

# Longitudinal differences in health status and utilization when comparing rural to urban veterans

White River Junction, Vermont  
VA Outcomes Group REAP



# TEAMWORK

A FEW HARMLESS FLAKES WORKING TOGETHER CAN  
UNLEASH AN AVALANCHE OF DESTRUCTION.

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# Three questions

- Is there a difference in health care needs when comparing veterans who live in rural and urban settings?
- If there is a difference in needs, can rural veterans get those needs met, through either the VA or the private sector?
- Even if access is restricted, does it matter?
  - After all, more health care might not be good for your health!

# Differences in health related quality of life

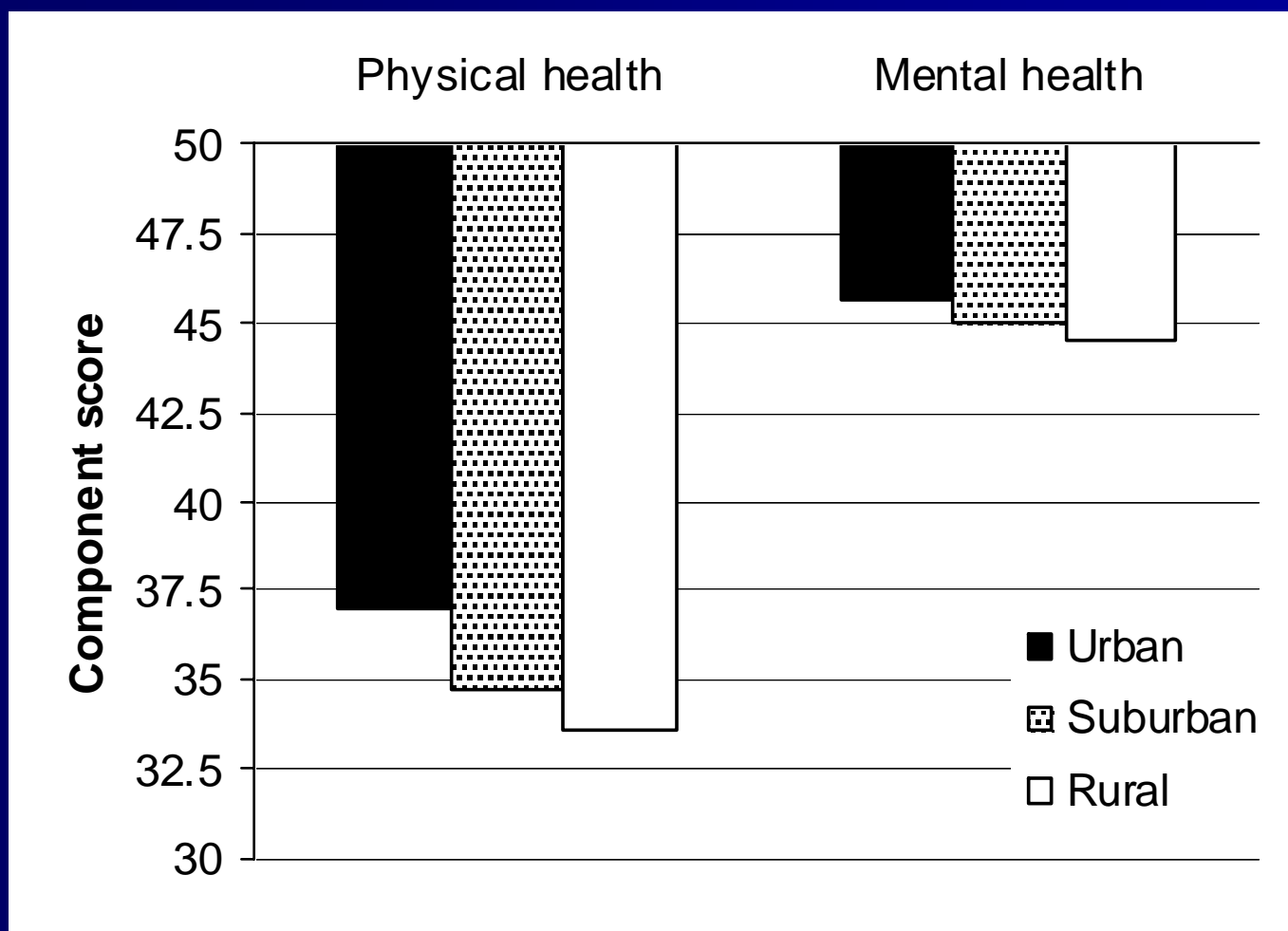
# Health status

- Evaluated using Veterans' Short-Form 36
  - General assessment of health status in 1.4 million veterans, summarized in two dimensions
    - Physical health component score (PCS)
    - Mental health component score (MCS)
  - Lower score = worse health status
  - Urban/rural designations using ZIP Code based RUCA coding from the Department of Agriculture and the University of Washington

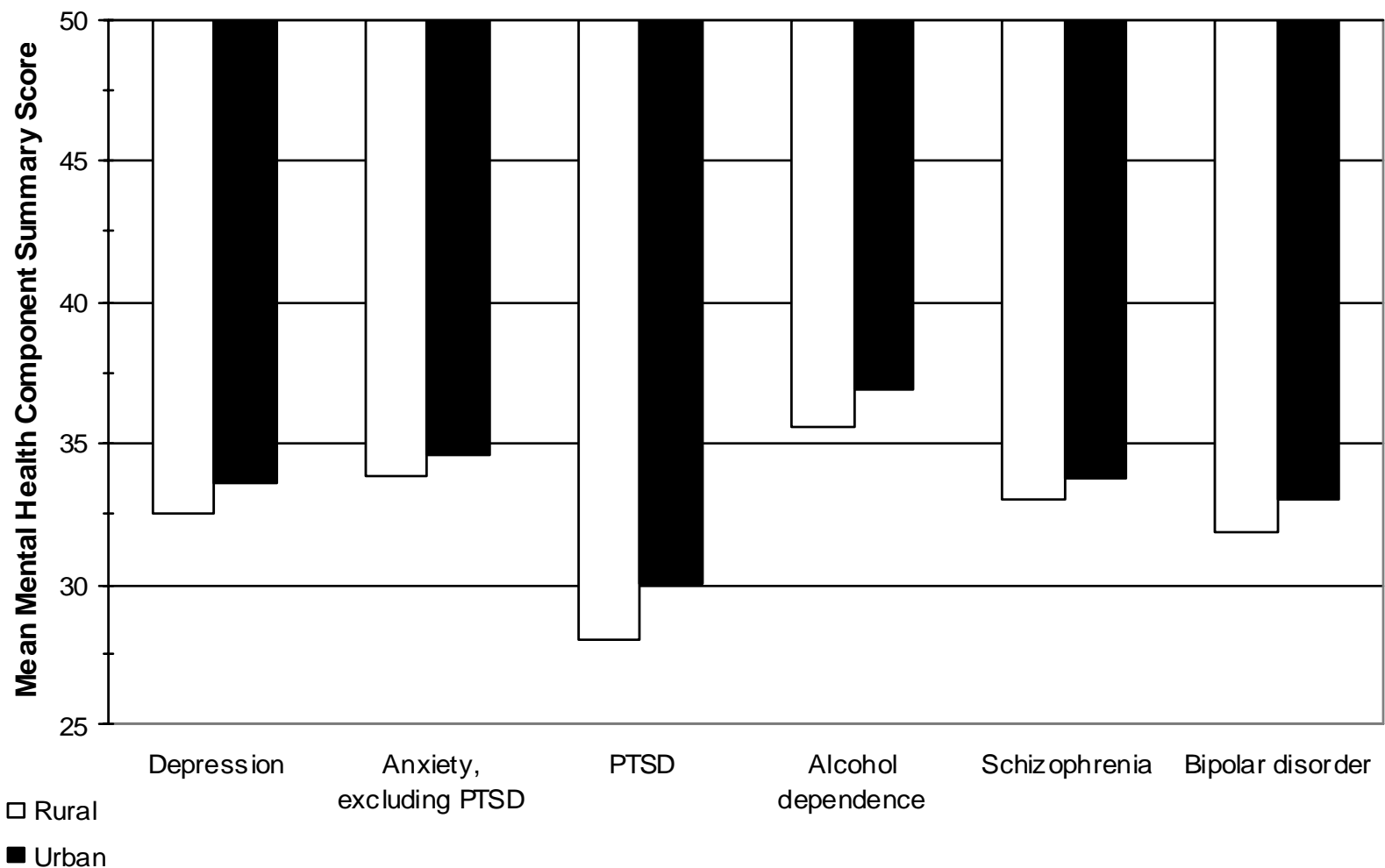
# Results: Rural veterans who use VA

- Compared to the general US population
  - Are over-represented (22% of VHA users compared to 14% of US population in towns <10,000)
- Compared to urban veterans who use VA
  - Older (64.4 vs. 62.4)
  - Poorer (greater % category 5 veterans, fewer category 7 veterans, live in ZIP Codes with much lower annual incomes)
  - More likely to be unemployed
  - Carry more diagnoses

# Rural veterans had worse health status...

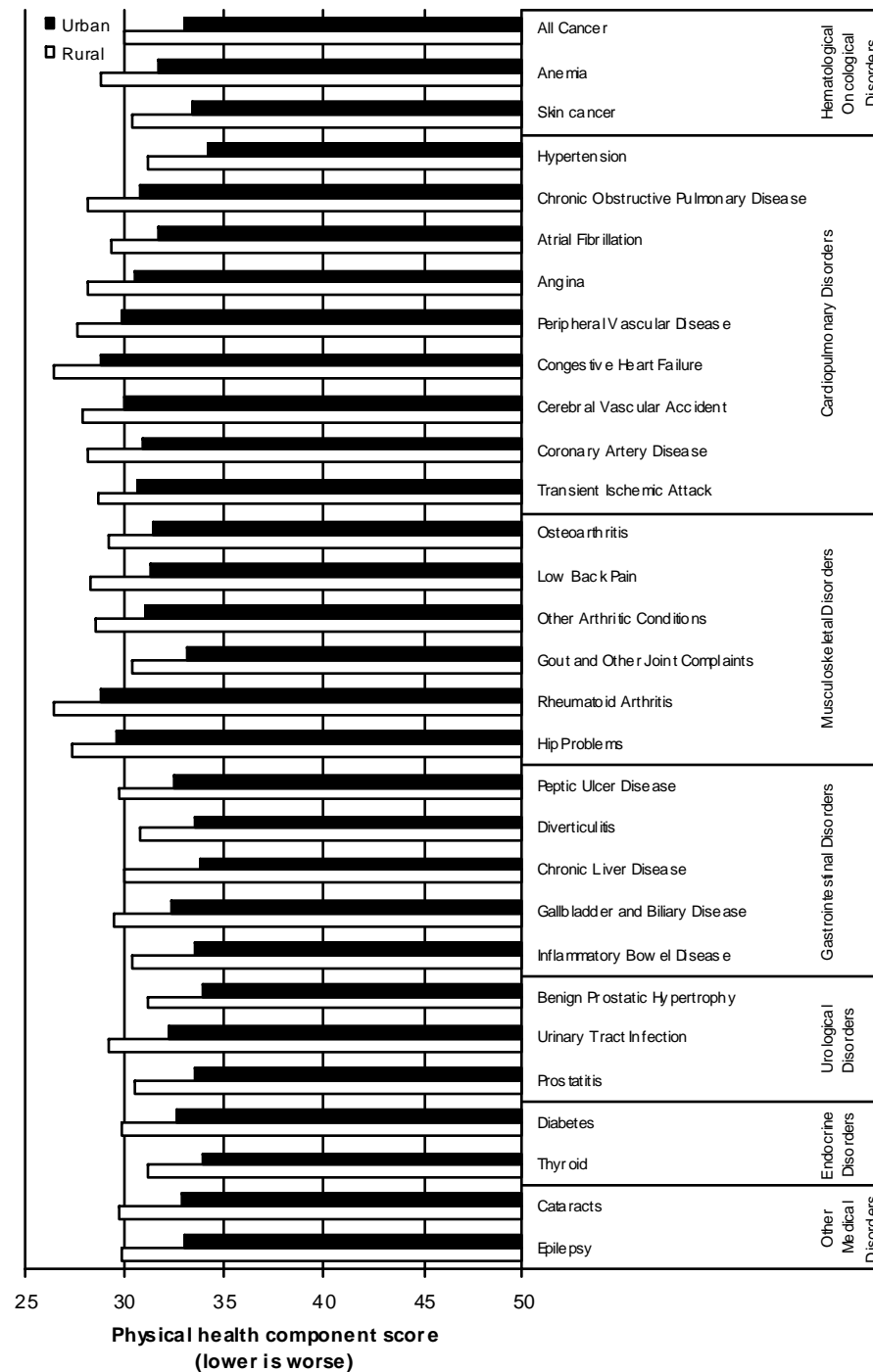


# ...worse mental health status if diagnosed with any of 6 mental disorders...





...and worse physical health if diagnosed with any of 30 physical disorders



# Summary of findings

- After adjusting for important variables, living in a rural setting was associated with a 2.05 point lower PCS and a 0.83 point lower MCS score
  - This means 11% higher health care services needs and costs based on PCS scores and 2% higher needs and costs based on MCS scores
- Most physical disorders are more prevalent among veterans who live in rural settings
- Therefore, veterans in rural settings might have greater health care needs...
  - They **SHOULD** then reasonably use more health care services

# Use of health services

# Veterans have choice

## Can use VA

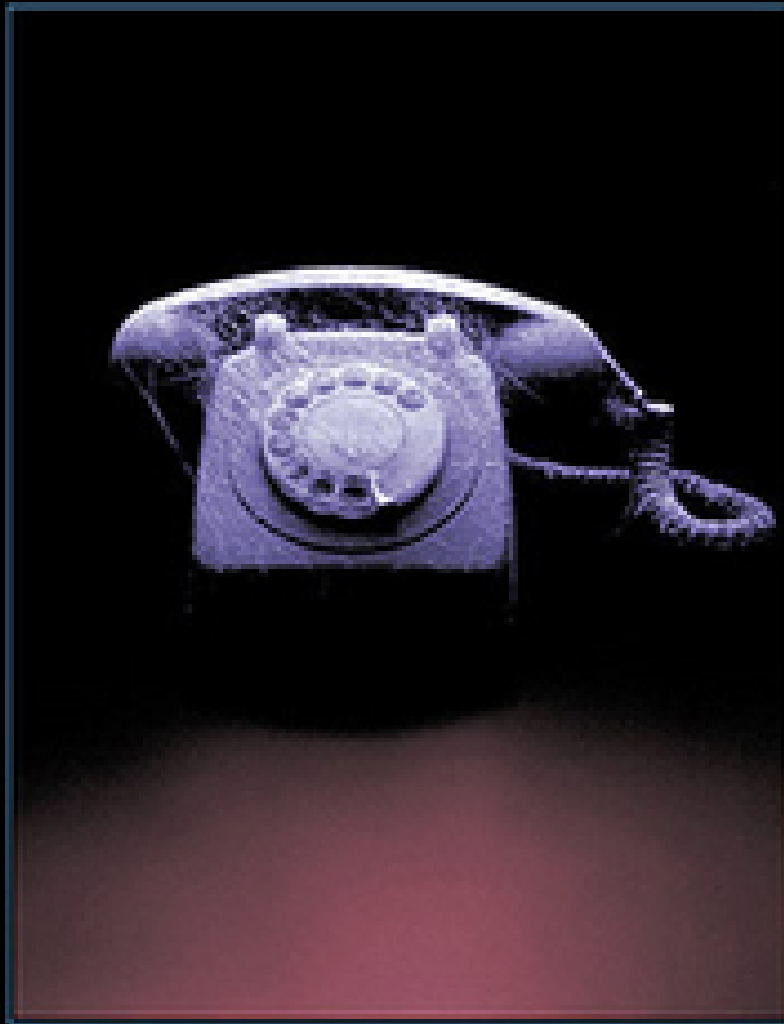
- Must qualify by being poor, having service connected disability, some others
- May need to co-pay for services, pharmacy
- If insured by non-government insurer, VA can bill insurer

## Can use private sector, paid for by...

- Other government insurer (Medicare, Medicaid, IHS)
- Commercial insurance
- Self

# Two questions

- Might those who live at a distance from health care (we know they have lower health related quality of life scores) use more services to get their needs met?
- If they live far from a VA, couldn't they just get care in the private sector?



# APATHY

IF WE DON'T TAKE CARE OF THE CUSTOMER,  
MAYBE THEY'LL STOP BUGGING US.

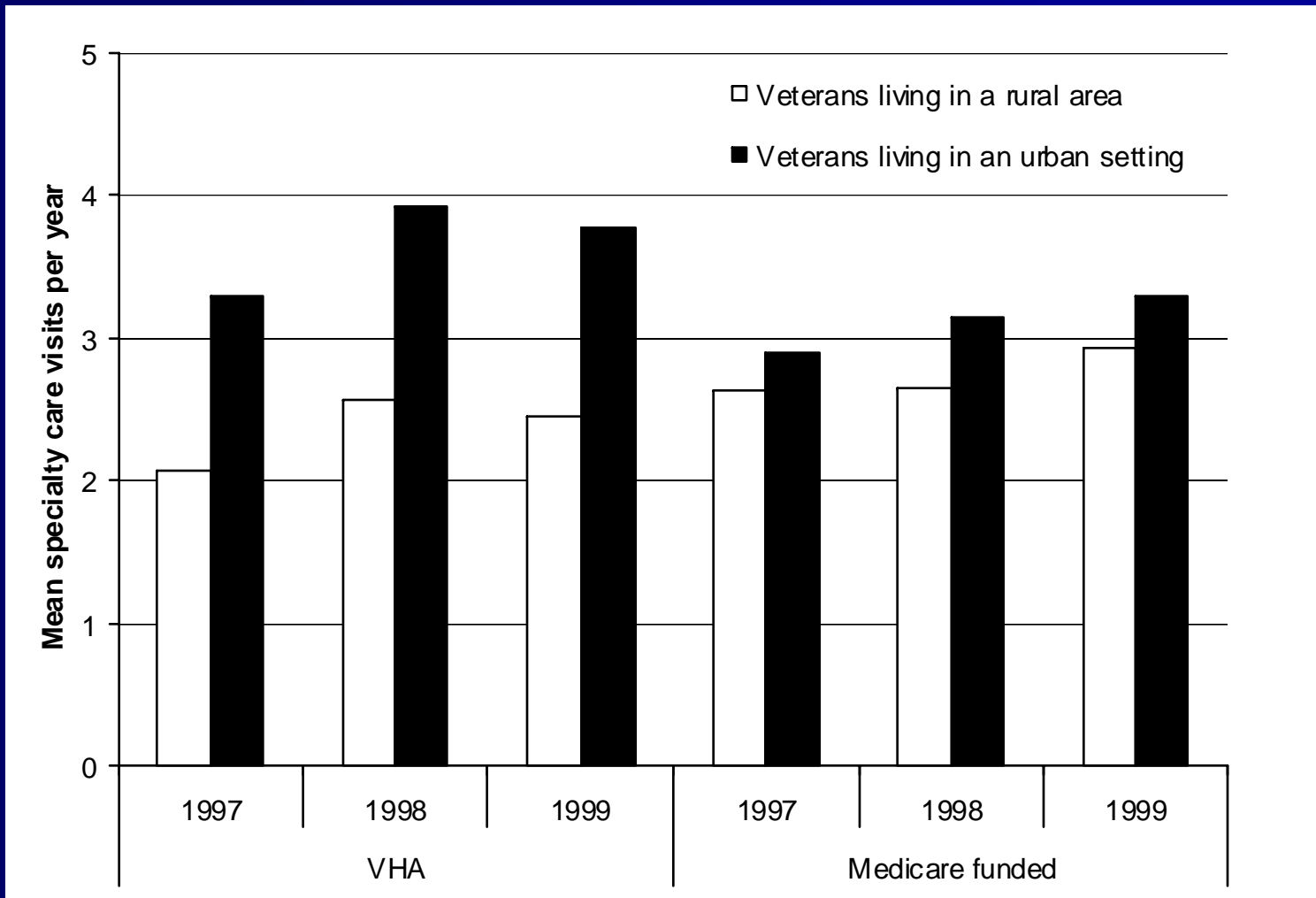
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Might that be  
OK with/for  
the VA?

# Study

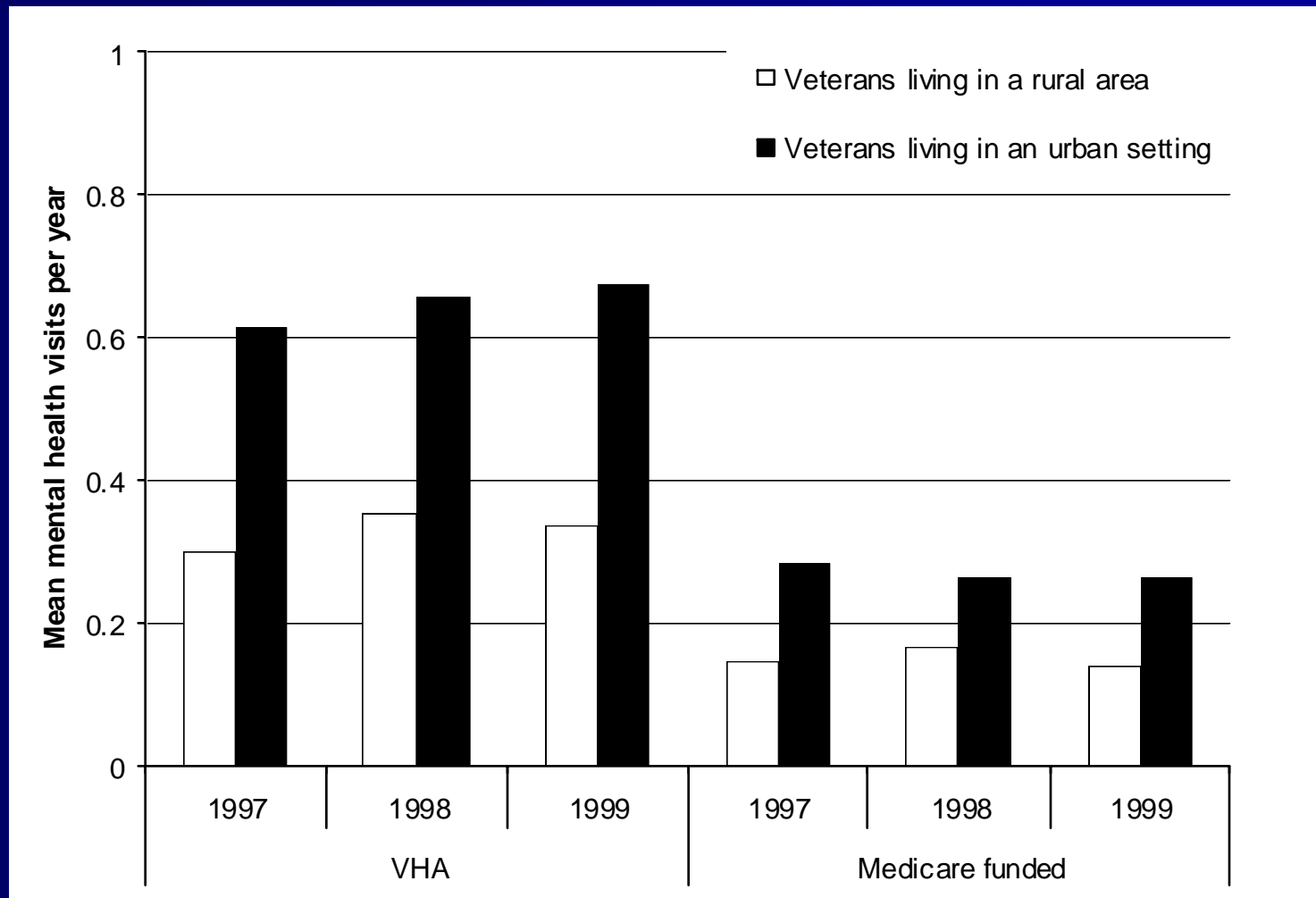
- Examined outpatient utilization of older veterans in New England in 1997-1999
- Anticipated that the higher health care needs that we found earlier would be reflected in higher health services utilization = more outpatient visits
- Anticipated that more care would be provided in the private sector for rural veterans

# Outpatient utilization – Primary Care





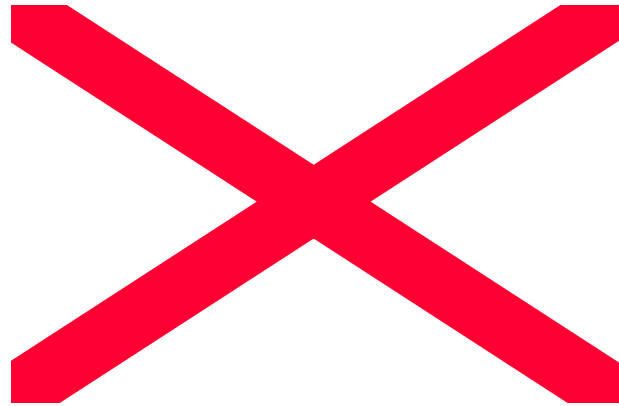
# Outpatient utilization – Specialty Care



# Summary

- Compared to urban veterans, rural veterans
  - Use fewer outpatient services (also inpatient)
  - Are about (or less) equally reliant on private sector for care
    - No evidence of substitution of private sector for VA care – EXCEPT FOR ER CARE

# Emergency room care



**Why does this matter?**

Cumulative benefit of health care



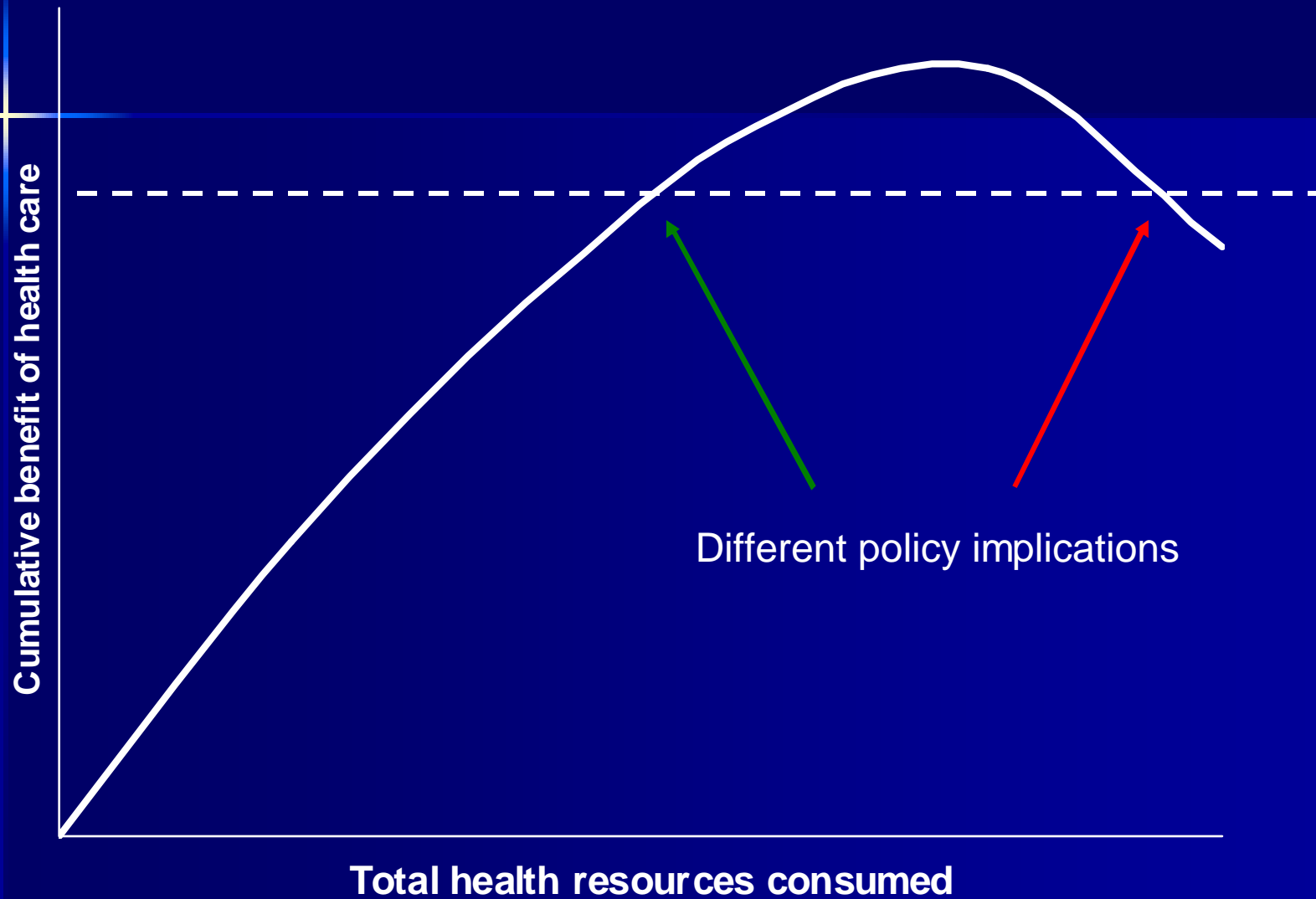
Total health resources consumed

Too much of a good thing?



# GLUTTONY

That extra doughnut at work every Friday morning...just isn't worth it.

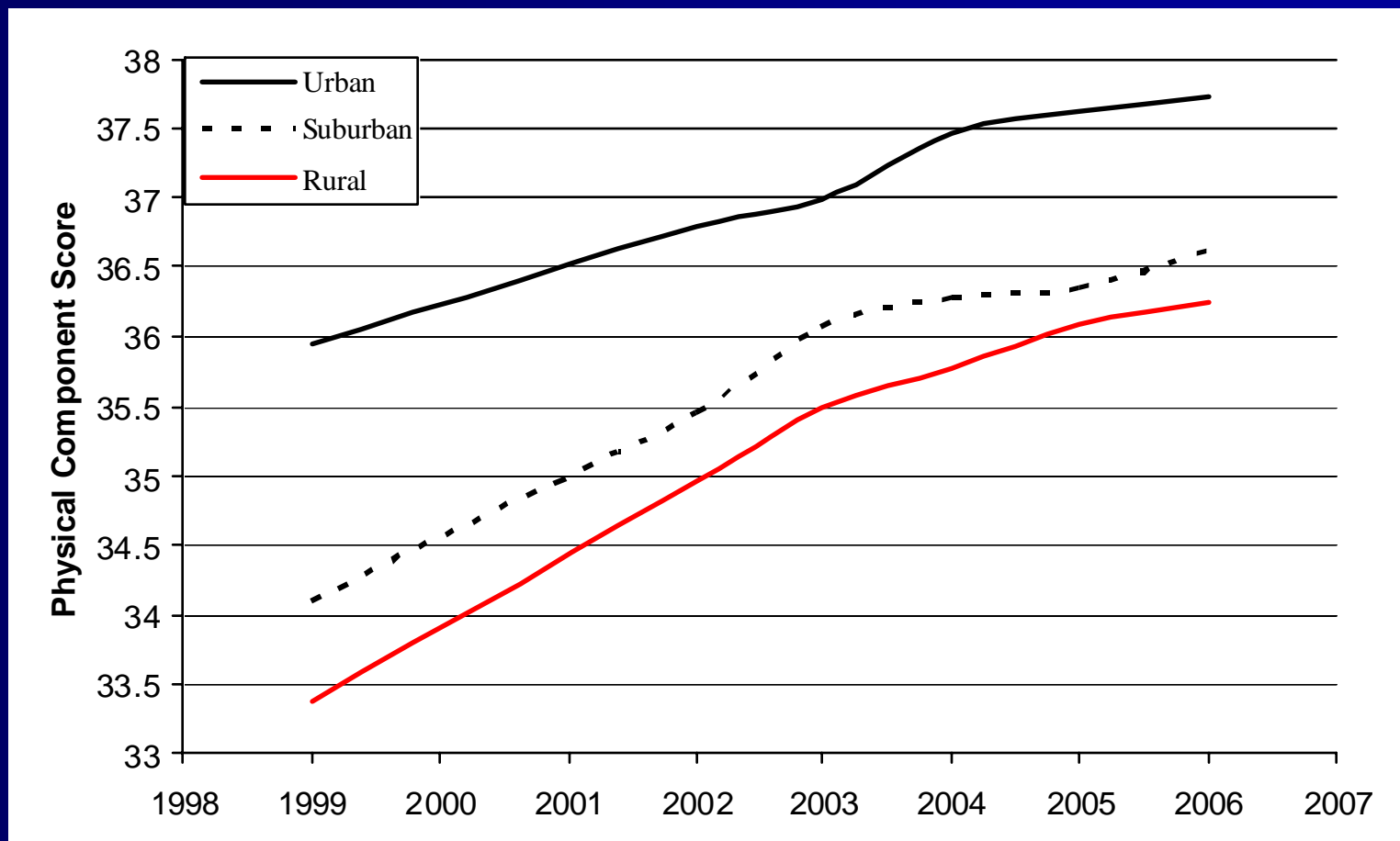


# Relationship between health services and health related QOL over time

- Longitudinal HRQOL data
  - SHEP 2002-2006
- Health services utilization over time
  - VA PTF
  - Medicare through VA/Medicare dataset
- Is more better in VA patients?
  - For rural vs. urban?
  - Does it matter where the “more” comes from?



# Pilot Findings: Managers of VAs that serve rural populations continue to have sicker patients



# Take home points I

- Rural veterans have lower health related quality of life than their urban counterparts
  - Without adjustment (most pronounced, and most relevant to managers)
  - With adjustment (for age, gender, employment (=income proxy), marital status, race, priority status, disability, comorbidities)
  - Within disease cohorts (lower MH and PH for Mental Health disorders; lower PH for physical health disorders)
  - Within cohorts over time (urban cohort stays about the same; rural cohort drops over time)

# Take home points II

- Rural veterans use fewer health care services than their urban counterparts
  - VA only, private sector only, and combined
  - Inpatient, outpatient, specialty care, mental health

# Take home points III

- For rural veterans, lower service utilization **might** be associated with worsening health related quality of life
- Relevant issue
  - Returning veterans are more likely to be rural
  - Office of Rural Health within VHA



# DISLOYALTY

THERE COMES A TIME WHEN EVERY TEAM MUST LEARN TO MAKE INDIVIDUAL SACRIFICES.

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# Other solutions...

- May benefit from intervention
  - cooperation of delivery with private sector?
  - use of novel methods of care delivery?
    - Web-based technologies
    - Televideo in community-based outpatient clinics
    - Telephone
  - reallocate resources from urban to rural populations?



# CHANGE

IT'S A SHORT TRIP FROM RIDING THE WAVES OF CHANGE TO  
BEING TORN APART BY THE JAWS OF DEFEAT.

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# Questions?

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