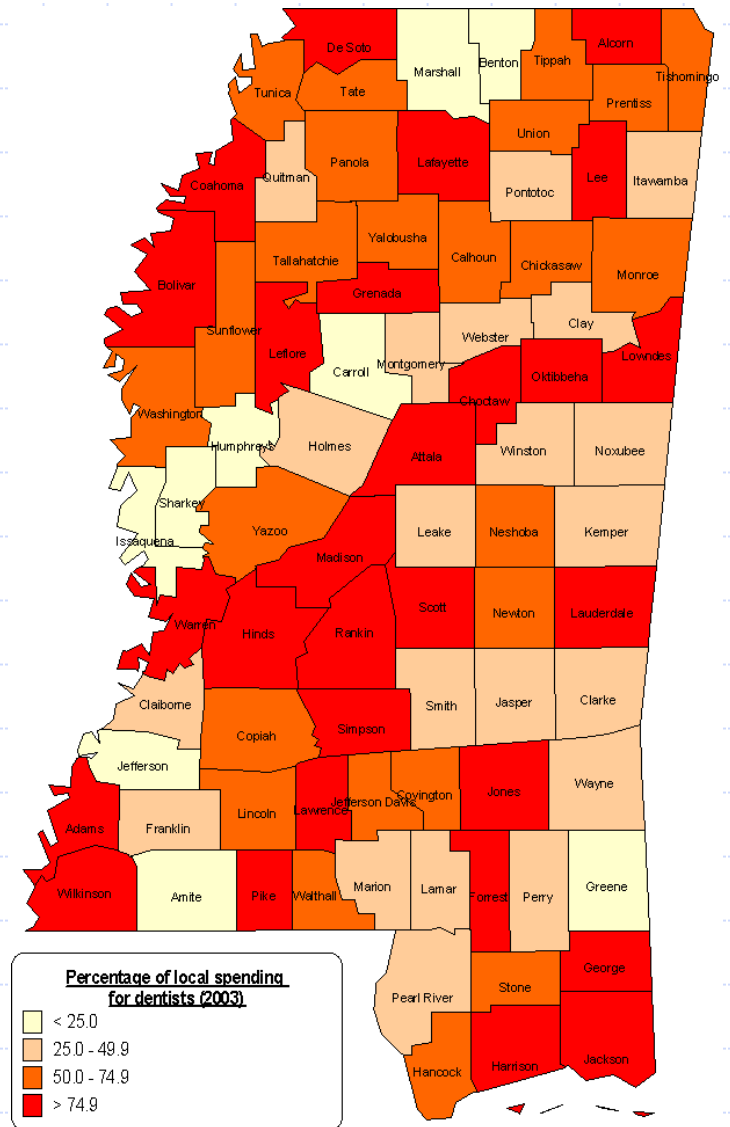
Std Dev.: 87.3%



# Local Spending for Dentists

Mean: 68.0%

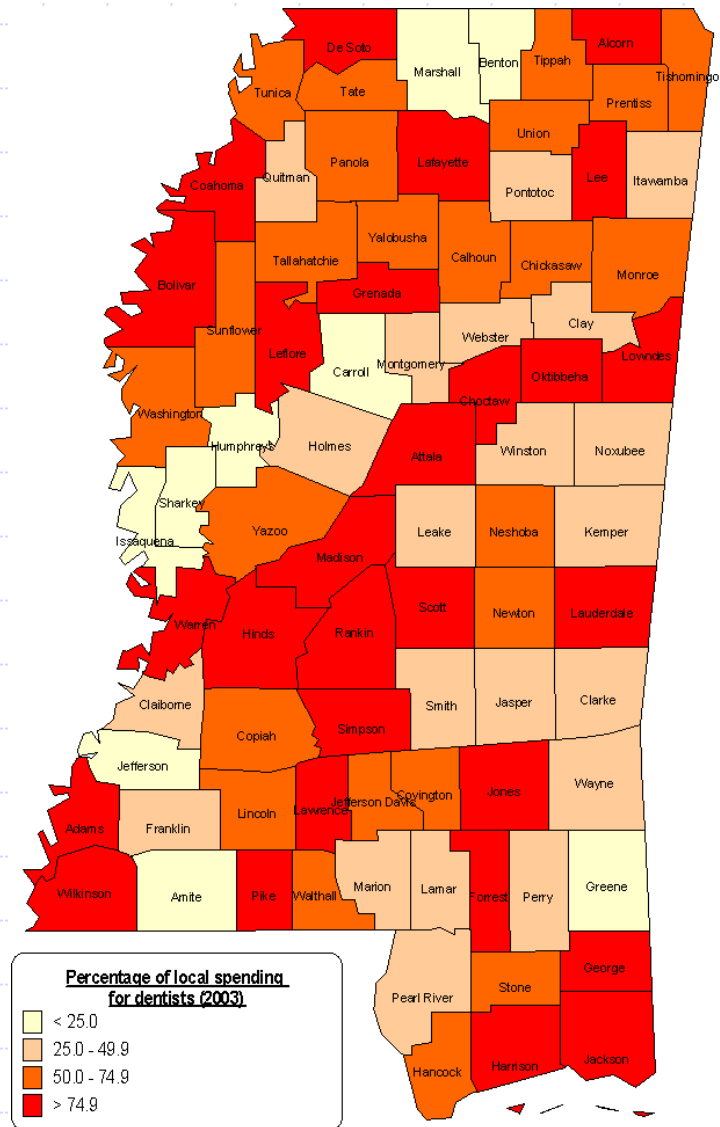
Std Dev.: 44.1%



# Local Spending for Personal Medical Supplies

Mean: 98.2%

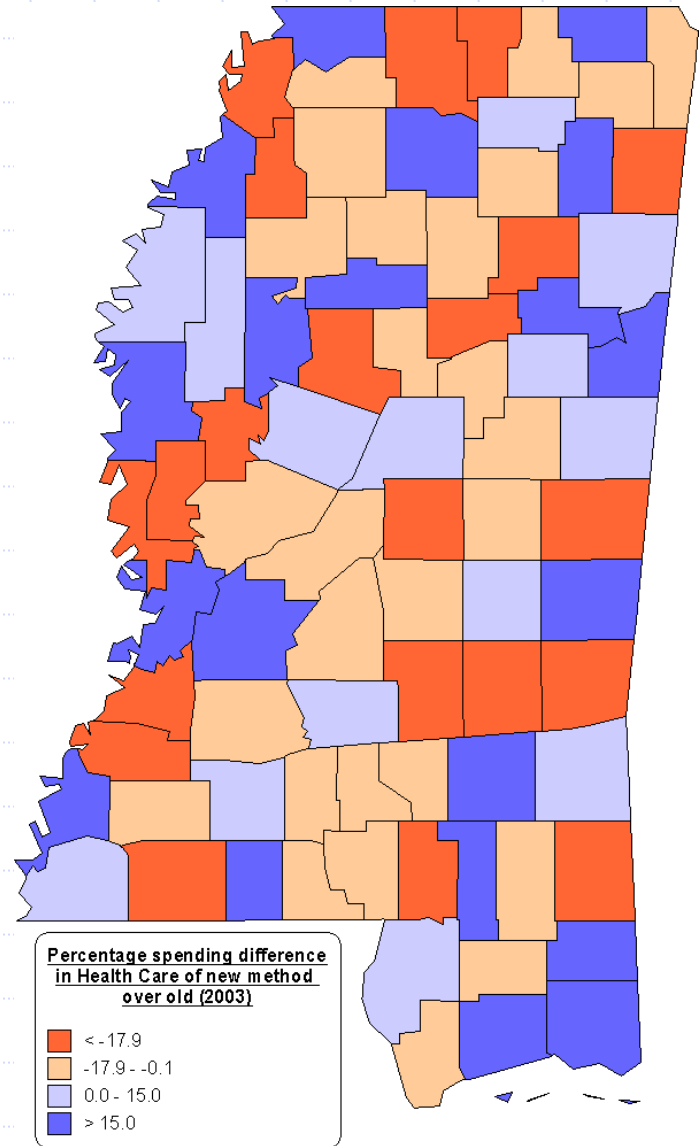
Std Dev.: 39.1%



◆ Local Healthcare Spending

In 34 (48) counties the new methods estimated a higher (lower) level of spending.

Avg 17% higher  
Avg 22% lower



# Summary

- ◆ A standard methodology of estimating Healthcare LPCs seems “better” than a standard set.
- ◆ Data is (mostly) easily obtainable
  - Hospital discharge surveys
  - State/Federal Benchmarks
  - Population, Retail, and Income

# Estimating Spending for Healthcare

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