Rural Health Departments: Challenges and Opportunities

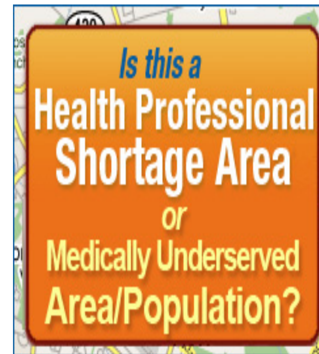
Nathan Hale, PhD[1]
Research Assistant Professor

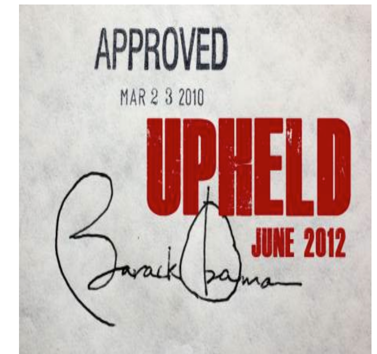
Co-Investigators
Mike Smith, MSPH[2]
James Hardin, PhD[1]
Amy Martin, DrPH[1]

UNIVERSITY OF SOUTH CAROLINA® [1]

[2]

Rural Public Health – A Dilemma?





Population Based Public Health

Direct Service Provider (DSP)

Rural Public Health – A Dilemma?

- Population based public health =

- Current landscape – many remain DSP
  - 50% Family Planning
  - 46% Immunizations
  - 43% EPSDT
  - 24% Managed Care (Medical Home)

Critical Questions

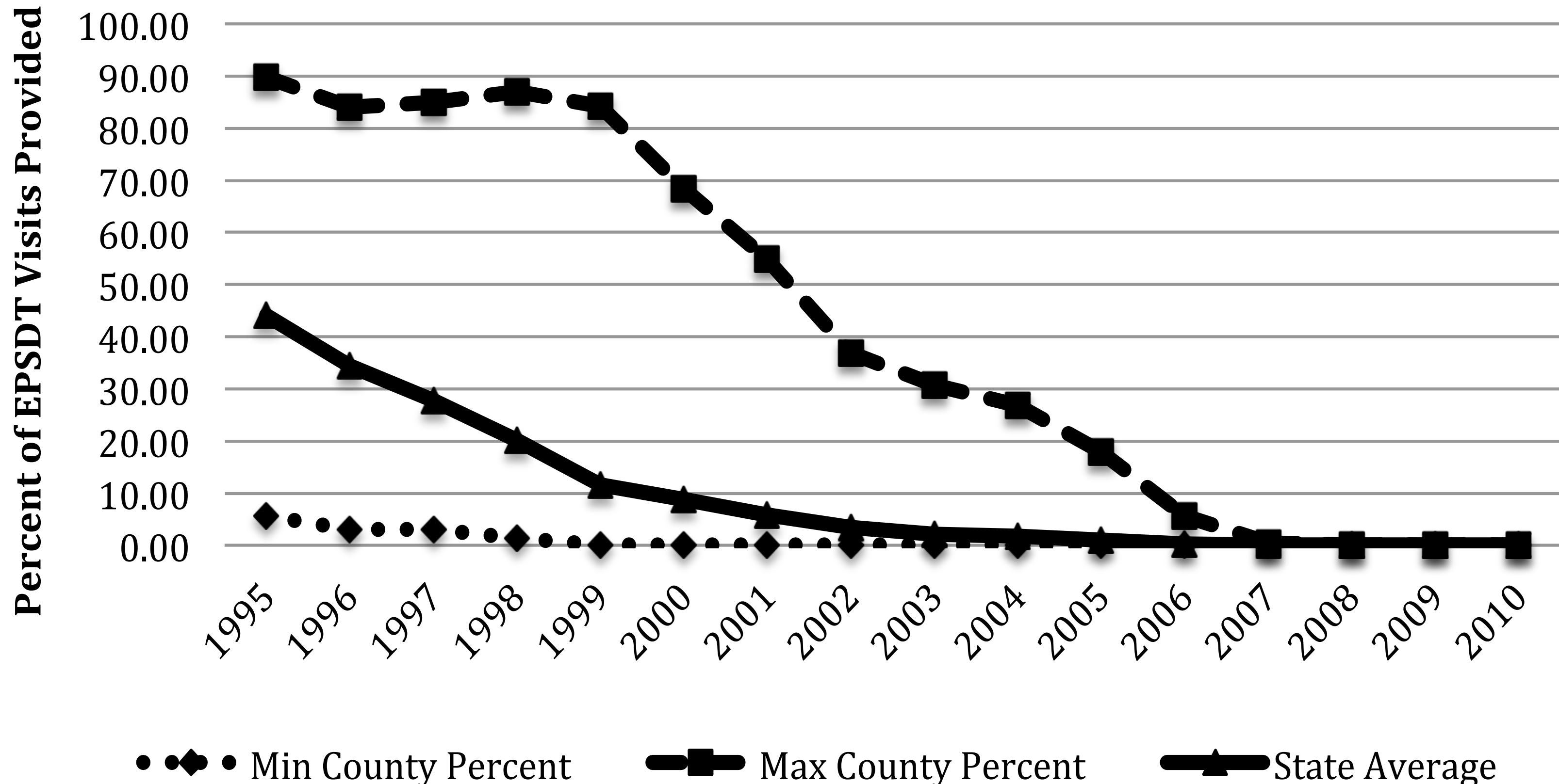
- Two critical questions:
  - What happens when the transition <u>is</u> made?
    - Different for rural communities?
  - How do you mitigate the potential impact?

Background

SCDHEC – State public health agency

- 1995 -> SCDHEC 40% of EPSDT Market
- Mid 1990's -> Transitioned EPSDT services
- Some targeted transitioning -> mostly attrition

Background



Methods-Data

- **Data**
  - Retrospective cohort of infants enrolled in Medicaid
  - 1995-2010
  - Eligibility / billing data
  - Continuous Medicaid enrollment for 12 months
- **Data Structure**
  - Repeated Cross-sectional
  - Rolling Panel

Methods-Variables

- **Dependent**
  - Any EPSDT visit (dichotomous)
  - Ratio of Observed to Expected EPSDT visits

- **Independent**
  - Time (0-15)
  - SCDHEC Market Share
    - High (>60%) | Average (20-59%) | Low (<20%)
  - Rural Residence (Urban Influence Codes)
    - Urban
    - Rural

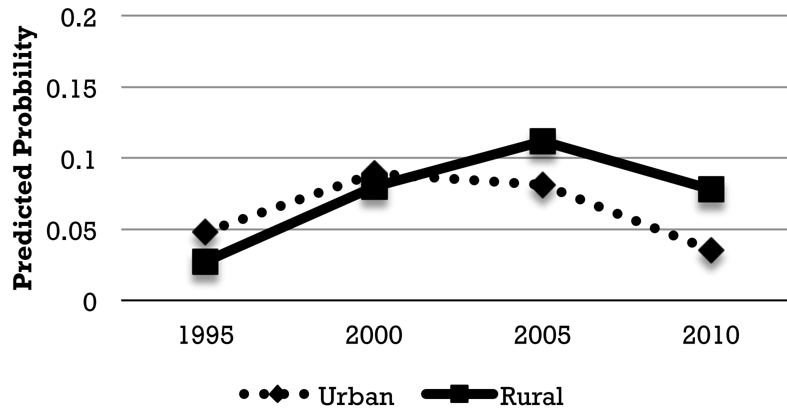
Methods-Analysis

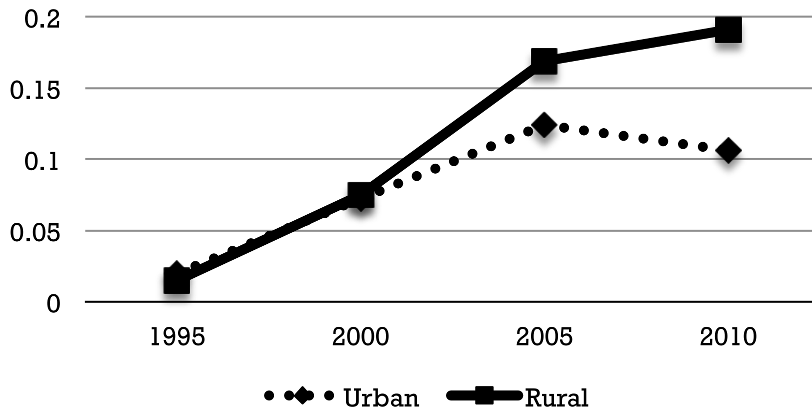
- **Growth Curve Models**
  - Fixed
    - Time | SCDHEC Market Share | Rural
    - Other Time-variant | Time-invariant
  - Random
    - County | Time
  - ***3-way interaction (Time | SCDHEC | Rural)***
- **Stata – xtmelogit | xtmixed**
  - Predicted probabilities | Marginal means

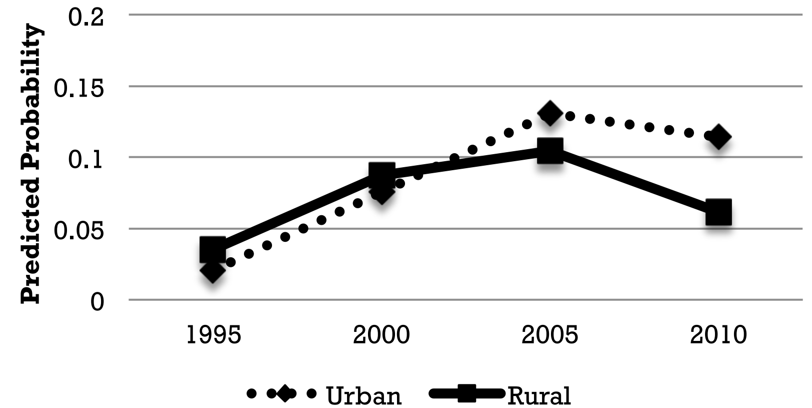
Methods-Analysis

	No Visit^	p-value	Ratio (O/E) Visits^^	p-value
Fixed Effects				
Year*SCDHEC Penetration*Rural				
Low (<19% of visits) – Urban	Referent		Referent	
Low (<19% of visits) – Rural	0.061	0.006	-0.008	<0.001
Average (20%-59% of visits) – Urban	0.096	<0.001	-0.018	<0.001
Average (20%-59% of visits) – Rural	0.141	<0.001	-0.027	<0.001
High (>60% of visits) – Urban	0.145	0.011	-0.013	<0.001
High (>60% of visits) – Rural	0.208	0.002	-0.033	<0.001
Random Effects				
Standard Deviation (Year)	0.061		0.007	
Standard Deviation (Intercept)	0.561		0.057	
Correlation (Year, Intercept)	-0.483		-0.554	

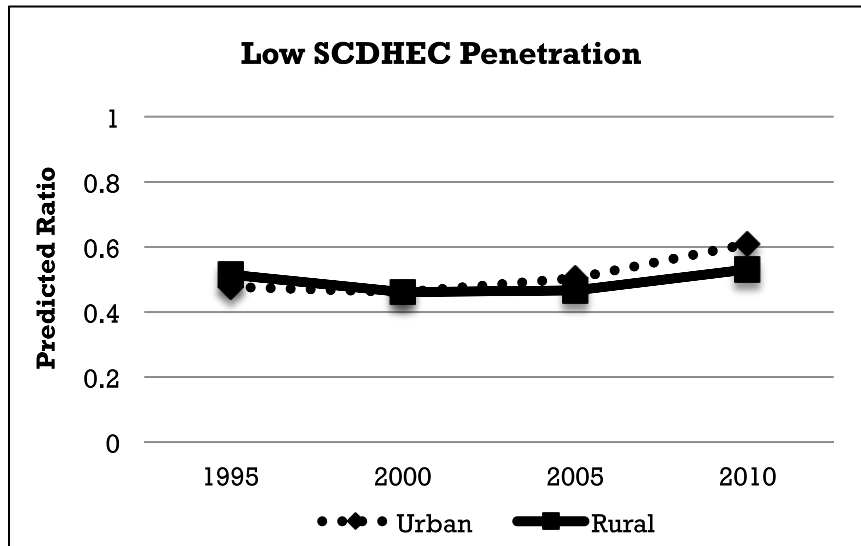
Results – No EPSDT Visit

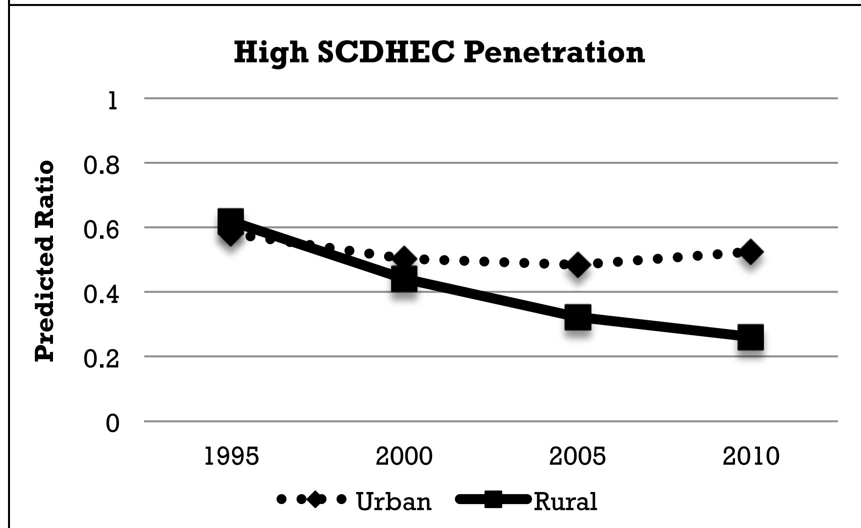


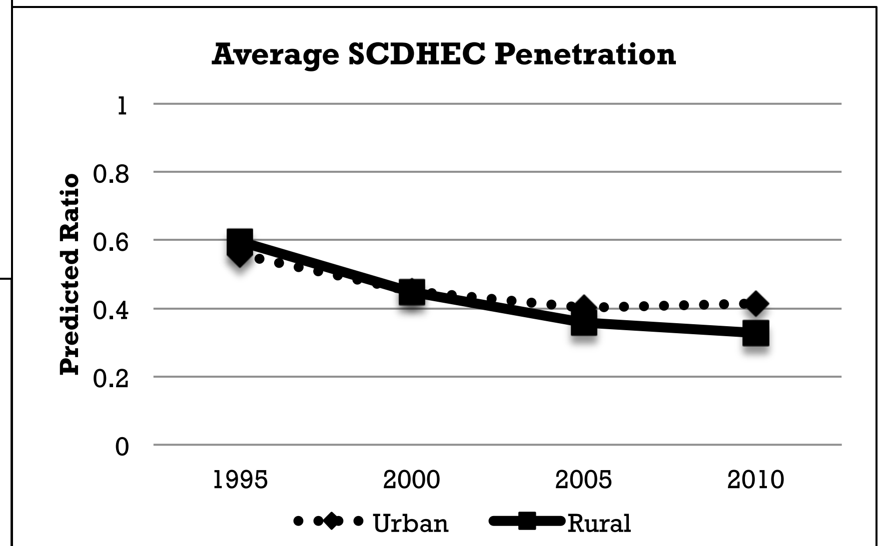




Results – Ratio of O/E Visits







Policy Implications

- Urban -> stabilized -> ultimately improved
  - Primary Care Infrastructure
- Rural -> steady deterioration -> yet to recover
  - Historically underserved | limited primary care

Challenges

- Rural & ACA (tough position)
  - Increased demand + constrained supply = deeper into safetynet & direct service provision
- Transition may be very difficult
  - Potential to exacerbate existing resource voids

Opportunities

- Key Policy Partners
  - Office of Rural Health
  - Office of Primary Care
  - Hospital Associations
- Unique insight into the vulnerabilities of rural
  - Incentivized by Center for Medicaid/Medicare Services (CMS)
- Federally Qualified Health Centers (FQHC) & Medical Home Initiatives