Understanding the Impact of State Policy on Dental Service Delivery at Federally Qualified Health Centers

Hannah Maxey, PhD, MPH, RDH

Assistant Professor and Director of Health Workforce Studies

INDIANA UNIVERSITY

DEPARTMENT OF FAMILY MEDICINE

School of Medicine

Presentation Objectives

- Describe
  - Federally Qualified Health Centers role in improving access and reducing disparity
  - Dental hygiene workforce and variations in state regulation
- Present
  - Study framework
  - Key findings and results
- Discuss Implications
  - Health workforce policy
  - Federally Qualified Health Centers
  - Underserved populations

STUDY CONTEXT

Federally Qualified Health Centers (FQHC): Background

- The **U.S. Health Center Program** was established in 1964 under Section 330 of the Public Health Service Act (42 USCS § 254b) of the Social Security program

- Located in Bureau of Primary Care at Health Resources Services Administration (HRSA)

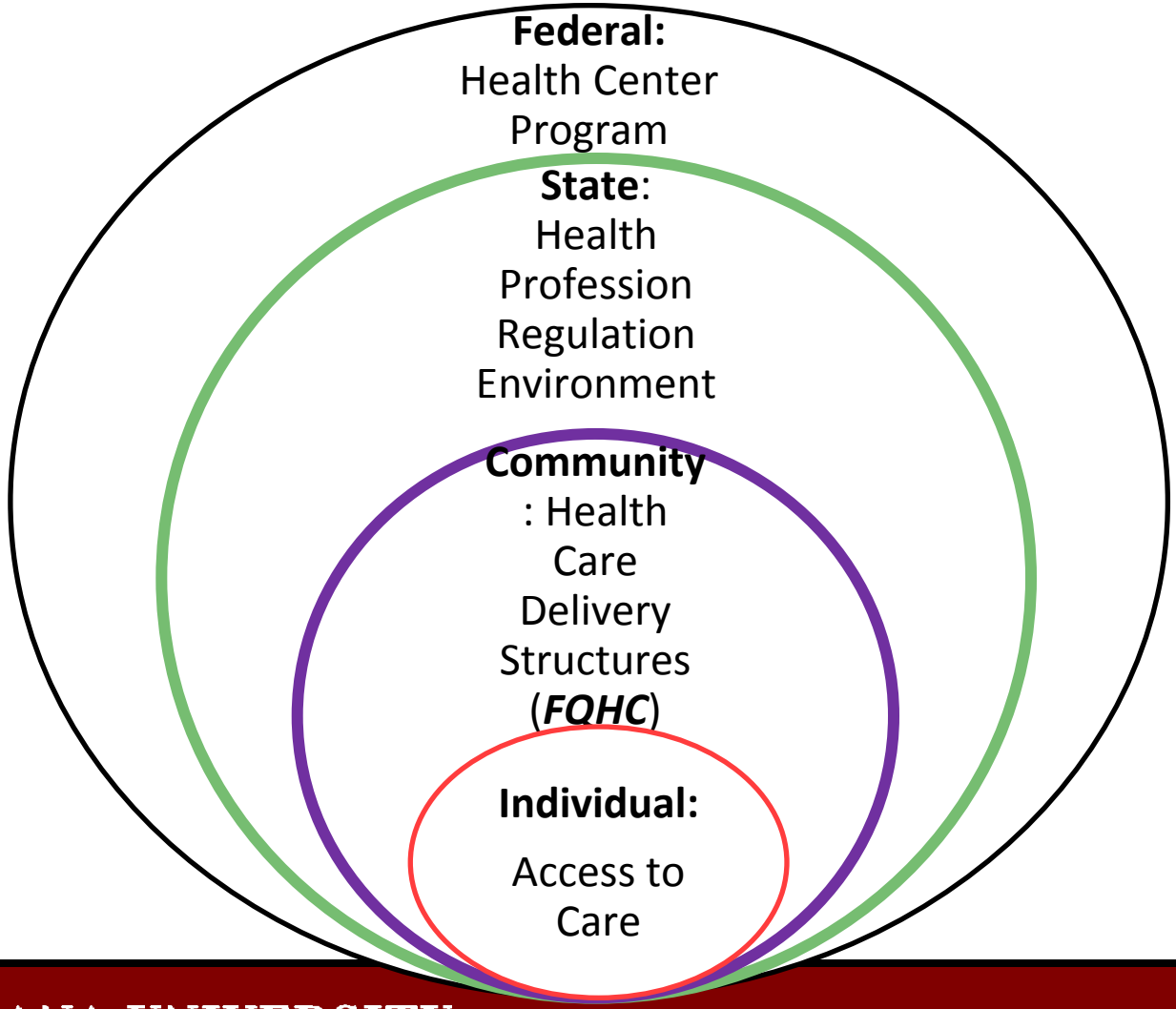
- **Allocates grants** to health centers to provide **comprehensive primary health care services** (including dental & mental health and outreach services) in communities recognized with **Medically Underserved Area/Population (MUA/P)** designations

FQHCs: Oral Health Care

- Under federal funding agreements, health center grantees are required to deliver "primary health services," which are defined in the statute to include "**preventive dental services."** (42 U.S.C.§254b (a) (1) and §254b (b)(1)(A)(i)(III) (hh)).

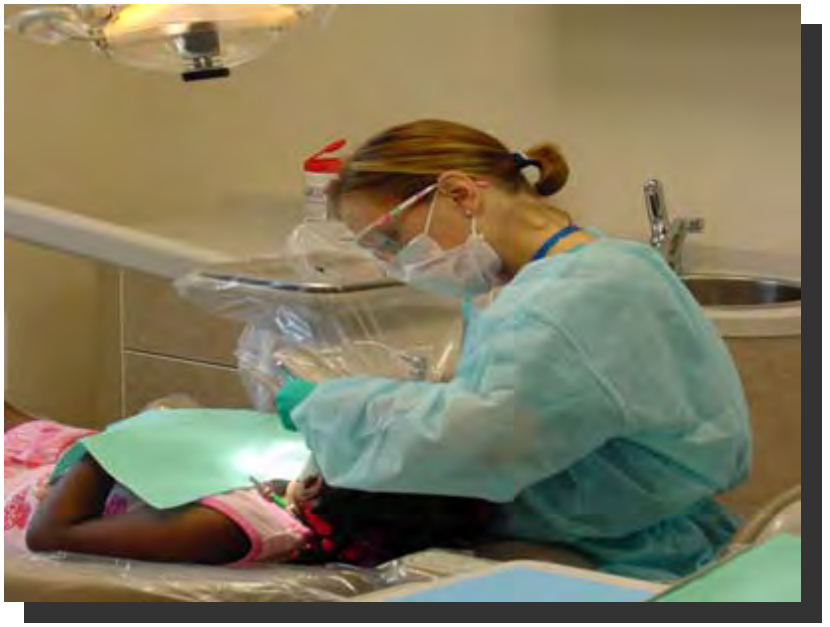
- "Preventive dental services" are further defined by regulation (42 C.F.R.§51c.102 (h) (6)) to include "services provided by a licensed dentist or other qualified personnel, including: (i) "**oral hygiene instruction**; (ii) **oral prophylaxis**, as necessary; and (iii) **topical application of fluorides**, and the **prescription of fluorides for systemic use** when not available in the community water supply."

FQHCs: Policy Context for Access to Care



Dental Hygiene: Preventive Oral Health Workforce

- Training and practice focused on disease preventive and oral health promotion
- State level variations in practice were quantified in **Dental Hygiene Professional Practice Index (DHPPI)** of 2001
- State policy (DHPPI) been associated with access to dental care at a state level
- Whether and to what extent state policy impacts Federally Qualified Health Centers (FQHC) is unknown



Dental Hygiene: Categorizing State Policy Environment

Table 1

State Policy Environment as Categorized by Dental Hygiene Professional Practice Index (DHPPI)

LEVEL 5	LEVEL 4	LEVEL 3	LEVEL 2		LEVEL 1
Excellent	*Favorable*	*Satisfactory*	*Limiting*		*Restrictive*
CO	CT	UT	KS	MI	NC
WA	MO	AZ	NH	MA	AR
OR	NV	ID	TN	WY	GA
CA	MN	SC	VT	FL	AL
NM	ME	NE	OH	RI	KY
	NY	WI	IN	DC	VA
		PA	NJ	DE	MS
		SD	IA	HI	WV
		LA	IL	ND	
		MT	MD	OK	
		TX	AK		

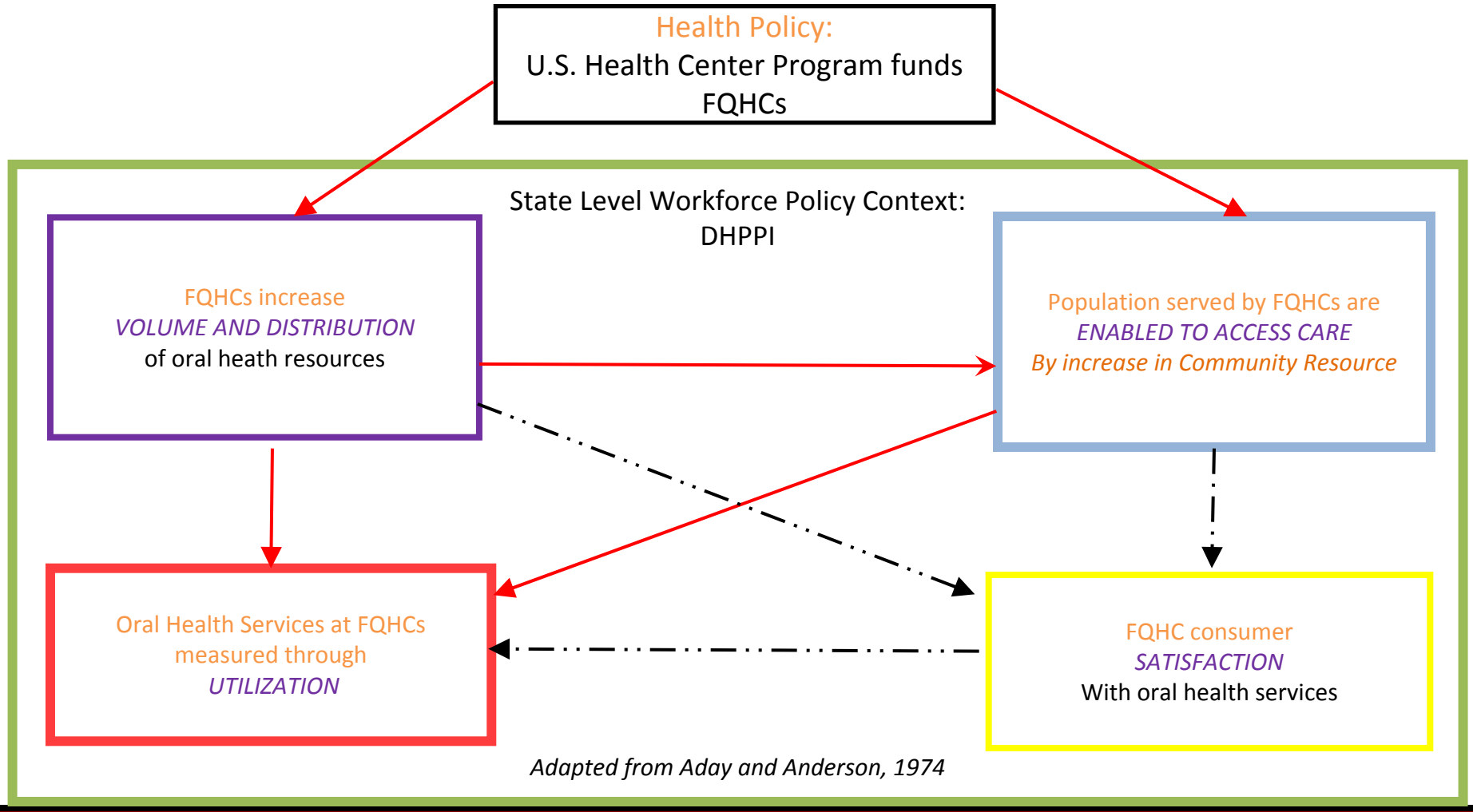
Note. DHPPI was generated as of state policy environment in December of 2001. Therefore these categories represent a baseline policy environment. Statistical analyses are adjusted for state level policy changes and clustering of Community Health Centers at the state level.

STUDY FRAMEWORK AND METHODS

Hypotheses

- State policy environment (quantified by DHPPI) is associated with/predictive of:
  1. **AVAILABILITY** - Dental Service Delivery Status of FQHCs
  2. **ACCESS** - Proportion of FQHC patients accessing dental services
  3. **ORAL HEALTH -** Proportion of FQHC dental patients encounters associated with certain types of dental services (preventive, restorative, emergent)

Study framework: theorized effect



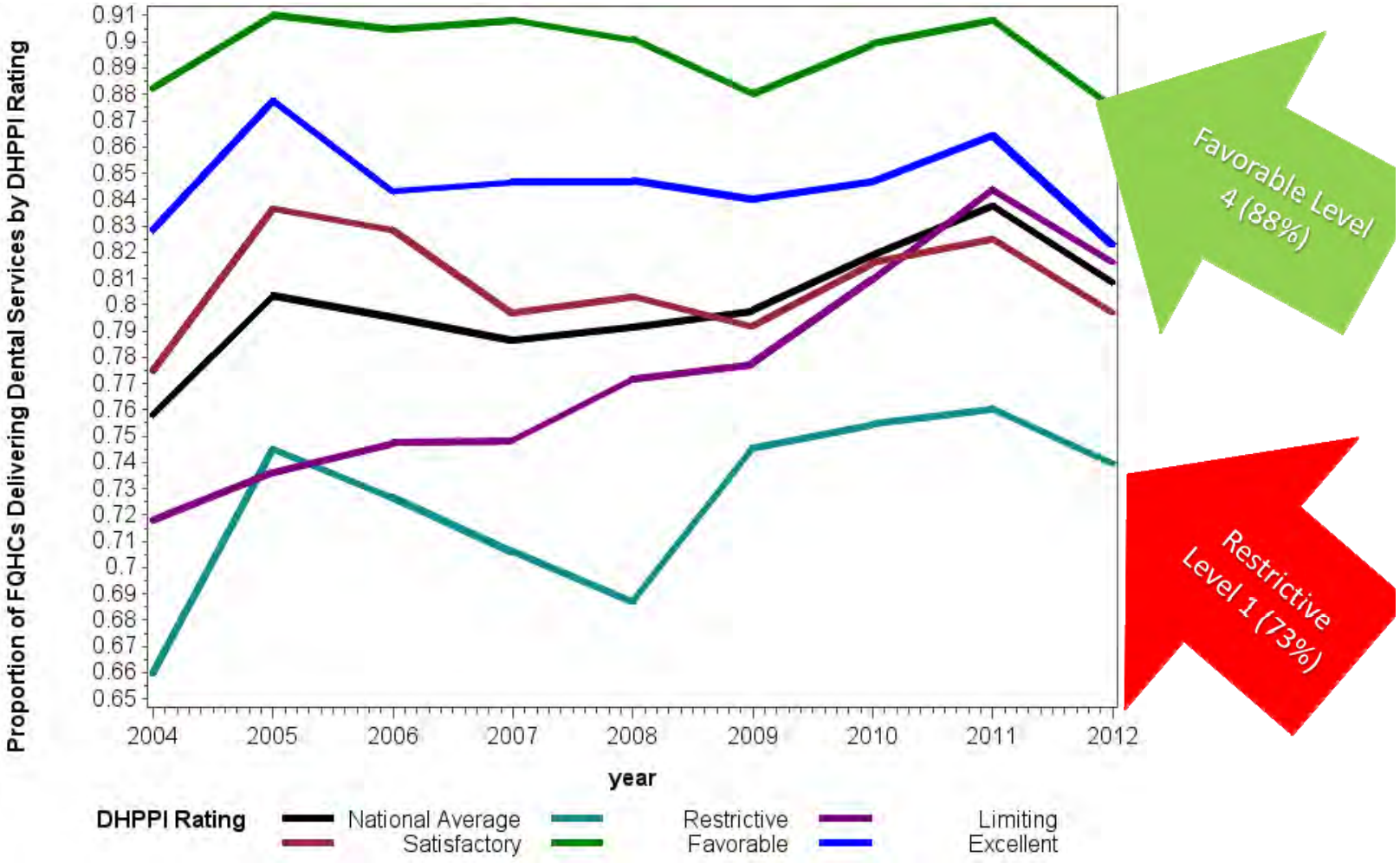
Methods

- Longitudinal study designs with **FQHC grantee as unit of analysis**
- Includes **1,135 unique grantees** that received community health center funding from 2004-2012
  - Variables
    - Outcomes: Dental service utilization data from UDS (defined using ICD9 DM codes)
    - Primary Effect: DHPPI categorical value serves as indicator of state policy environment
    - Covariates:
      - Grantee characteristics
      - State workforce characteristics
      - Policy changes (2002-2011)
- Hierarchical modeling

KEY RESULTS AND FINDINGS

Availability: Descriptive Results

Proportion of FQHCs Delivering Dental Services by DHPPI Rating



Availability: Longitudinal Regression Results

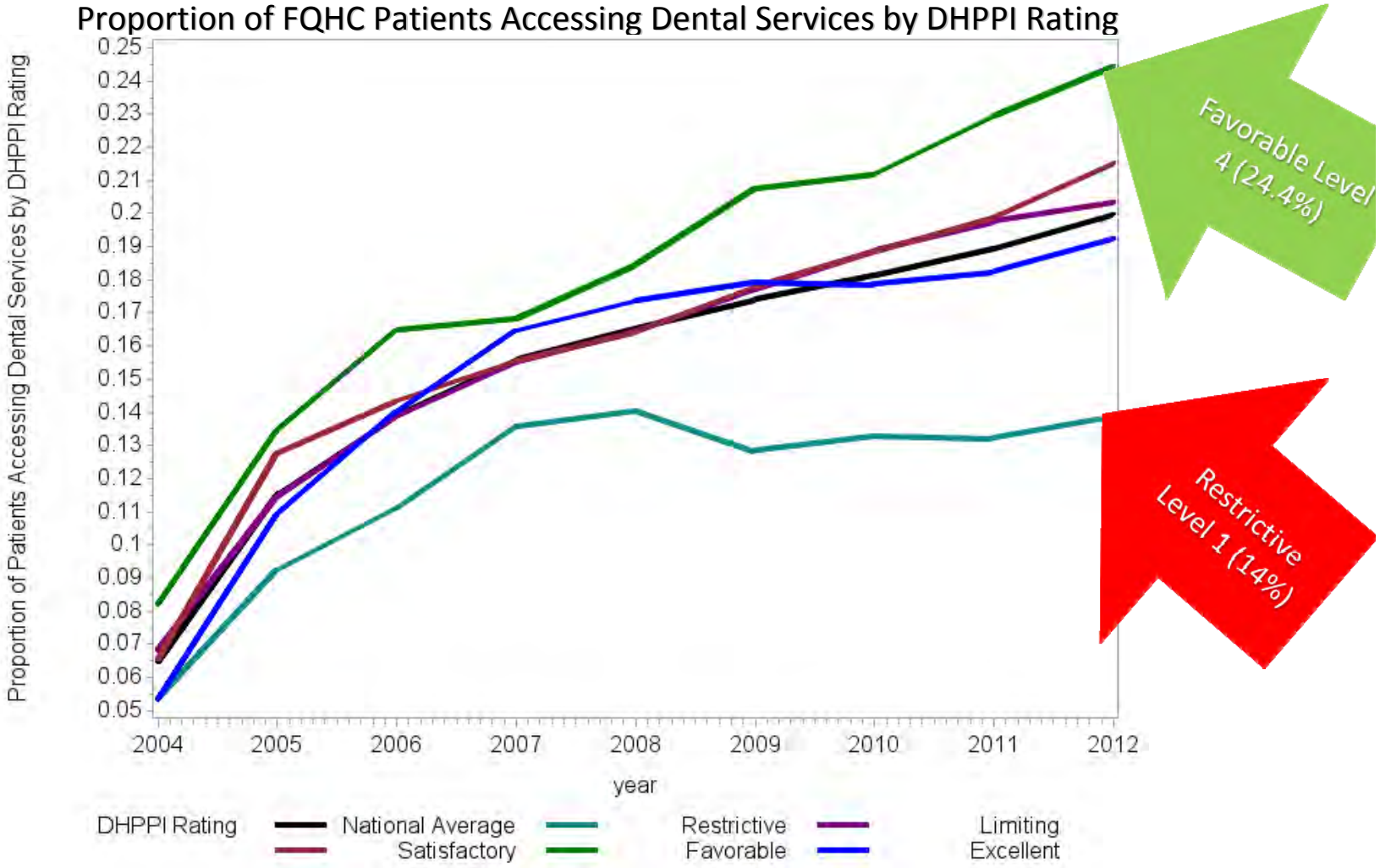
Table 2

Results of Longitudinal Analyses with DHPPI as Ordinal Measure: Predictors of Dental Services Status

	All Years				2004-2007				2008-2012			
		95% CI				95% CI				95% CI		
VARIABLES	OR	Lower	Upper	P	OR	Lower	Upper	P	OR	Lower	Upper	P
DHPPI Range												
1 (1-30)	0.28	0.09	0.93	0.04	0.31	0.10	0.94	0.04	0.33	0.10	1.09	0.07
2 (31-40)	0.43	0.15	1.21	0.11	0.35	0.13	0.93	0.04	0.56	0.19	1.62	0.28
3 (41-49)	0.62	0.19	1.99	0.43	0.65	0.22	1.91	0.43	0.65	0.20	2.07	0.47
4 (50-80)	0.92	0.23	3.62	0.98	1.13	0.31	4.16	0.85	0.95	0.24	3.83	0.94
5 (81-100)	ref	ref	ref	ref	ref	ref	ref	ref	ref	ref	ref	ref
Policy Change	0.62	0.27	1.42	0.26	0.83	0.38	1.81	0.64	0.51	0.22	1.18	0.12
Clinical Sites	1.48	1.38	1.58	<.0001	1.37	1.27	1.49	<.0001	1.43	1.33	1.55	<.0001
Medicaid	20.79	6.51	66.44	<.0001	99.57	13.22	750.02	<.0001	16.42	4.32	62.31	<.0001
200% Poverty	4.09	2.35	7.13	<.0001	2.83	1.40	5.44	0.00	3.64	1.80	7.38	0.00
Time	1.09	1.04	1.15	<.0001	1.21	1.08	1.36	0.00	1.06	0.97	1.15	0.19

Note: Covariates were included based on results of cross-sectional regression analyses. The PROC GLIMMIX procedure was used. Adjustments were made for repeated measures of grantees and clustering of grantees at the state level.

Access: Descriptive Results



Access: Longitudinal Analysis Results

Table 3: Predictors of the Proportion of FQHC Patients Accessing Dental Services from 2004-2012

VARIABLES	Point Estimate	Lower 95% CI	Upper 95% CI	P=value
DHPPI Range				
1 (1-30)	-0.07	-0.12	-0.01	0.01
2 (31-40)	-0.04	-0.09	0.01	0.08
3 (41-49)	-0.02	-0.08	0.03	0.42
4 (50-80)	*ref*	*ref*	*ref*	*ref*
5 (81-100)	-0.01	-0.07	0.05	0.72
Policy Changes Occur in State	-0.01	-0.04	0.03	0.71
Number of Clinical Sites	0.00	0.00	0.00	0.07
Proportion Medicaid Patients	0.09	0.07	0.11	<.0001
Proportion of Minority Patients	3.94	2.28	6.81	<.0001
Time	0.01	0.01	0.01	<.0001

Note: Covariates were included based on results of cross-sectional regression analyses. The PROC GLIMMIX procedure was used. Adjustments were made for repeated measures of grantees and clustering of grantees at the state level.

IMPLICATIONS

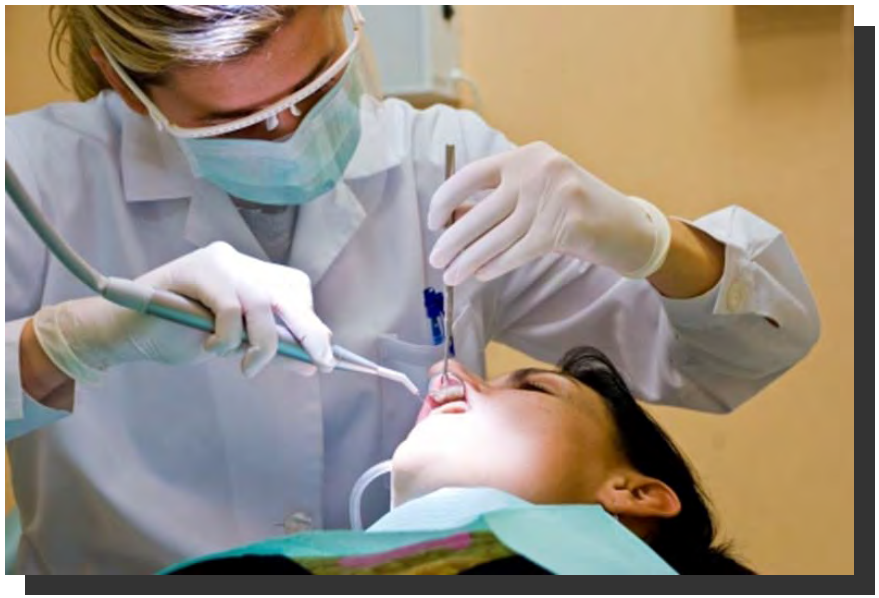
Implications: Policy and Research

- Findings suggest that, to some extent, state regulation of the health workforce has an influence on access to care within underserved communities
- Additional **research** is needed to fully understand this relationship
- Enhanced **policy indices** for dental hygiene and other professions are needed to support and inform health workforce policy

Implications: Can FQHCs Leverage the Dental Hygiene Workforce

- Dental hygiene practice aligns with FQHCs preventive dental service requirements
- Workforce innovations to support preventive and promotion:

  *Interprofessional collaborative practice models in which dental hygienists practice as **Preventive Oral Health Specialists** and **Dental Care Coordinators** on the Primary Care Team*



Implications: Access and Oral Health

- Policies must align with and promote population health
- Special care and consideration must be given to policies that influence access within vulnerable populations
- Health professionals must work together to improve access and oral health

Questions/comments?

Contact:

Hannah Maxey at

hlmaxey@iupui.edu