Bridging Health and Health Care
Wednesday, January 14, 2015   12-1pm ET

Local Public Health Clinic Retraction and Reproductive Health Service Utilization & Outcomes

Conference Phone: 877-394-0659
Conference Code: 775 483 8037#
Please remember to mute your phone and computer speakers during the presentation.

PHSSR NATIONAL COORDINATING CENTER AT THE UNIVERSITY OF KENTUCKY COLLEGE OF PUBLIC HEALTH

PUBLIC HEALTH | **SERVICES & SYSTEMS RESEARCH** | **PRACTICE-BASED RESEARCH NETWORKS**

Agenda

Welcome: **Rick Ingram, DrPH,** National Coordinating Center

Presenter:

"Local Public Health Clinic Retraction and Reproductive Health Service Utilization & Outcomes"

Nathan Hale, PhD, Research Assistant Professor, Dep't of Health Services Policy and Management, Arnold School of Public Health, U. of South Carolina

Commentary:

Alana Knudson, PhD, Principal Research Scientist, Public Health, NORC at University of Chicago

Michael Smith, MSPH, Epidemiologist & Director, Maternal and Child Health Research & Planning, S. Carolina Dep't. of Health & Environmental Control

Questions and Discussion

Future Webinars

PUBLIC HEALTH ‖ **SERVICES & SYSTEMS RESEARCH**
PRACTICE-BASED RESEARCH NETWORKS

Presenter

Nathan Hale, PhD

Research Assistant Professor

Department of Health Services Policy and Management

Arnold School of Public Health

University of South Carolina

Deputy Director

South Carolina Rural Health Research Center

Local Public Health Clinic Retraction and Reproductive Health Service Utilization & Outcomes

Nathan Hale, PhD[1]
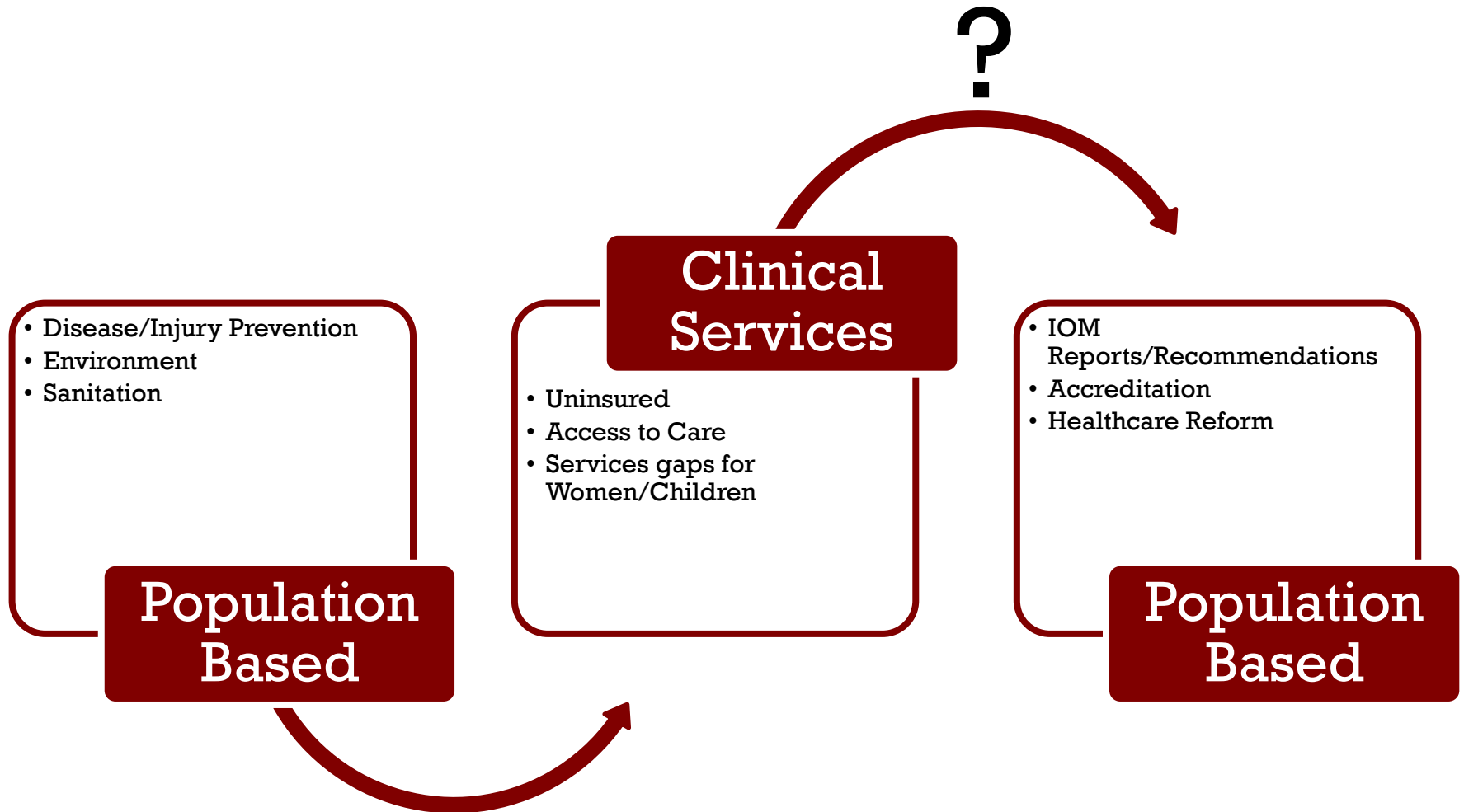
Assistant Professor (Research)

Mike Smith, MSPH[2]

Maternal and Child Health Epidemiologist

UNIVERSITY OF SOUTH CAROLINA ® [1]

D H E C [2]
PROMOTE PROTECT PROSPER

Public Health - System in Transition

?

Clinical Services

Population Based

- Disease/Injury Prevention
- Environment
- Sanitation

- Uninsured
- Access to Care
- Services gaps for Women/Children

Population Based

- IOM Reports/Recommendations
- Accreditation
- Healthcare Reform

Dilemma (1)

- Population based public health =

- Current landscape – many remain DSP
  - 50% Family Planning
  - 46% Immunizations
  - 43% EPSDT

Dilemma (2)

- Economic Recession
  - Driven further into clinical services?

- Healthcare Reform
  - Catalyst for re-examining priorities – discontinue?

- Transitions occurring more frequently

Critical Questions

- Two critical questions:

  - What happens when the transition <u>is</u> made?

  - How do you mitigate the potential impact?
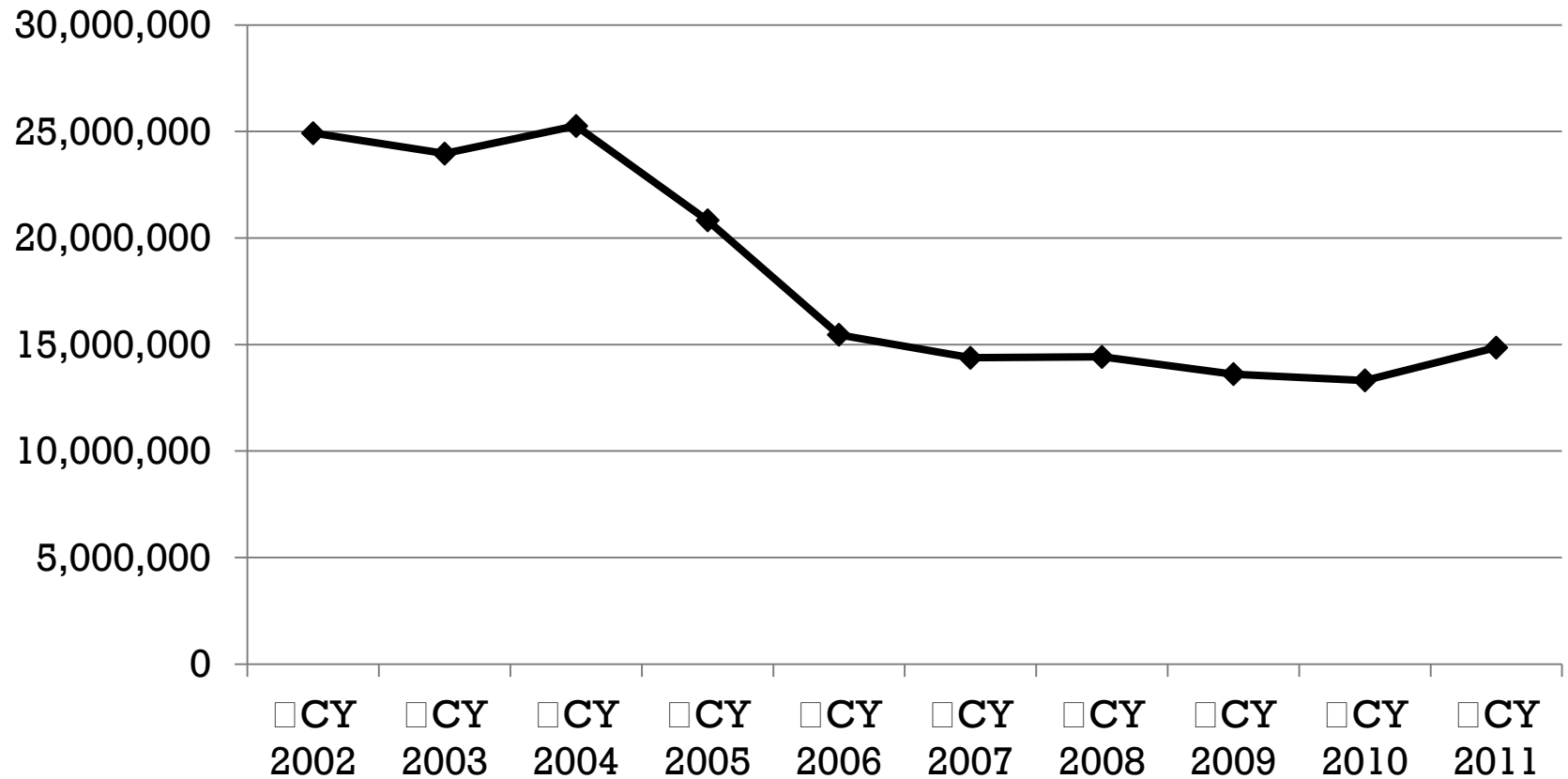
- Opportunity to examine in South Carolina

- **SCDHEC – State public health agency**

  - Title X – Clinical services for Family Planning

  - Medicaid – Significant provider of clinical services
    - ~50% of caseload
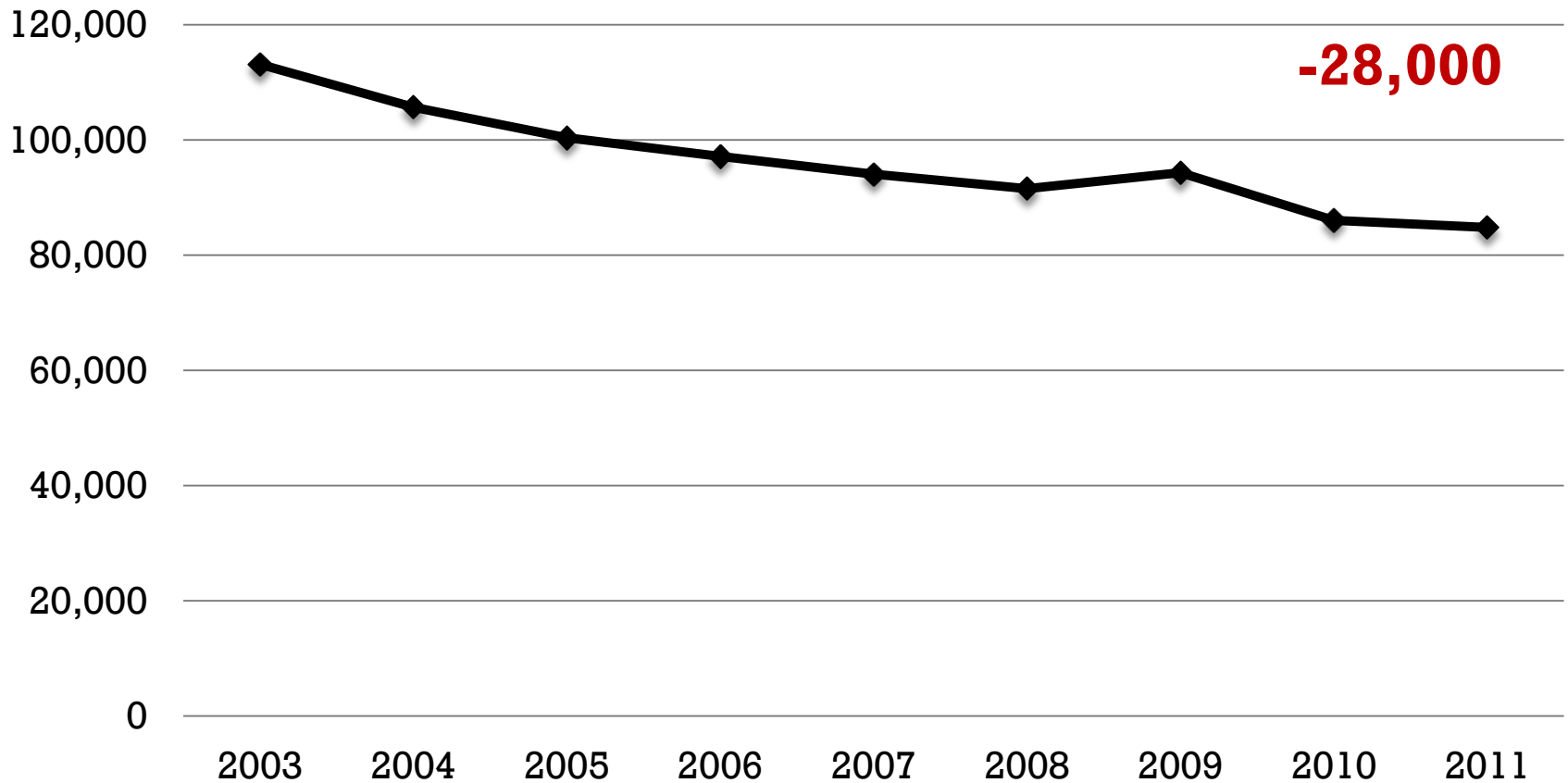
  - Fiscal Constraints
    - State and local revenue

Total Revenue for Family Planning Services (2002-2011)

SCDHEC Family Planning Caseload
(2003-2011)

-28,000

Natural Experiment

- **Retraction of Clinical Services**
  - Reduced staffing / clinic hours
  - Select clinic closings

  - *Geographic variation*
    - Reduced capacity geographically distributed
    - Clinic closings geographically distributed

  - *Time variation*
    - Reduced capacity occurred in waves
    - Clinic closing every year from 2003 - 2010

Research Opportunity

- <u>Aim 1</u> – Impact of clinical service retraction on receipt of annual family planning visits

- <u>Aim 2</u> – Impact of clinical service retraction on population-based health outcomes

Methods - Data

- **Data**
  - Cohort of women enrolled in Medicaid
  - 2001-2012
  - Eligibility / billing data

- **Data Structure**
  - Rolling Panel
  - Entry 1st year of Eligibility on Record

Methods - Variables

- **Dependent**
  - Receipt of Annual Visit
  - Sexually Transmitted Infections (STI)
  - Short Pregnancy Spacing
    - <18 months from previous live birth

  - All variables dichotomous (yes/no) in each year of study

Methods-Variables

- **Independent**
  - Time (0-12)
  - SCDHEC County Typology (4-level categorical)

    - No Reduced Capacity / No Clinic Closing (NRC/NCC)
    - Reduced Capacity / Clinic Closing (RC/CC)
    - Reduced Capacity / No Clinic Closing (RC/NCC)
    - No Reduced Capacity / Clinic Closing (NRC/CC)

  - Reduced Capacity = >30% reduction in SCDHEC caseload
   - Mirror change in state-level caseload

Methods - Analysis

- **Generalized estimating equations (GEE)**
  - Used to analyze correlated data (panel)
  - Population-averaged probabilities (marginal means)
  - *Interaction (Time | County Typology)*

- **Stata – xtgee**
  - Binary data | link logit | auto-regressive correlation matrix with a single lag
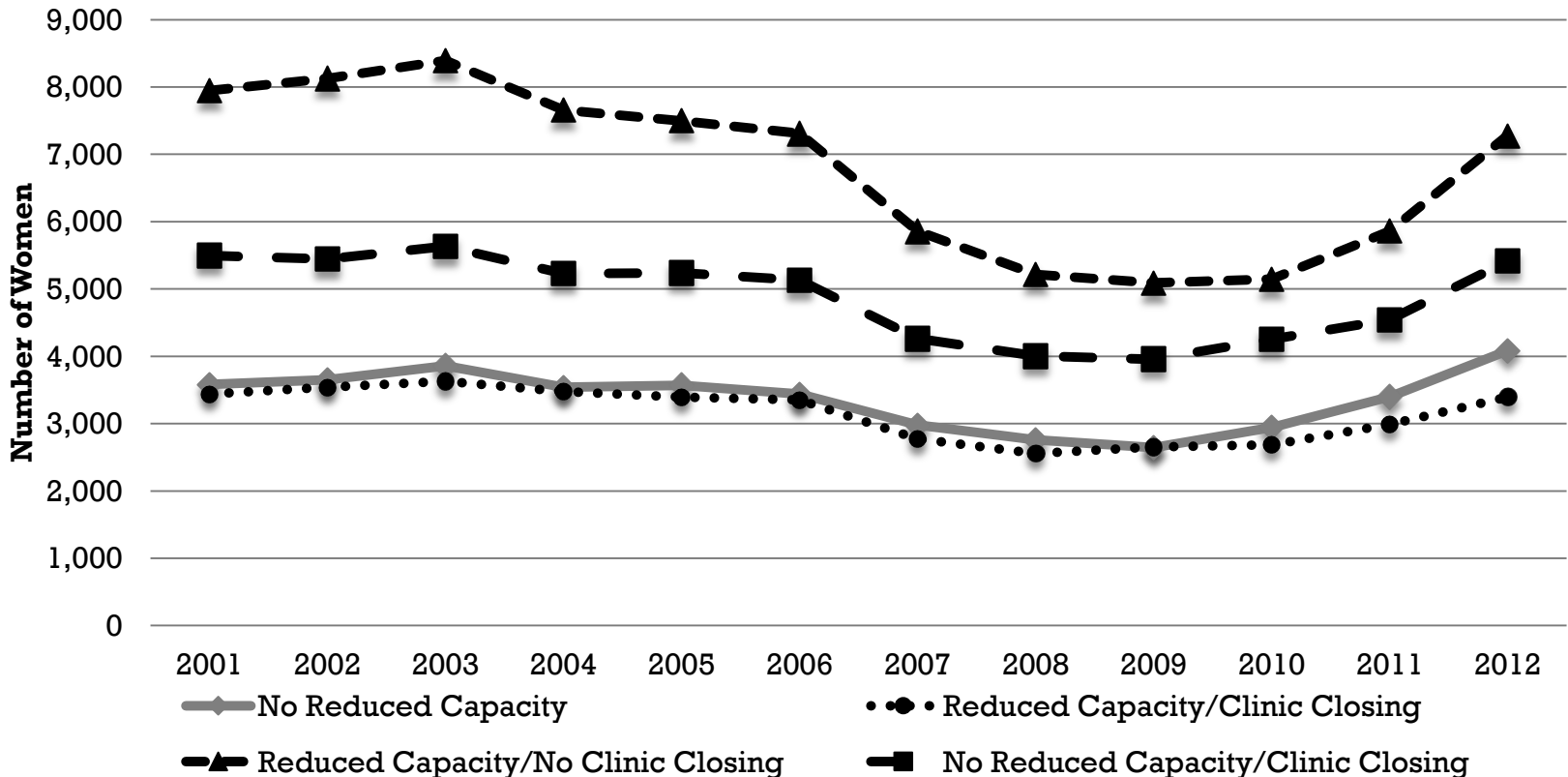
  - Marginal effects (Stata margins command)

Results - Descriptive

Distribution of Study Population by County Typology
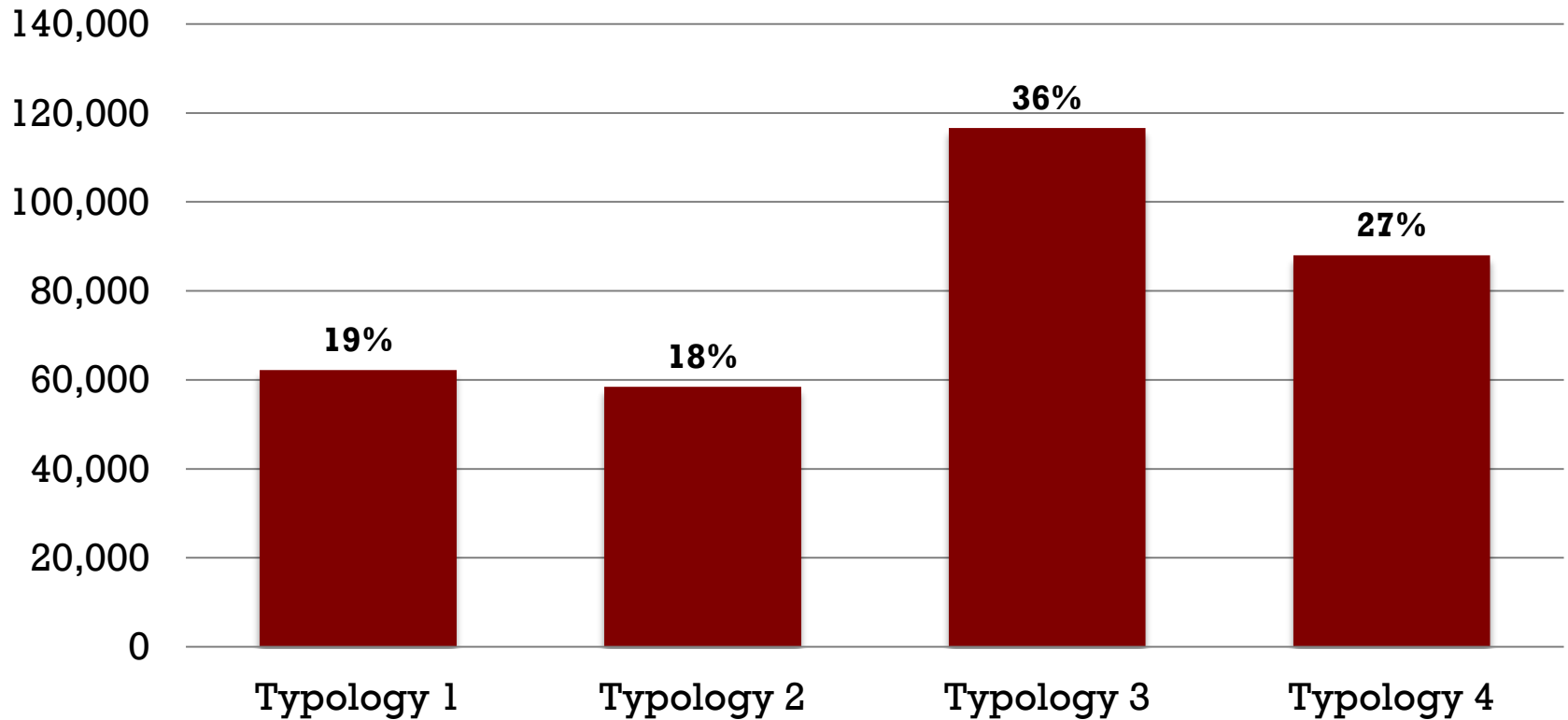
Results - Descriptive

Number of Newly Medicaid Eligible Women by County Typology and Year (2001-2012)

Results - Bivariate

Selected Outcomes	Total	Typology 1	Typology 2	Typology 3	Typology 4
	N=2,234,439	n=444,617	n=399,138	n=776,163	n=614,521
Annual Visits^	562,588 (25.18%)	109,118 (24.54%)	91,450 (22.91%)	**214,145 (27.59%)**	147,875 (24.06%)
STI^	87,644 (3.92%)	18,301 (4.12%)	12,503 (3.13%)	**33,222 (4.28%)**	23,618 (3.84%)
Repeat Pregnancy^	80,303 (3.59%)	15,528 (3.49%)	**17,716 (4.44%)**	25,563 (3.29%)	21,496 (3.50%)

*Study population - reflects the collective values for all women eligible for Medicaid
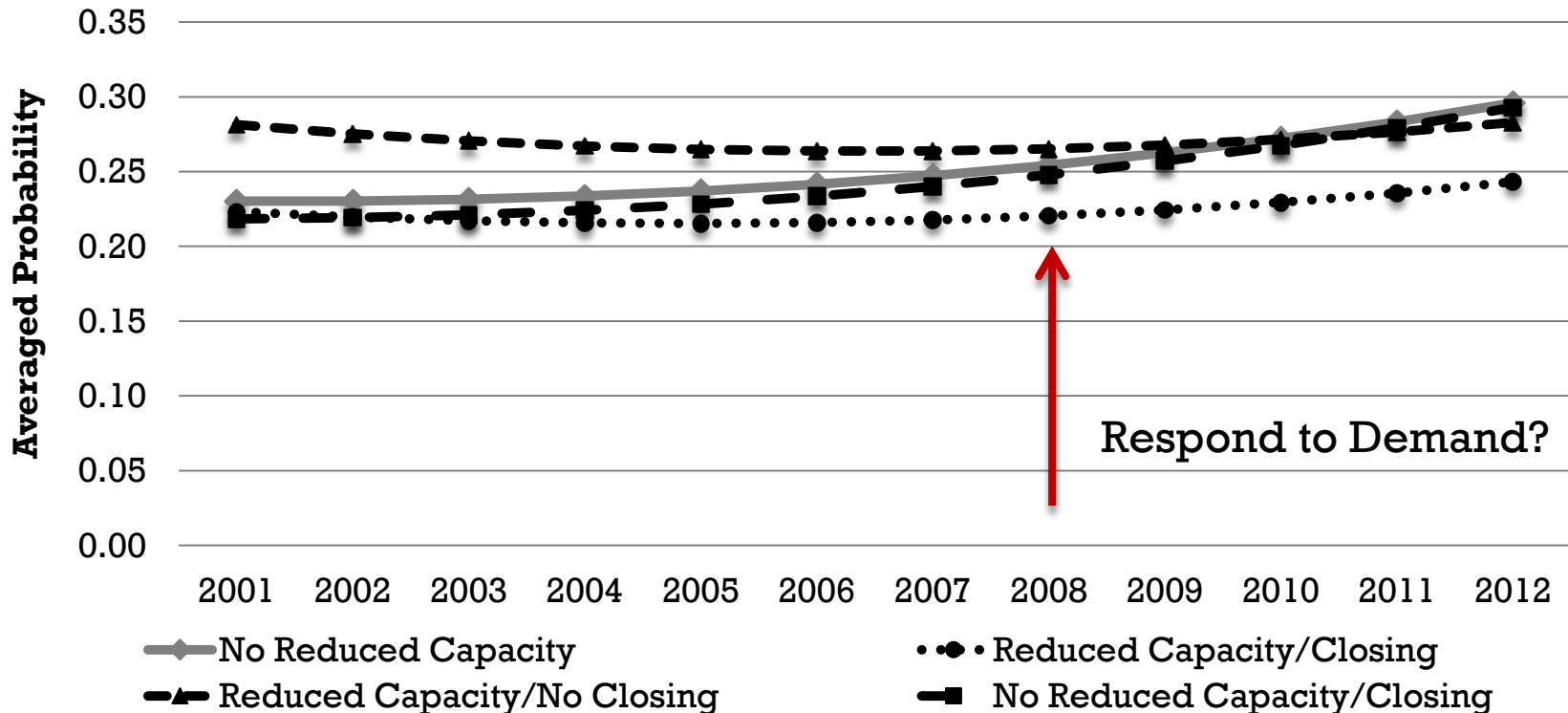Over the duration of the study period (2001 -2012)
^Chi square p<0.05

Results - Annual Visits

	Model 1: Annual Visits			
	Coefficient	P-value	95% Confidence Interval (LBL - UBL)	
Variables of Interest				
Year	*0.003*	*0.037*	*-0.004*	*0.010*
Year^2	*0.003*	*<0.001*	*0.003*	*0.004*
County Typology				
No Reduced Capacity/No Closing	Reference			
Reduced Capacity/Closing	*-0.021*	*0.032*	*-0.063*	*0.020*
Reduced Capacity / No Closing	*0.321*	*<0.001*	*0.291*	*0.351*
No Reduced Capacity/Closing	*-0.079*	*<0.001*	*-0.112*	*-0.045*
County Typology*Year				
No Reduced Capacity/No Closing	Reference			
Reduced Capacity/Closing	*-0.022*	*<0.001*	*-0.028*	*-0.017*
Reduced Capacity / No Closing	*-0.032*	*<0.001*	*-0.037*	*-0.028*
No Reduced Capacity/Closing	*0.005*	*0.025*	*0.001*	*0.010*
Intercept	-1.203		-1.236	-1.170

All models adjusted for race/ethnicity, age, marital status, Medicaid enrollment and changes in Medicaid enrollment over time, annual visits provided by provided by private providers and changes visits by private providers, annual visits provided by FQHCs and changes in visits over time.

Results - Annual Visits

Average Adjusted Probability of Having an Annual Visit by County Typology and Year
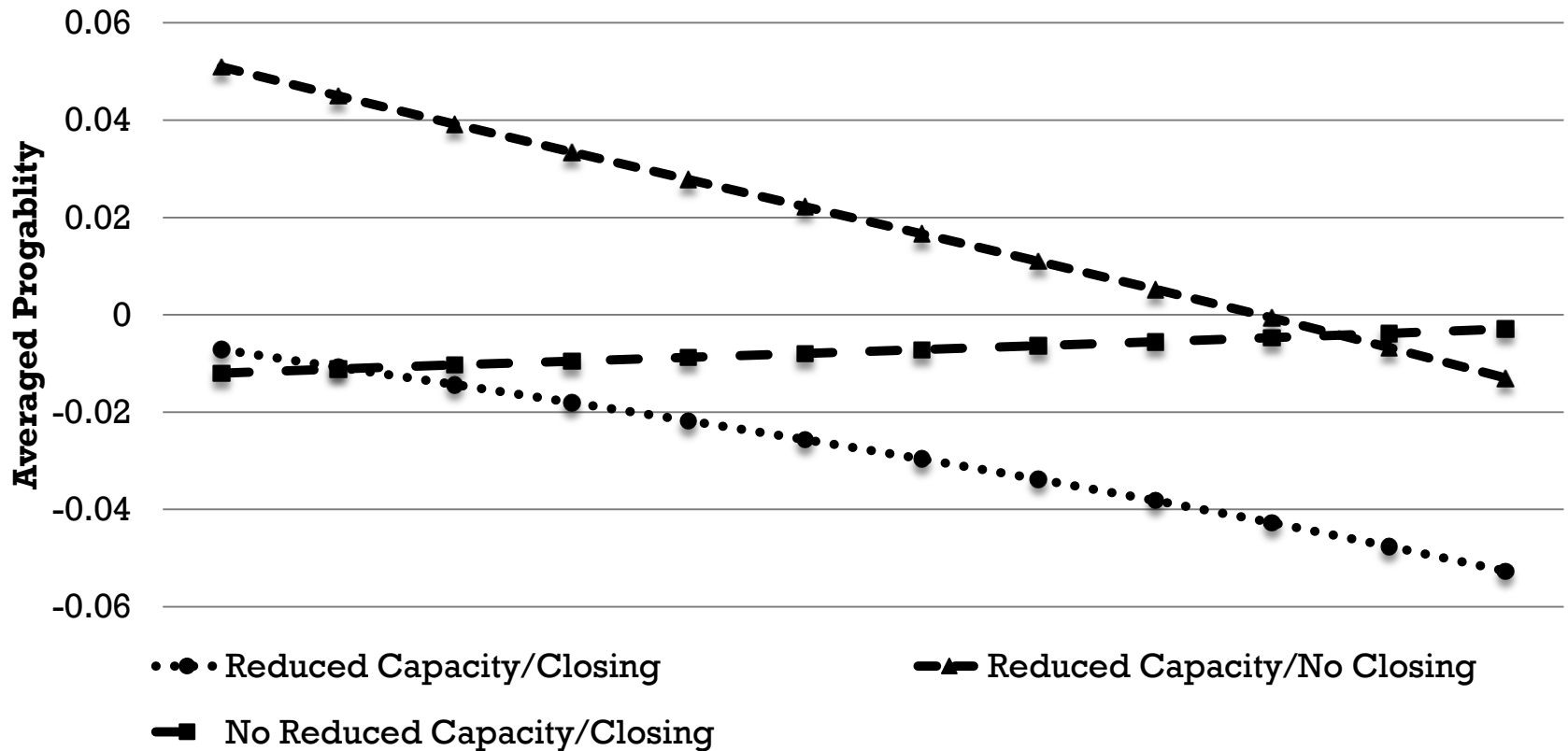

NRC/NCC Δ μp = 28%   RC/CC   Δ μp = 9%

RC/NCC   Δ μp = 0.5%   NRC/CC Δ μp = 34%

Marginal Effect of County Typology on Annual Visits

Averaged Progablity

- • • Reduced Capacity/Closing
- ▲ Reduced Capacity/No Closing
- ■ No Reduced Capacity/Closing

Results - STI

	Model 2: STI			
	Coefficient	P-value	95% Confidence Interval (LBL - UBL)	
Variables of Interest				
Year	*0.058*	*<0.001*	*0.051*	*0.065*
Year^2				
County Status				
No Reduced Capacity/No Closing	Reference			
Reduced Capacity/Closing	*-0.159*	*0.001*	*-0.255*	*-0.063*
Reduced Capacity / No Closing	*-0.099*	*0.002*	*-0.164*	*-0.035*
No Reduced Capacity/Closing	*-0.197*	*<0.001*	*-0.270*	*-0.124*
County Status*Year				
No Reduced Capacity/No Closing	Reference			
Reduced Capacity/Closing	*0.029*	*<0.001*	*0.017*	*0.042*
Reduced Capacity / No Closing	*0.012*	*0.008*	*0.003*	*0.020*
No Reduced Capacity/Closing	*0.017*	*<0.001*	*0.008*	*0.027*
Intercept	-4.077		-4.148	-4.005

All models adjusted for race/ethnicity, age, marital status, Medicaid enrollment and changes in Medicaid enrollment over time, annual visits provided by provided by private providers and changes visits by private providers, annual visits provided by FQHCs and changes in visits over time.
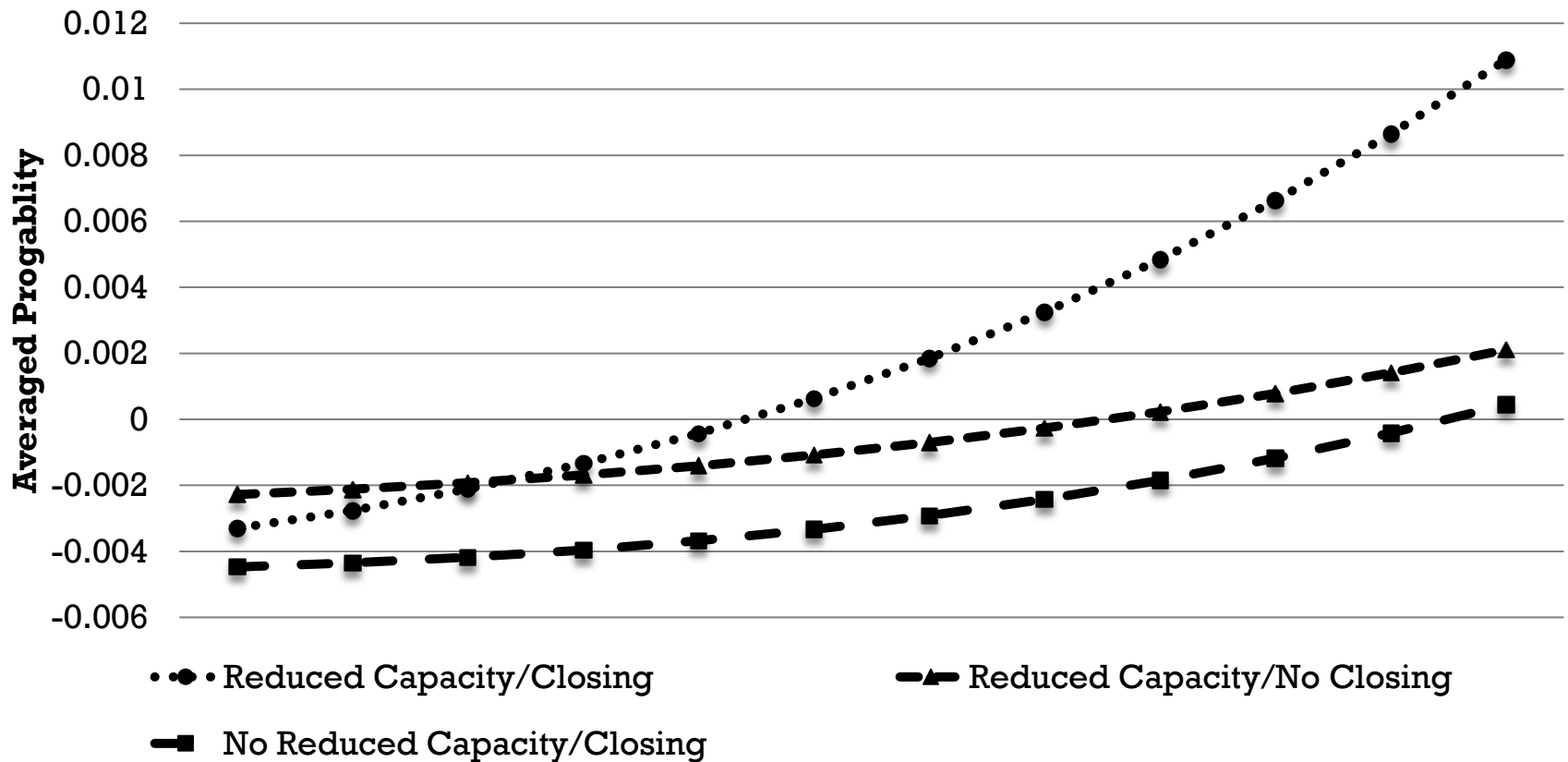
Results - STI

Average Adjusted Probability of Having an STI by County Typology and Year

Legend:
- No Reduced Capacity
- Reduced Capacity/Closing
- Reduced Capacity/No Closing
- No Reduced Capacity/Closing

Marginal Effect of County Typology on STI

Legend:
- • • • Reduced Capacity/Closing
- —▲— Reduced Capacity/No Closing
- —■— No Reduced Capacity/Closing
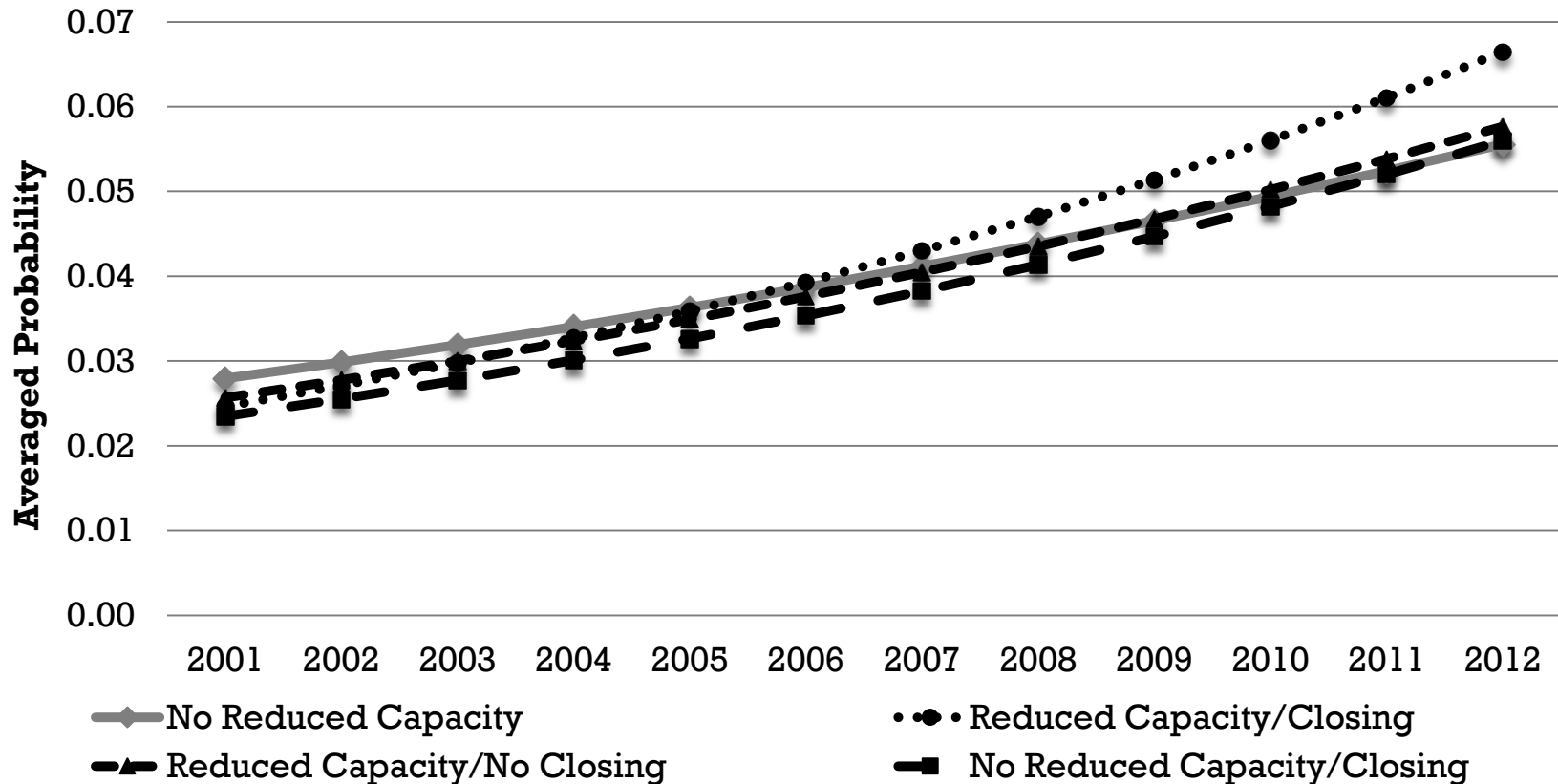
Results - Repeat Pregnancy

	Model 3: Repeat Pregnancy			
	Coefficient	P-value	95% Confidence Interval (LBL - UBL)	
Variables of Interest				
Year	*0.4140*	*<0.001*	*0.3932*	*0.4348*
Year^2	*-0.0211*	*<0.001*	*-0.0224*	*-0.0198*
County Status				
No Reduced Capacity/No Closing				
Reduced Capacity/Closing	*0.6859*	*<0.001*	*0.5627*	*0.8092*
Reduced Capacity / No Closing	-0.0957	0.062	-0.1963	0.0048
No Reduced Capacity/Closing	*0.1510*	*0.006*	*0.0434*	*0.2585*
County Status*Year				
No Reduced Capacity/No Closing				
Reduced Capacity/Closing	*-0.0478*	*<0.001*	*-0.0629*	*-0.0327*
Reduced Capacity / No Closing	0.0096	0.133	-0.0029	0.0220
No Reduced Capacity/Closing	*-0.0149*	*0.028*	*-0.0282*	*-0.0016*
Intercept	-5.1910		-5.2986	-5.0835

All models adjusted for race/ethnicity, age, marital status, Medicaid enrollment and changes in Medicaid enrollment over time, annual visits provided by provided by private providers and changes visits by private providers, annual visits provided by FQHCs and changes in visits over time.
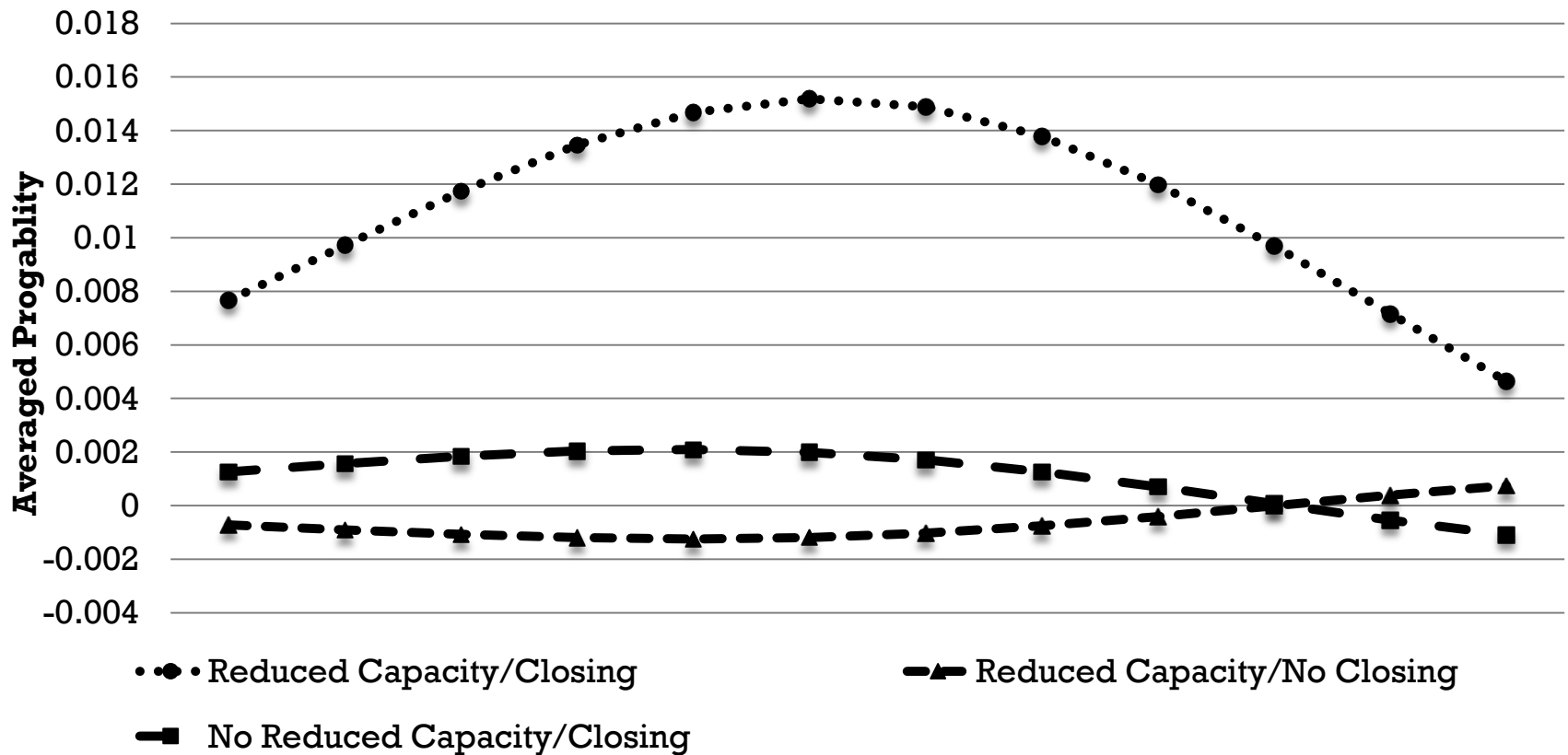
Results - Repeat Pregnancy

Average Adjusted Probability of Having a Repeat Pregnancy by County Typology and Year
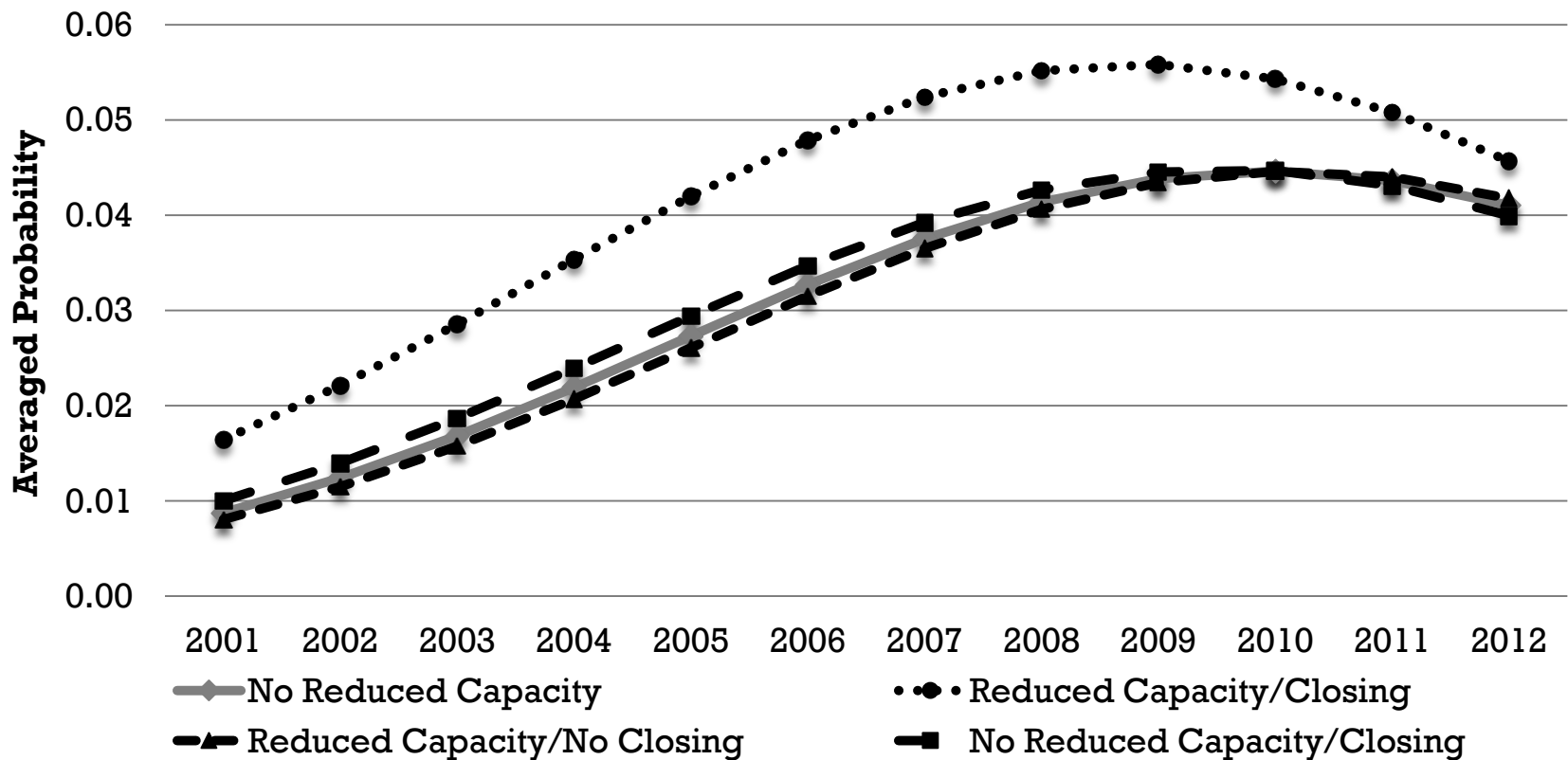
Results - Repeat Pregnancy

Marginal Effect of County Typology on Repeat Pregnancies

Legend:
- • • • Reduced Capacity/Closing
- ▲ Reduced Capacity/No Closing
- ■ No Reduced Capacity/Closing

Discussion

- Service Receipt – annual visits
  - Reduced Capacity -> some disruption
  - **Disruption** in the sense of responding to demand
  - ~6% max difference μ_p between county typologies

- Outcomes
  - Marginal effects stronger in reduced capacity counties
  - Magnitude of the effects -> relatively small
  - Trajectories over time similar across typology

Policy Implications – Individual

- Increased burden in finding provider
  - Already a burdensome task

- More difficult in underserved communities with limited provider capacity

- Same quality of services?

- Reality for individual women shouldn't be dismissed

Policy Implications - State

- State
  - Funding decreases -> trade-offs
  - Transition efforts by LHD critical for mitigating the potential impact – must play active assurance role

- Transition efforts
  - Reduced capacity (no closing) -> equally disruptive
  - Risk complacency in reducing rather than closing
  - Equally rigorous efforts when reducing capacity are needed

Policy Implications – National

- Retraction of clinical services = Impact

- Real Question – What is tolerable impact?

- PPACA + Recession -> Increasing demand
  - How can LHDs really make this transition?
  - Targeted retraction of clinical services probably the more likely scenario

- PPACA + Recession -> Increasing opportunity
  - FQHC | Medical Home | Population health funding

Commentary

Alana Knudson, PhD
Principal Research Scientist, Public Health
NORC at University of Chicago

Michael Smith, MSPH
Epidemiologist and Director, Maternal and Child Health
   Research & Planning
South Carolina Dep't. of Health & Environmental Control

Questions and Discussion

Upcoming PHSSR Research in Progress Webinars

Thursday, January 22 (1-2pm ET)

Using an Evidence-Based Framework to Identify Improvement Measures for the New York Prevention Agenda's "Promote Mental Health and Prevent Substance Abuse" Priority

Chris Maylahn, MPH, and Priti Irani, MS
Office of Public Health Practice, New York State Department of Health

Wednesday, February 4 (12-1pm ET)
TBD

Wednesday, February 11 (12-1pm ET)

Cross-Jurisdictional Shared Service Arrangements in Local Public Health
Susan Zahner, MPH, DrPH, University of Wisconsin-Madison

Thursday, February 19 (1-2pm ET)

Local public health structures and improved maternal and child health outcomes
Tamar A. Klaiman, PhD, MPH, University of the Sciences

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