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Public Health Agencies' Health Informatics Capacity and its Impact on Activities to Address Health Disparities

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JIANN-PING HSU COLLEGE OF PUBLIC HEALTH

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Outline

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II. Methods

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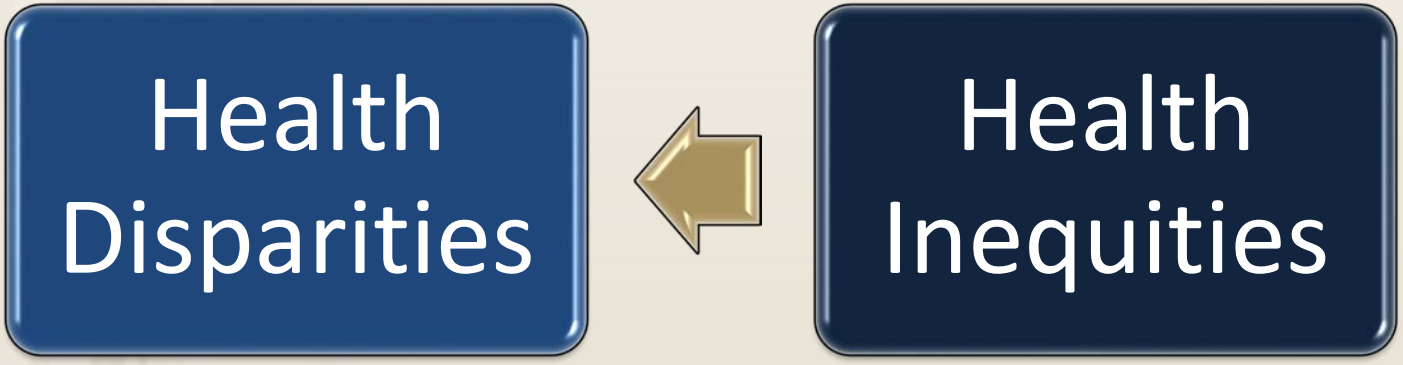
BACKGROUND

Background

Health Disparities defined:

The systematically avoidable differences in the quality of healthcare that prove to have adverse effects on the overall health status among socially disadvantaged populations.[1,2]

~Paula Braveman, MD, MPH (2014)



Background

National initiatives garnering awareness:

- Healthy People 2020
- Institute of Medicine (IOM) reports
- Public Health Accreditation Board (PHAB) Accreditation
- Health in All Policies
- Public Health 3.0

Background

Health informatics activities have the potential to better understand & assess health disparities and inequities in local health department (LHD) jurisdictions.[3]

Health informatics tools:

- Electronic health records (EHRs)
- Community health assessments
- Syndromic surveillance
- National disease registries

Background

- Currently, the data lacks the necessary information regarding the social determinants of health.[4]
- Informatic professionals are integrating social assessment tools that will capture the physical and social determinants that are creating the health inequities.[4]
- Effective collaboration between LHDs and community partners will be vital to the successful uptake of informatics-based strategy.[3,4]

Background

Health in All Policies:

utilizes a collaborative approach to improving population health & addressing health disparities and health inequities by incorporating health considerations in all governmental decision-making.[5]

Focus:

the improvement of data collection, sharing, and analysis by incorporating health indicators and indicators of social determinants of health into existing data sets and health analysis.[5]

Purpose

This study examines LHDs' activities and strategies that seek to address health disparities and inequities and whether the LHDs' informatics capacities shape the likelihood of performing those activities.

Objectives

- Analyze the extent to which LHDs that use of informatics engage in strategies and activities for addressing health disparities

- Identification of other infrastructure characteristics of LHDs that are associated with their efforts to address health disparities in their communities

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METHODS

Methods

National Association of County and City Health Officials (NACCHO) 2016 Profile Study

- Study population - 2,533 LHDs
- Module 2
  - Areas of interests
    - Informatics
    - Health disparities
  - Stratified random sample of 625 LHDs
    - 480 LHDs completed
    - 77% response rate

Dependent Variable

Check each activity that your LHD has done in the past two years to address health disparities.
(Select all that apply) **(Variable values: unchecked= 0, checked= 1)**

- ☐ Describing health disparities in your jurisdiction using data **(m18q146a)**
- ☐ Conducting original research that links health disparities to differences in social or environmental conditions **(m18q146b)**
- ☐ Educating elected or appointed officials about health disparities and their causes **(m18q146c)**
- ☐ Training your workforce on health disparities and their causes **(m18q146d)**
- ☐ Offering staff training in cultural/linguistic competency **(m18q146j)**
- ☐ Recruiting workforce from communities adversely impacted by health disparities **(m18q146e)**
- ☐ Prioritizing resources and programs specifically for the reduction in health disparities **(m18q146f)**
- ☐ Taking public policy positions on health disparities (through testimony, written statements, media, etc.) **(m18q146g)**
- ☐ Supporting community efforts to change the causes of health disparities **(m18q146h)**

Each of these activities resulted in dichotomous variables, coded as checked (or yes), or un-checked (or no).

Independent/Control Variables

- Number of information systems implemented by LHD
- *Per Capita* Expenditures (reported vs not reported)
- LHD's participation in PHAB's national accreditation program
  - Not applying
  - Planning to apply/undecided
  - Accredited/Application in process
- Jurisdiction Population
  - <50,000
  - 50,000-499,999
  - 500,000+
- Type of Governance
  - Centralized (state/shared) vs Decentralized (local)

Analysis

SPSS Statistics version 23

Sampling weights were applied to account for three factors:

a) variation in response rates by size of population in LHD jurisdiction
b) the sample rather all LHDs receiving Module 2
c) oversampling for larger LHDs in the sample

Descriptive statistics

Categorical variables

Means & standard deviation

Continuous variables

Multivariant Analysis

Logistic regression model for each of the 9 activities as dichotomous dependent variables

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RESULTS

Descriptive Characteristics

	N (un-Weighted)	Percent (Weighted)
Total number of LHDs	482	
Describing health disparities in your jurisdiction using data		
No	159	37.8
Yes	310	59.0
Conducting original research that links health disparities to differences in social or environmental conditions		
No	402	85.2
Yes	67	11.6
Educating elected or appointed officials about health disparities and their causes		
No	208	46.7
Yes	261	50.1
Training your workforce on health disparities and their causes		
No	208	47.5
Yes	261	49.3
Offering staff training in cultural/linguistic competency		
No	221	49.7
Yes	248	47.1

Descriptive Characteristics

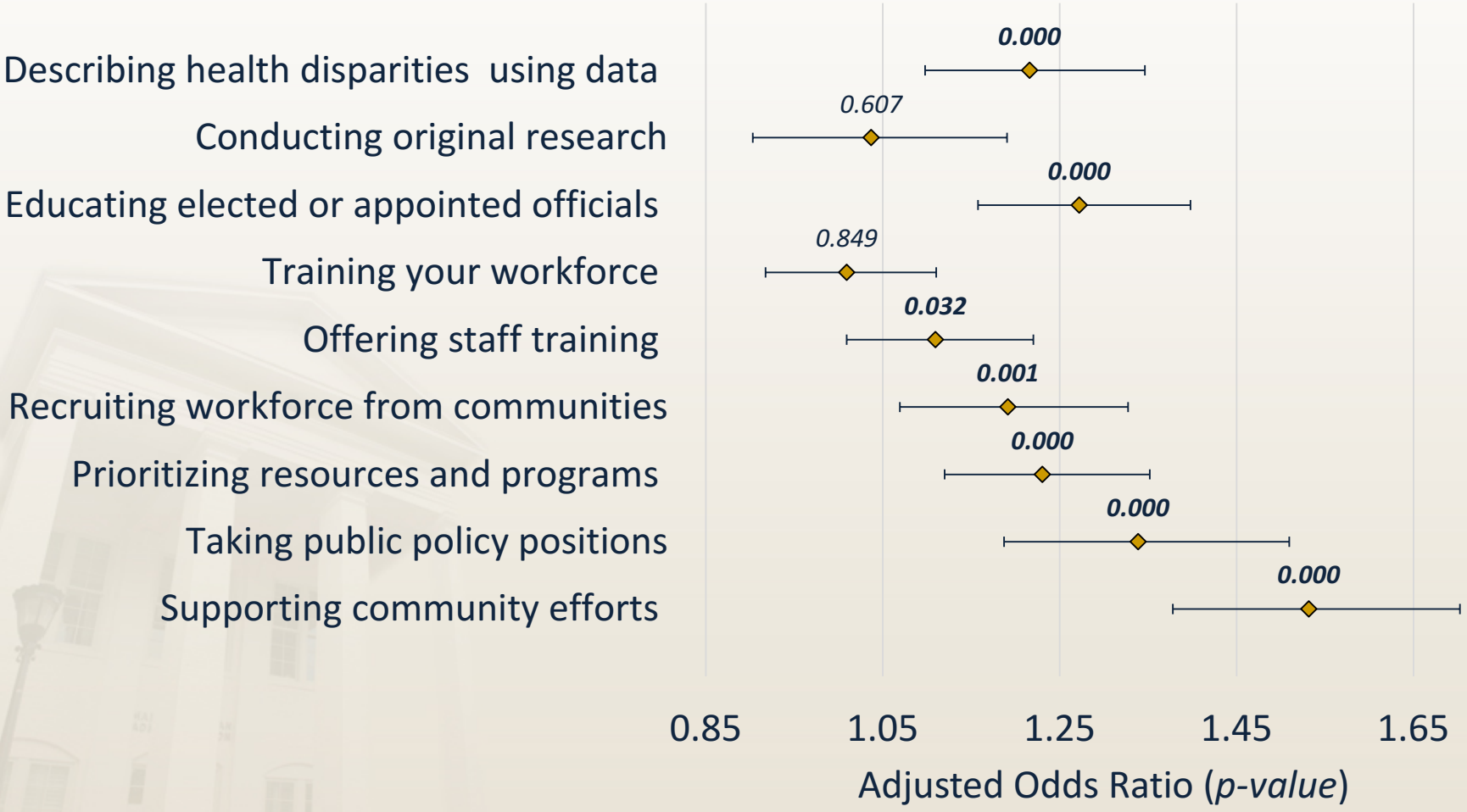
	N (un-Weighted)	Percent (Weighted)
Total number of LHDs	482	
Recruiting workforce from communities adversely impacted by health disparities		
No	337	73.7
Yes	132	23.1
Prioritizing resources and programs specifically for the reduction in health disparities		
No	268	59.1
Yes	201	37.7
Taking public policy positions on health disparities (through testimony, written statements, media, etc.)		
No	379	81.1
Yes	90	15.7
Supporting community efforts to change the causes of health disparities		
No	152	35.7
Yes	317	61.1

Descriptive Characteristics

	N (un-Weighted)	Percent (Weighted)
Total number of LHDs	482	
LHD's participation in PHAB's national accreditation program		
LHD has decided NOT to apply	77	18.6
Plans to apply, undecided, don't know	257	54.8
Accredited, submitted application, in e-PHAB	114	19.2
Jurisdiction Population		
<50,000	239	61.5
50,000-499,999	181	32.8
500,000+	62	5.7
Type of governance		
Decentralized (local governance)	342	71.0
Centralized (state/shared governance)	140	29.0
	Number	**Mean (variance)**
Number of information systems (ELR, HIE, IR, EDRS, ELR, ESS) implemented by LHD	482	1.811 (1.196)
Per Capita Expenditures	335	50.467 (49.835)

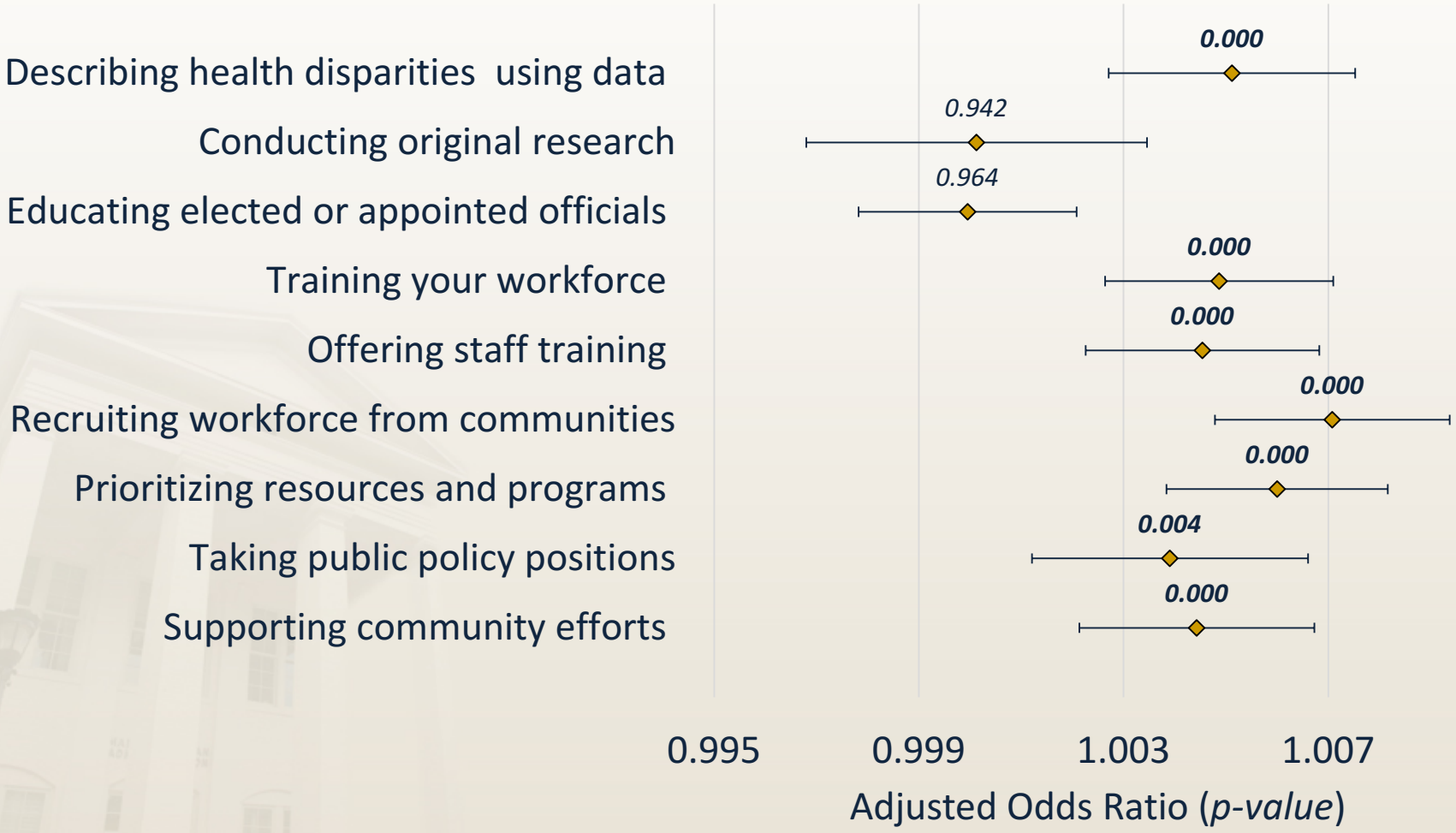
Logistic Regression

Number of information systems implemented by LHD



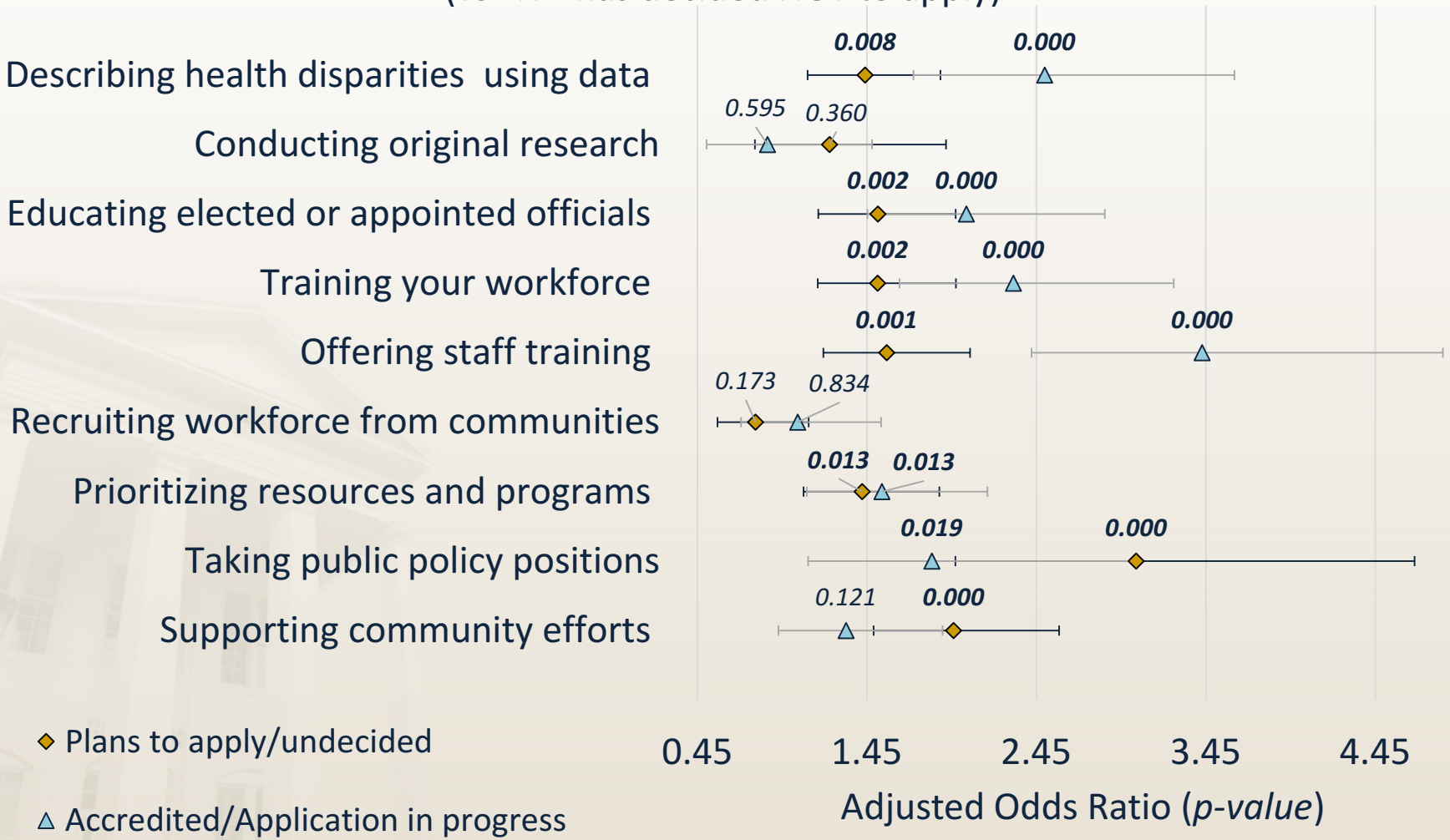
Logistic Regression

Per Capita Expenditures

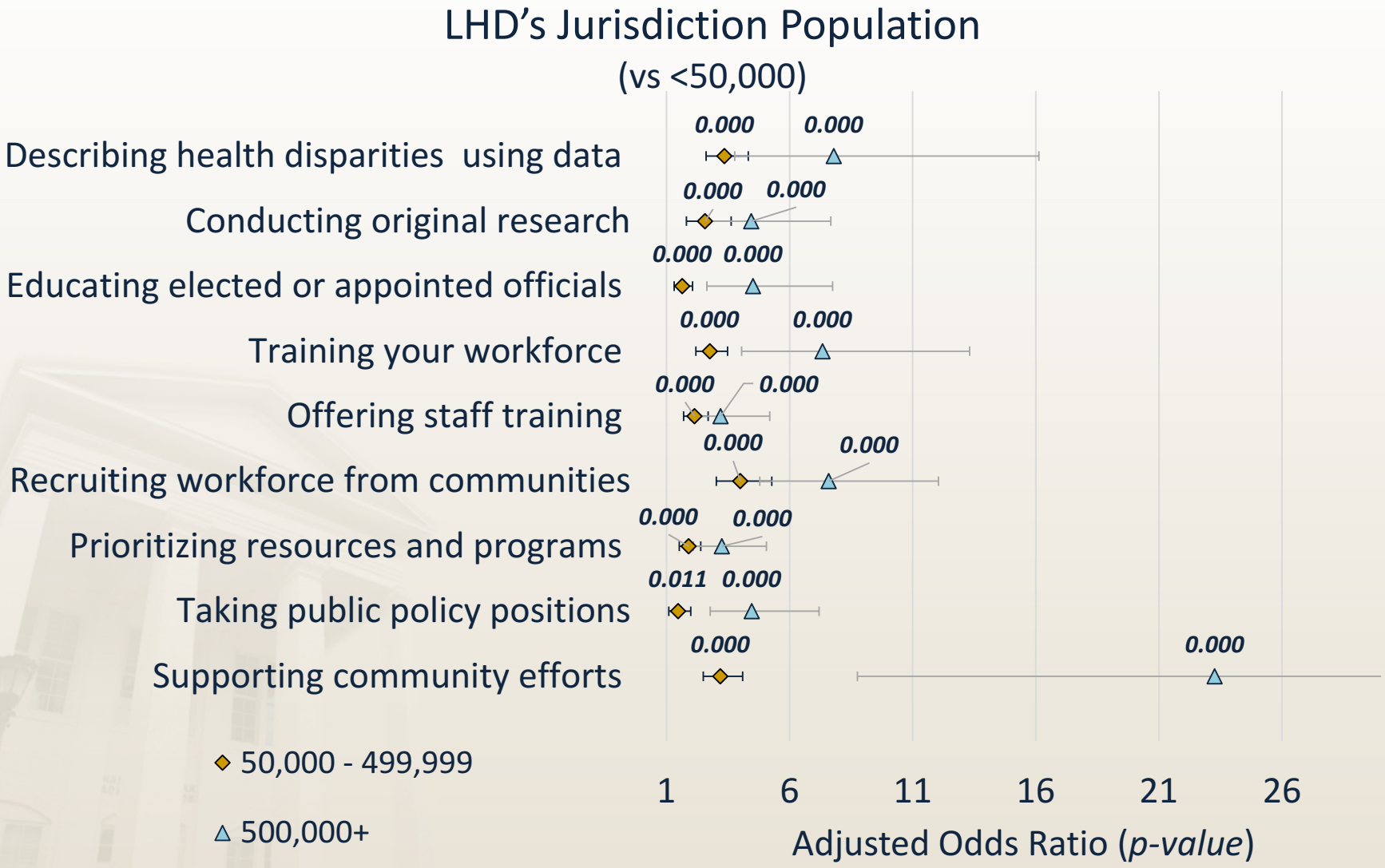


Logistic Regression

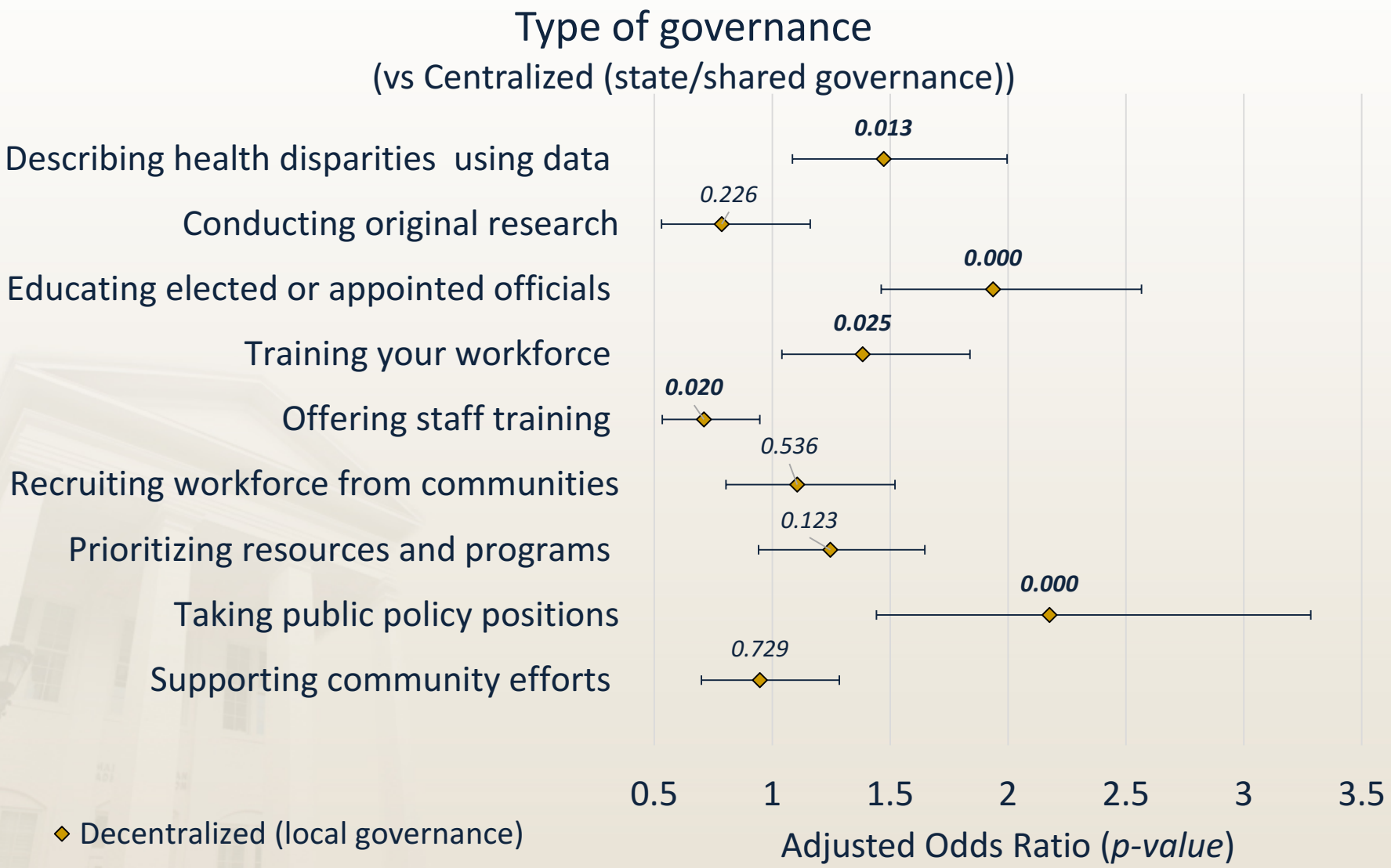
LHD's participation in PHAB's national accreditation program
(vs LHD has decided NOT to apply)



Logistic Regression



Logistic Regression



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CONCLUSION

Discussion

As the landscape of Public Health shifts to improving population health through prevention and improved access to care, it is expected that the proportion of LHDs utilizing activities to decrease health disparities and health inequities will increase.

Discussion

The low number of LHDs that participate in activities such as:

- Conducting original research that links health disparities to differences in social or environmental conditions
- Recruiting workforce from communities adversely impacted by health disparities

is clearly indicative of impact of 2007–2008 recession on LHDs' activities.[6]

While having a very few taking public policy positions on health disparities (through testimony, written statements, media, etc.) will have potential to influence policies concerning a multitude of socio-political and economic factors

Implications for policy and practice

The health informatics capacity of LHDs significantly increased the odds of their engagement in 7 of the 9 activities that help eliminate health disparities.

Positive association between participation in PHAB's national accreditation program and LHD's ability to administer programs addressing health disparities. PHAB accreditation process helps to highlight and prioritize important health issues and improve the quality of health outcomes.

The population size in a LHD's jurisdiction is among the strongest factors influencing LHDs' engagement in activities to address health disparities. Those with higher populations may have more resources and lower unit cost to assess the existence of health disparities in their jurisdiction.

Limitations

- The Profile study, the source of secondary data for our analysis, comprises a broad range of topics on public health practice and infrastructural capacities.
- The questions included in the Profile study deal with health disparities, which highlight the end product of health inequalities.
- The self-reported information was not independently verified
- The unit of sampling and observation for the Profile study is individual LHD, but the LHDs included in the study have a lot of flexibility regarding who completes the survey.

Conclusion

Even though there has been a reduction in the resources required to conduct the activities to address health disparities and health inequities.

LHDs' capacity for informatics is positively associated with their engagement in these activities and policies should be aimed at increasing the investment information systems and technology.

Questions??

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