



# **Assessment of Workforce Capacity for Local Health Departments in Nebraska: *A Perspective from Public Health Topical Areas***

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# Acknowledgements

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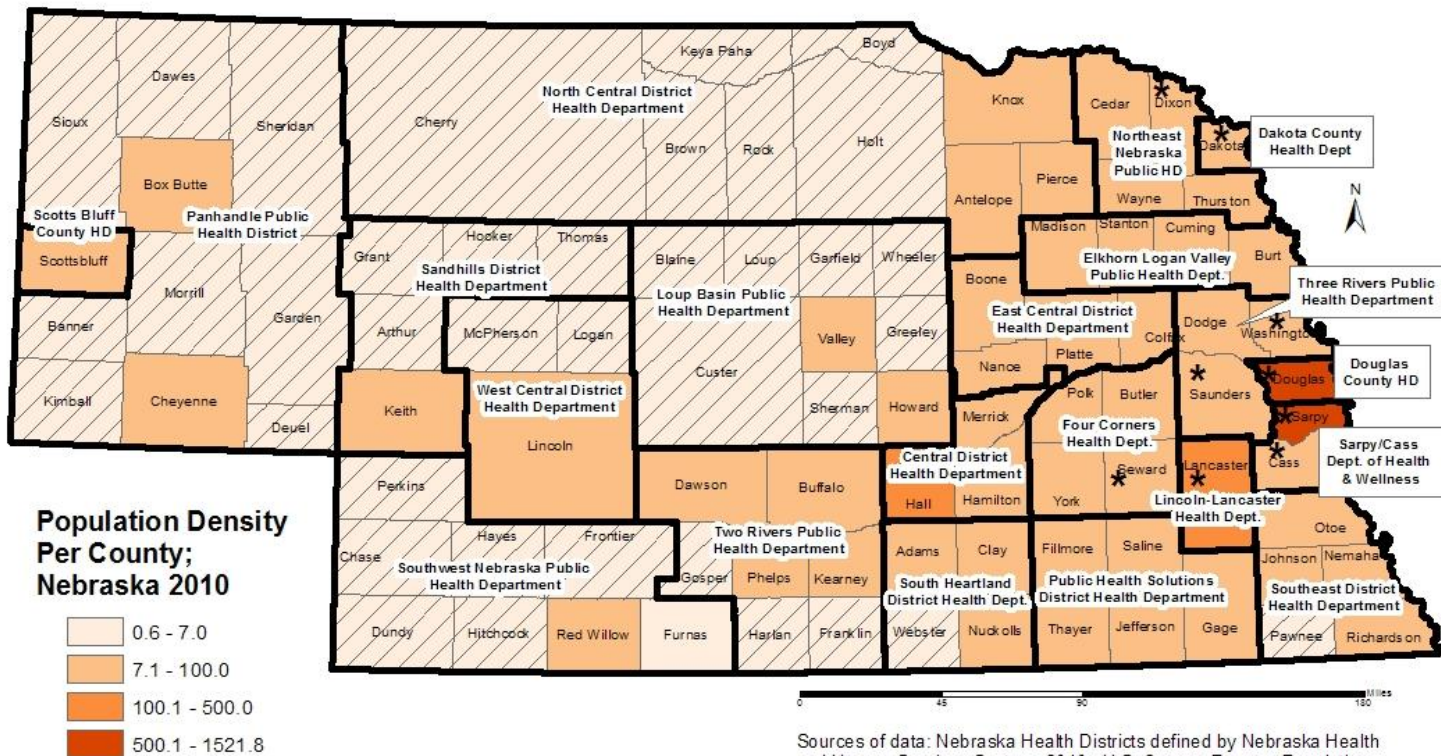


# Background

- ❖ In 2001, the Nebraska legislature passed the Nebraska Health Care Funding Act to build a public health infrastructure across the state.
- ❖ Now, every county in Nebraska is served by a local public health department, either a single-county or a newly developed multi-county (regional) department.



# Nebraska Local Health Departments (LHDs) under the Health Care Funding Act (LB 692)



Sources of data: Nebraska Health Districts defined by Nebraska Health and Human Services System, 2010. U.S. Census Bureau, Population Per Square Mile 2010 Census. Nebraska Health Planning Regions defined by Nebraska Health and Human Services System, 2001. Federal Office of Management and Budget designation of Metropolitan and Micropolitan, 2003. U.S. Census Bureau, frontier definition, 2001.

Produced by: University of Nebraska Medical Center, College of Public Health Department of Health Services Research and Administration, 2011. Cartography: Nicole Vanosdel, Medical Geographer, 2011.



# Introduction

- ❖ Empirical studies have suggested that workforce capacity and characteristics are associated with the performance of public health agencies and/or public health systems (Hajat et al., 2009; Mays et al. 2006; Kennedy, 2003).
- ❖ “Existing evidence about the public health workforce is not adequate to support specific recommendations concerning the level and mix of staff needed by communities to assure effective public health service delivery, nor to identify geographic areas that are underserved by public health professionals.” (Mays et al. 2009)



# NACCHO National Profile of LHDs: Public Health Occupations

## Occupation Definitions

Occupation	Definition
Public health managers	Health service managers, administrators, health directors overseeing the operations of the agency or of a department or division. Include the top agency executive in this category regardless of education or licensing.
Public health nurse	Registered nurse conducting public health nursing (e.g., school nurse, community health nurse, nurse practitioner).
Public health physician	Physician who identifies persons or groups at risk of illness or disability and develops, implements and evaluates programs or interventions designed to prevent, treat or improve such risks. May provide direct medical services.
Environmental health worker	Environmental health specialists, scientists, and technicians, including registered and other sanitarians.
Epidemiologist	Conducts on-going surveillance, field investigations, analytic studies and evaluation of disease occurrence and disease potential and makes recommendations on appropriate interventions.
Health educator	Designs, implements, evaluates, and provides consultation on educational programs and strategies to support and modify health-related behaviors of individuals, families, organizations, and communities and to promote the effective use of health programs and services.
Nutritionist	Dietician developing, implementing and evaluating strategies to assure effective interventions related to nutrition and physical activity behaviors, the nutrition environment, and food and nutrition policy. May directly provide nutritional counseling.
Public health informatics specialist	Also known as public health information systems specialists or public health informaticists.
Public information specialist	Also known as public information officer.
Behavioral health professional	Behavioral health professional (e.g., public health social workers, HIV/AIDS counselors, mental health and substance abuse counselors, and community organizers)
Emergency preparedness staff	Staff members whose regular job duties involve preparing for (e.g., developing plans, procedures, and training programs) and managing the local public health response to all-hazards events.
Administrative or clerical personnel	Support staff providing assistance in agency programs or operations.



## Introduction (continued)

- ❖ Previous NACCHO LHD Profile studies suggested that approximately 25% of all LHD staff are in occupations that are not listed in the NACCHO Profile's occupation table. (NACCHO LHD Profile, 2010)



## Study Objective

- ❖ To assess the workforce capacity of local health departments (LHDs) in Nebraska from the perspective of public health topical areas.





# Public Health Topical Areas

Sexually Transmitted Diseases
Communicable Diseases
Family Health
Mental Health
Oral Health
Risky Substance Use Behaviors
Primary and Other Direct Health Services
Occupational Safety and Injury
Chronic Diseases
Healthy Lifestyles
Emergency Response and Biopreparedness
Food Safety and Indoor Air Quality
Environmental Health Issues
Broad Community Planning
Health Disparities



# Methods: 2010 Nebraska LHD Director Survey

## ❖ Survey Content:

- ❖ Current LHD Workforce Capacity
- ❖ LHD Workforce Training/Competency
- ❖ Barriers/Challenges of Building LHD Workforce

## ❖ Sample:

- ❖ Surveyed all 21 Nebraska LHD directors

## ❖ Response:

- ❖ Total of 19 responses (90.5% of total sample)
  - ❖ Regional: n = 17
  - ❖ Single-County: n = 2



# Data Analysis

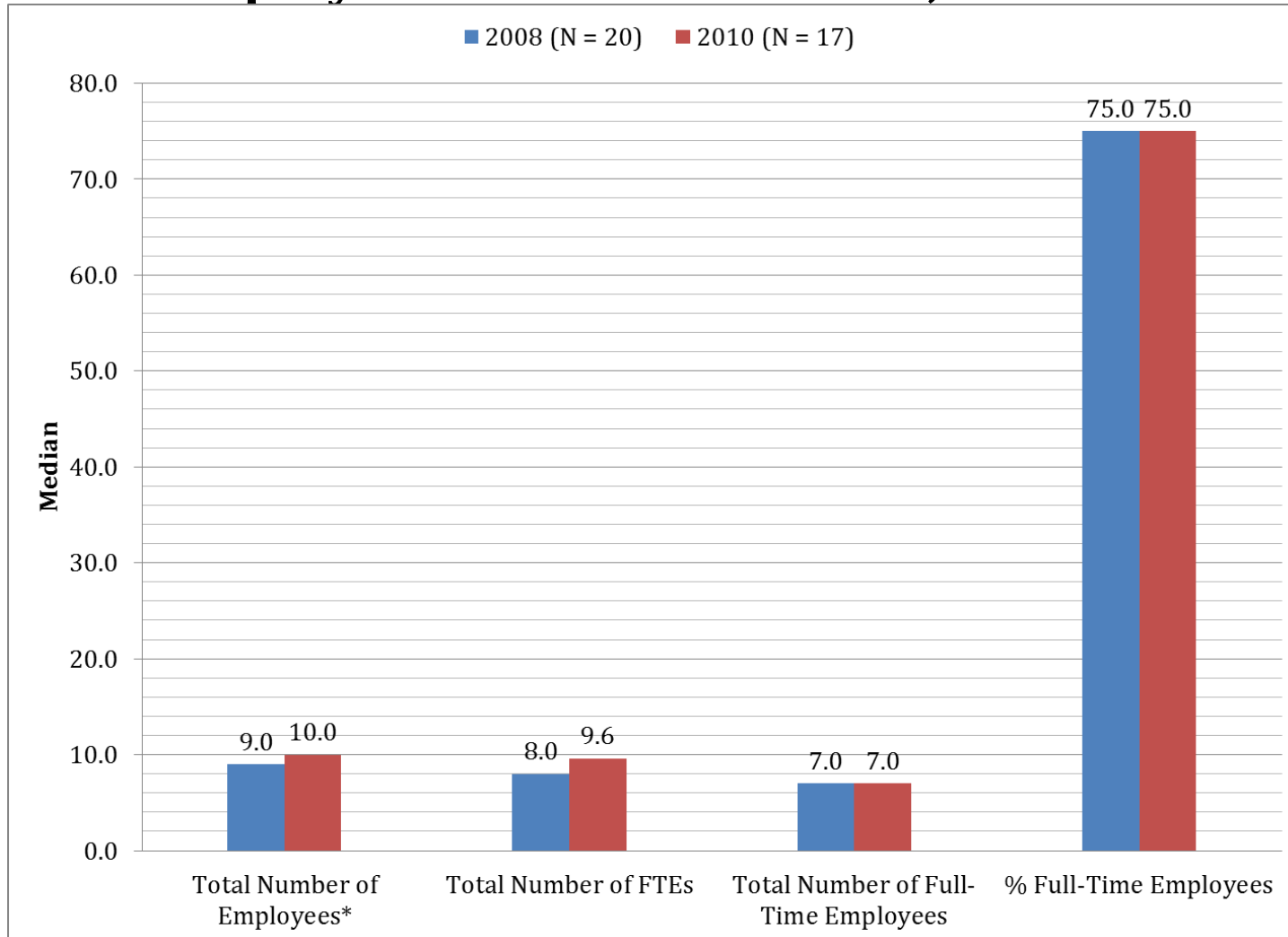
- ❖ Descriptive analysis
- ❖ Shortage Index:

$$Score = \frac{Needed\ FTE}{(Current\ FTE + Needed\ FTE)}$$

- ❖ Spearman Correlation Analysis



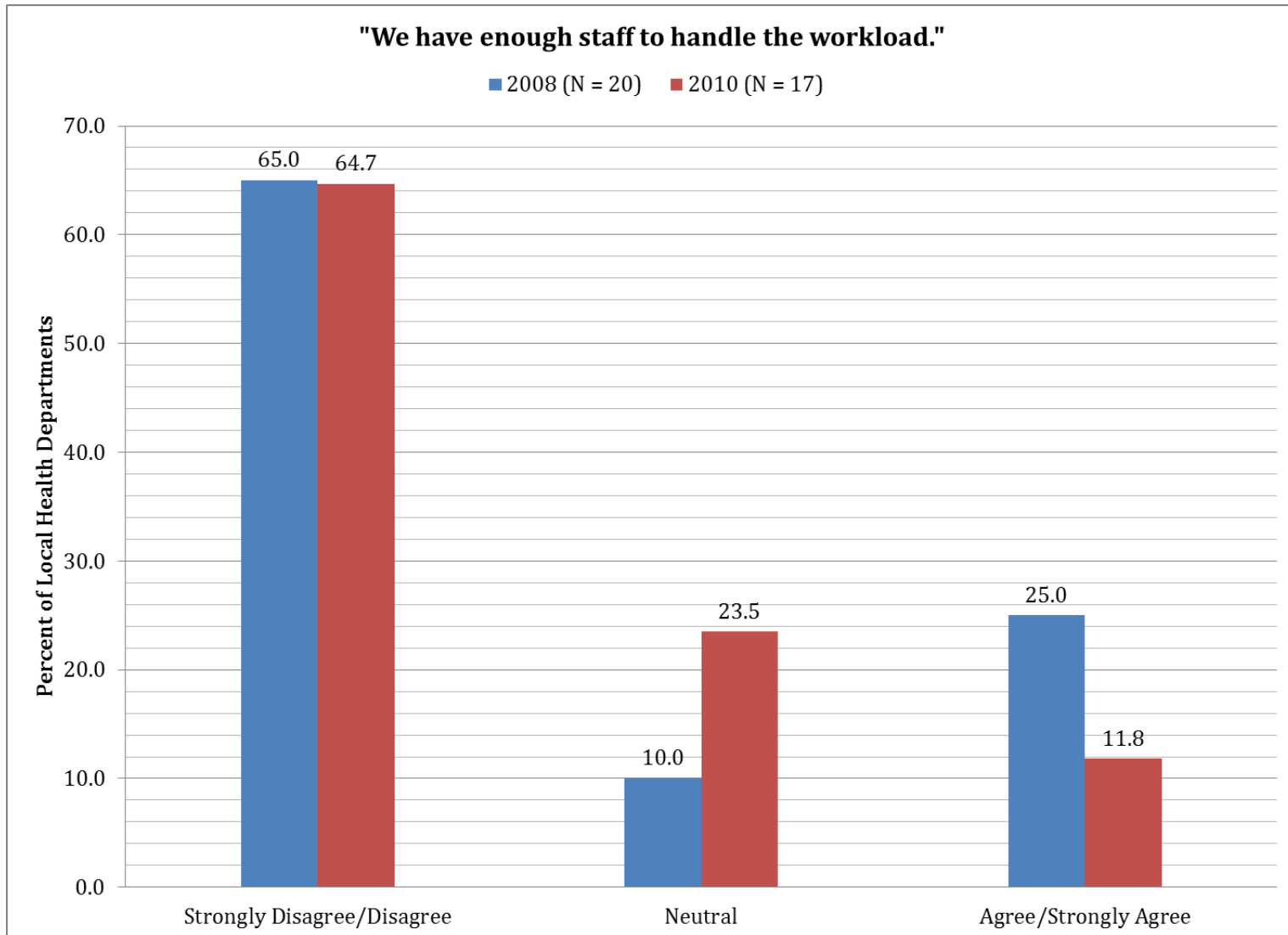
# Number of Employees in Nebraska LHDs, 2008 & 2010



\* 2008 (N = 18)

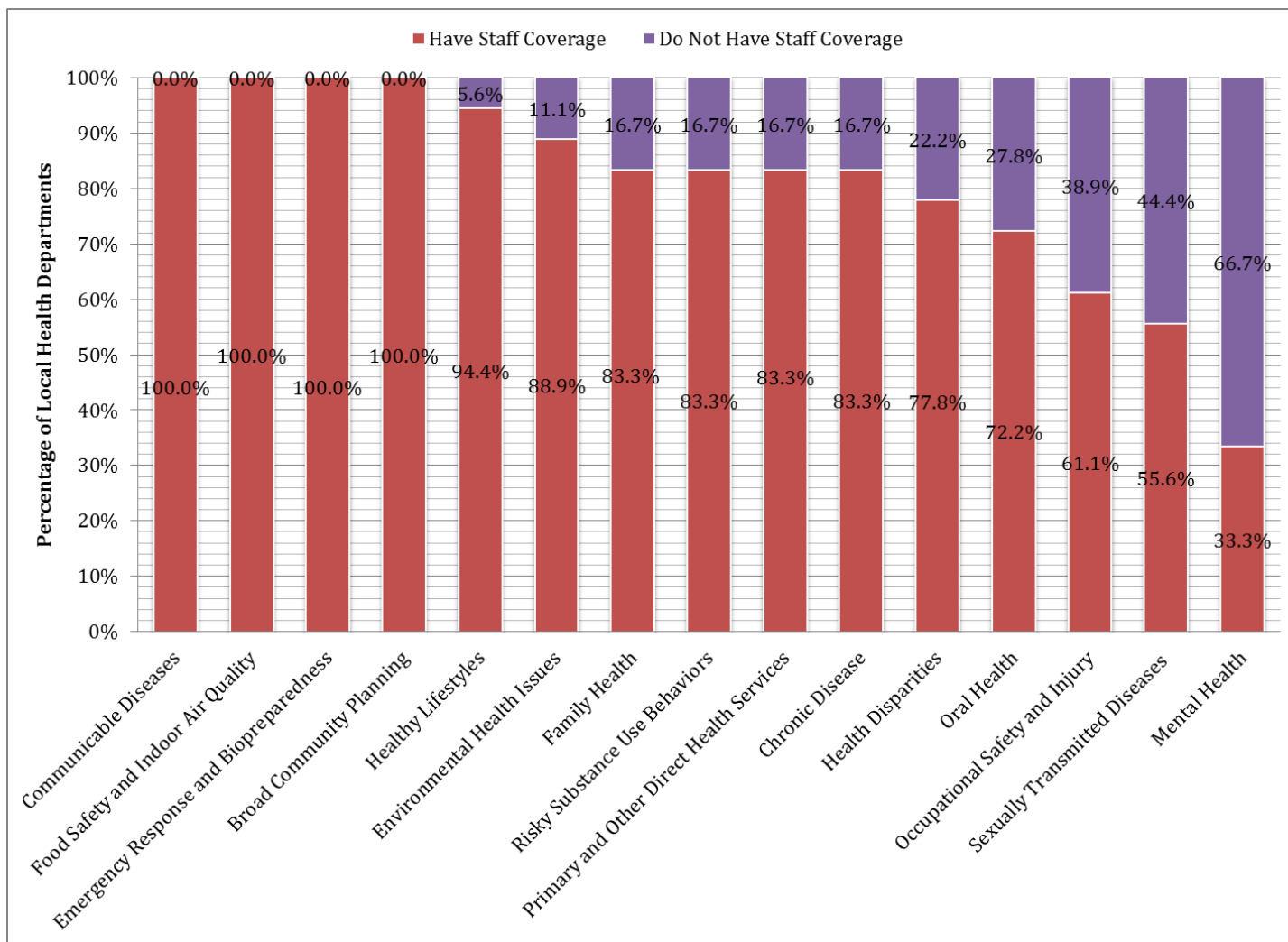


# Nebraska LHD Staff Capacity to Handle Workload, 2008 & 2010



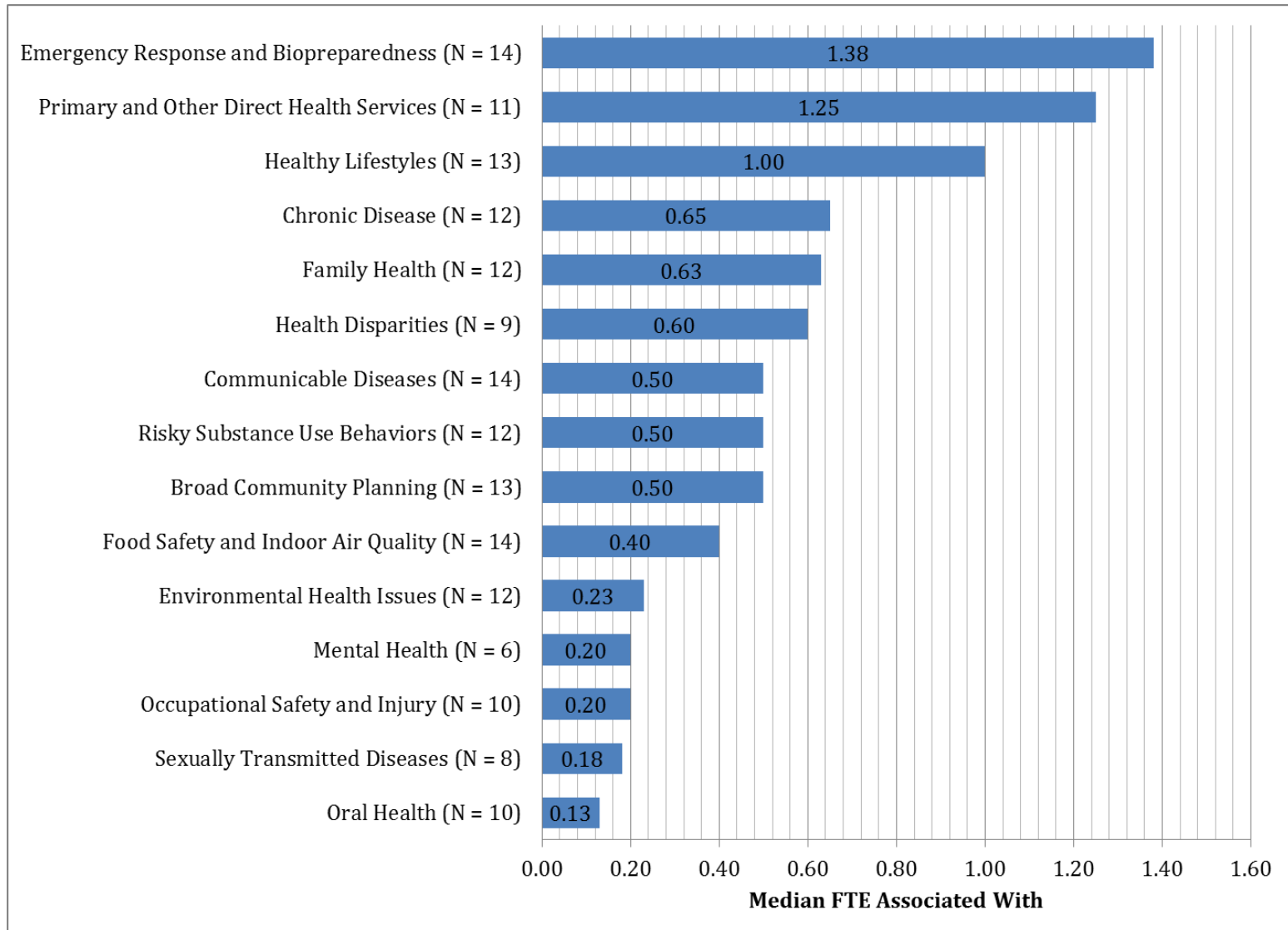


# Local Health Department Staff Coverage of Public Health Issues and Activities, Nebraska 2010



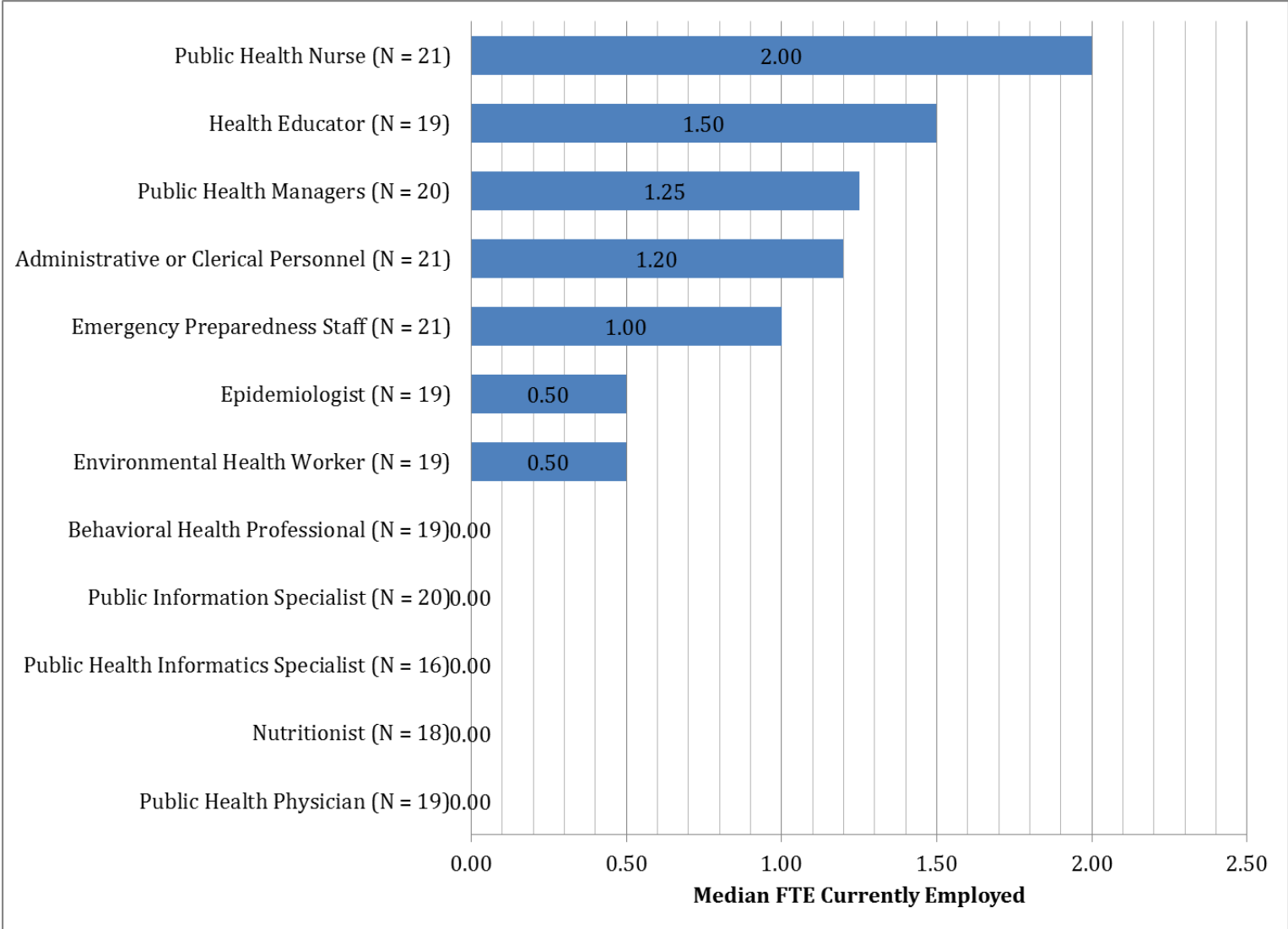


## LHD's Estimated Current Median FTE by Public Health Area, Nebraska 2010





# LHD's Estimated Current Median FTE by Occupation Type, Nebraska 2010

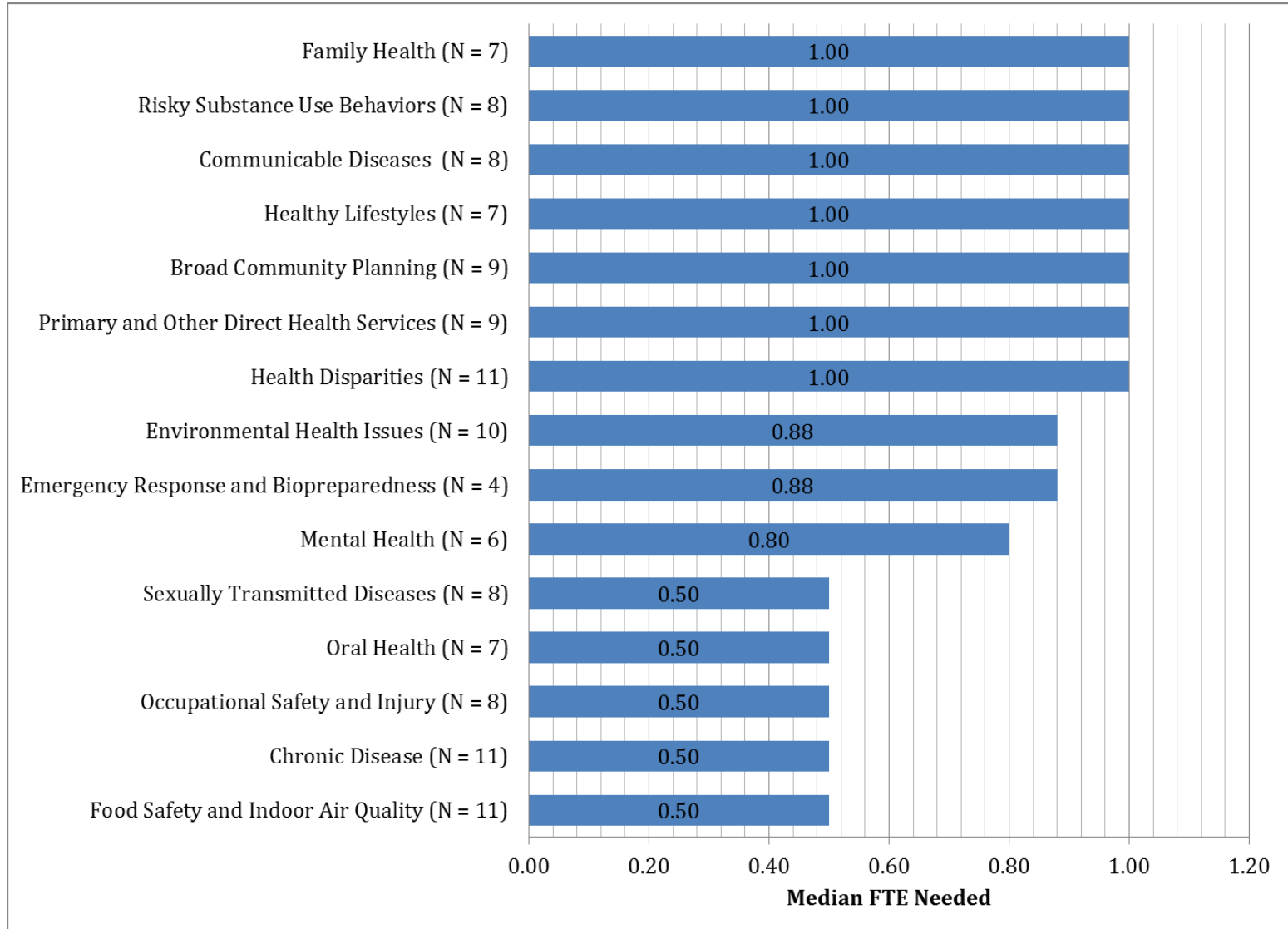


Source: 2010 NACCHO Profile of LHDs



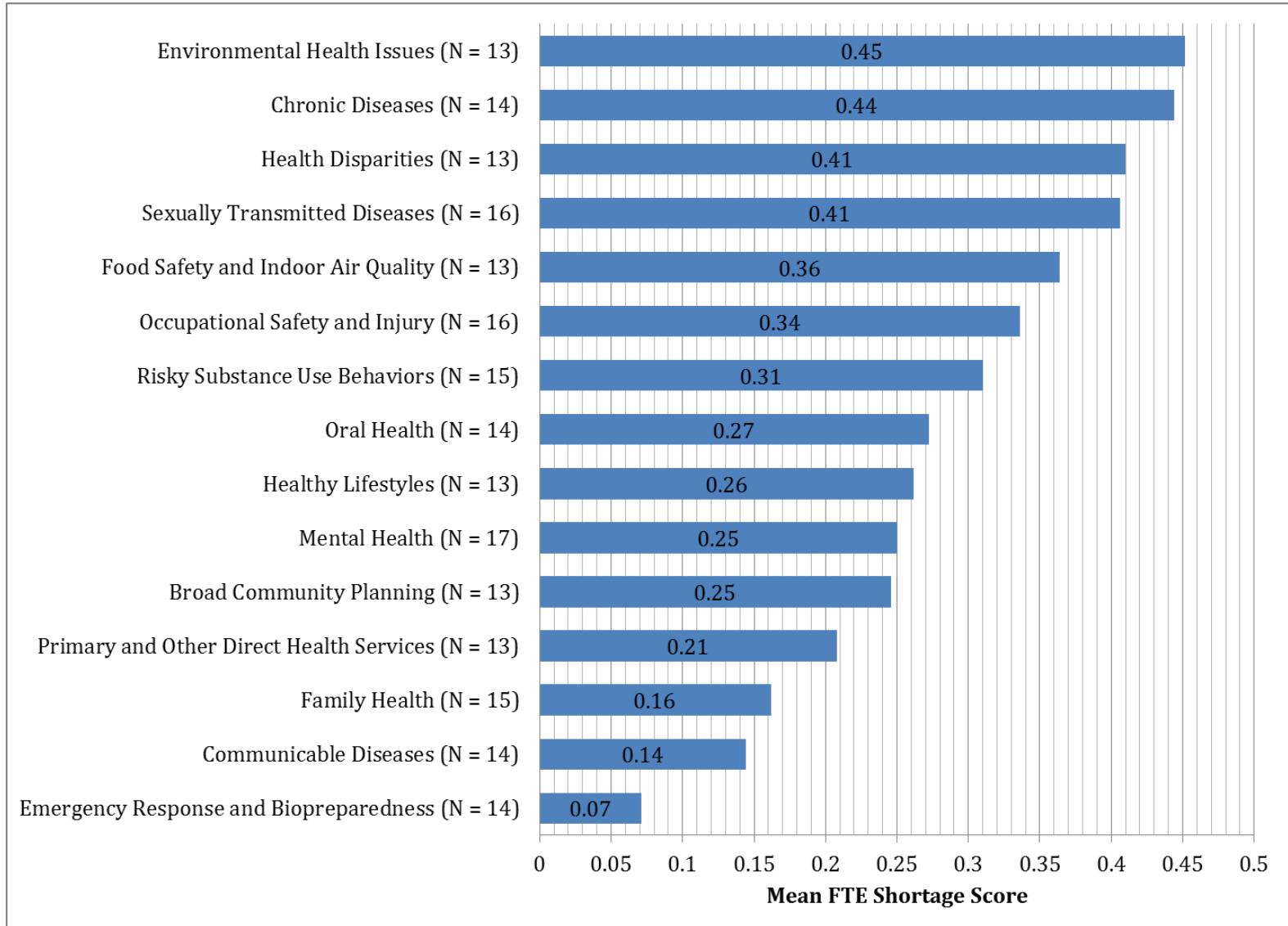


### LHD's Estimated Additional Needed Median FTE by Public Health Area, Nebraska 2010





### Mean LHD FTE Shortage Score by Public Health Area, Nebraska 2010



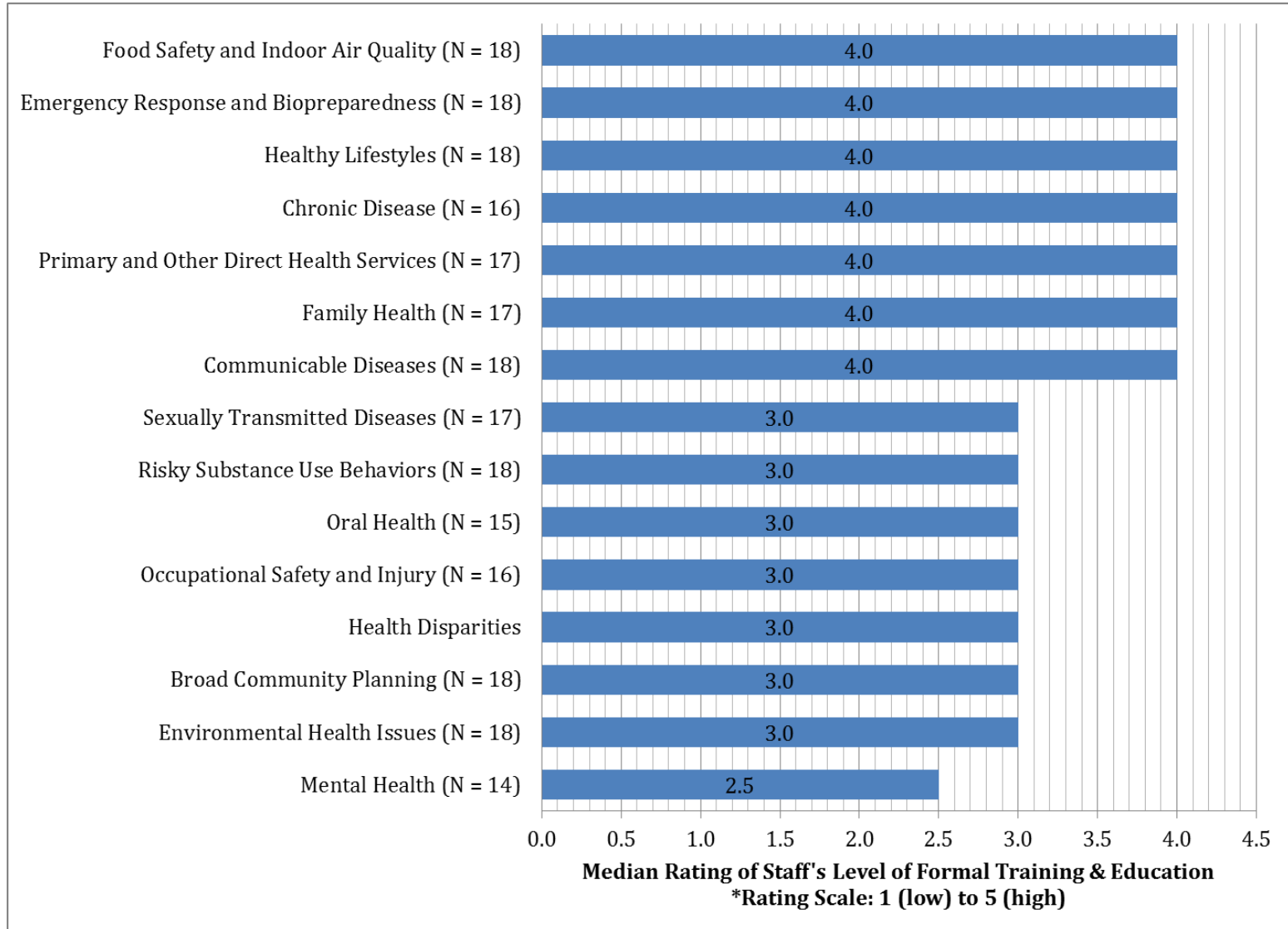


## Correlation between LHD Average Shortage Index Score and Capacity to Handle Workload (N = 17)

	Average Shortage Score	p-value
Capacity to Handle Workload	-0.438	0.078

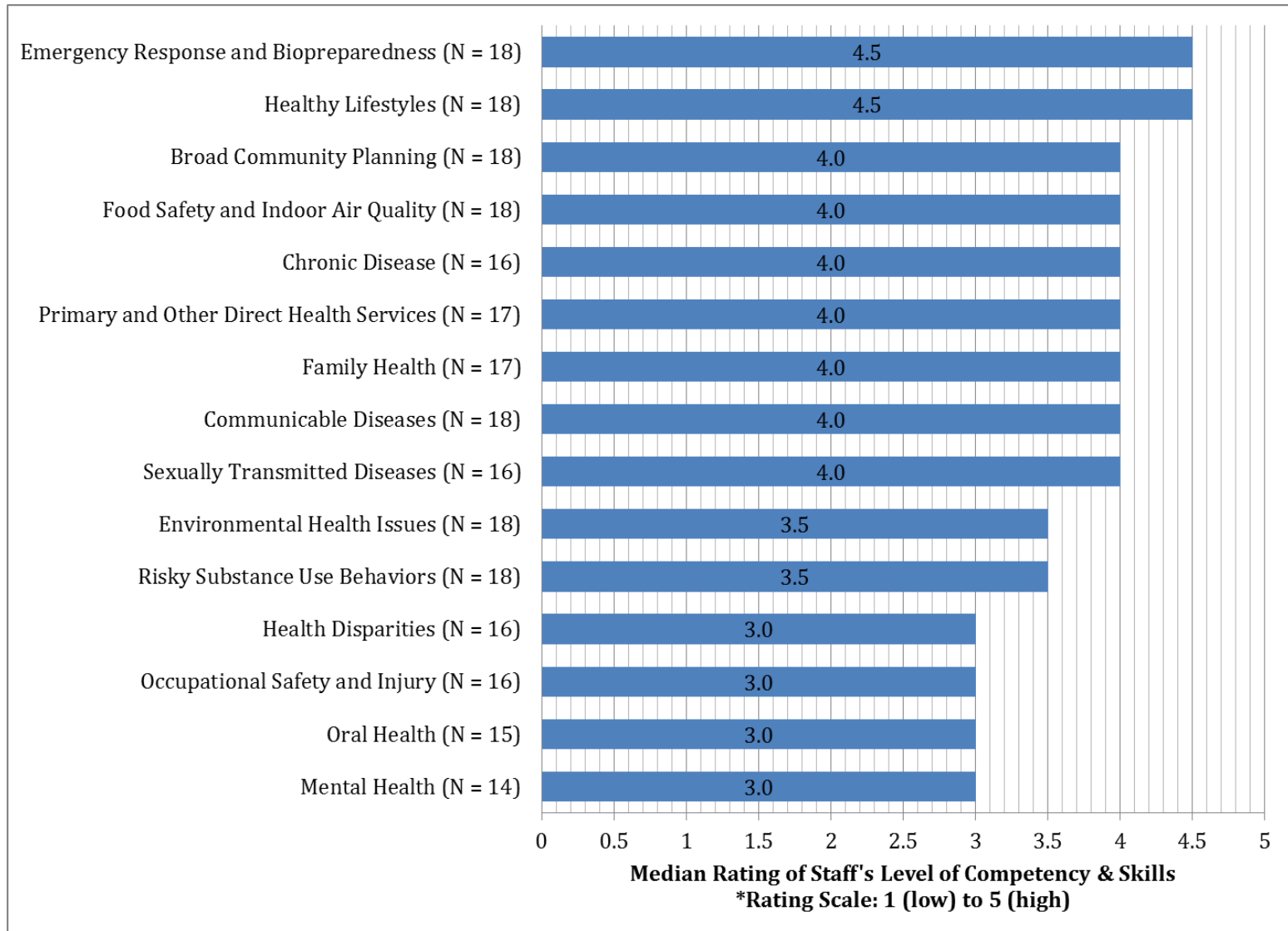


## LHD Director's Satisfaction with the Staff's Formal Training & Education, Nebraska 2010



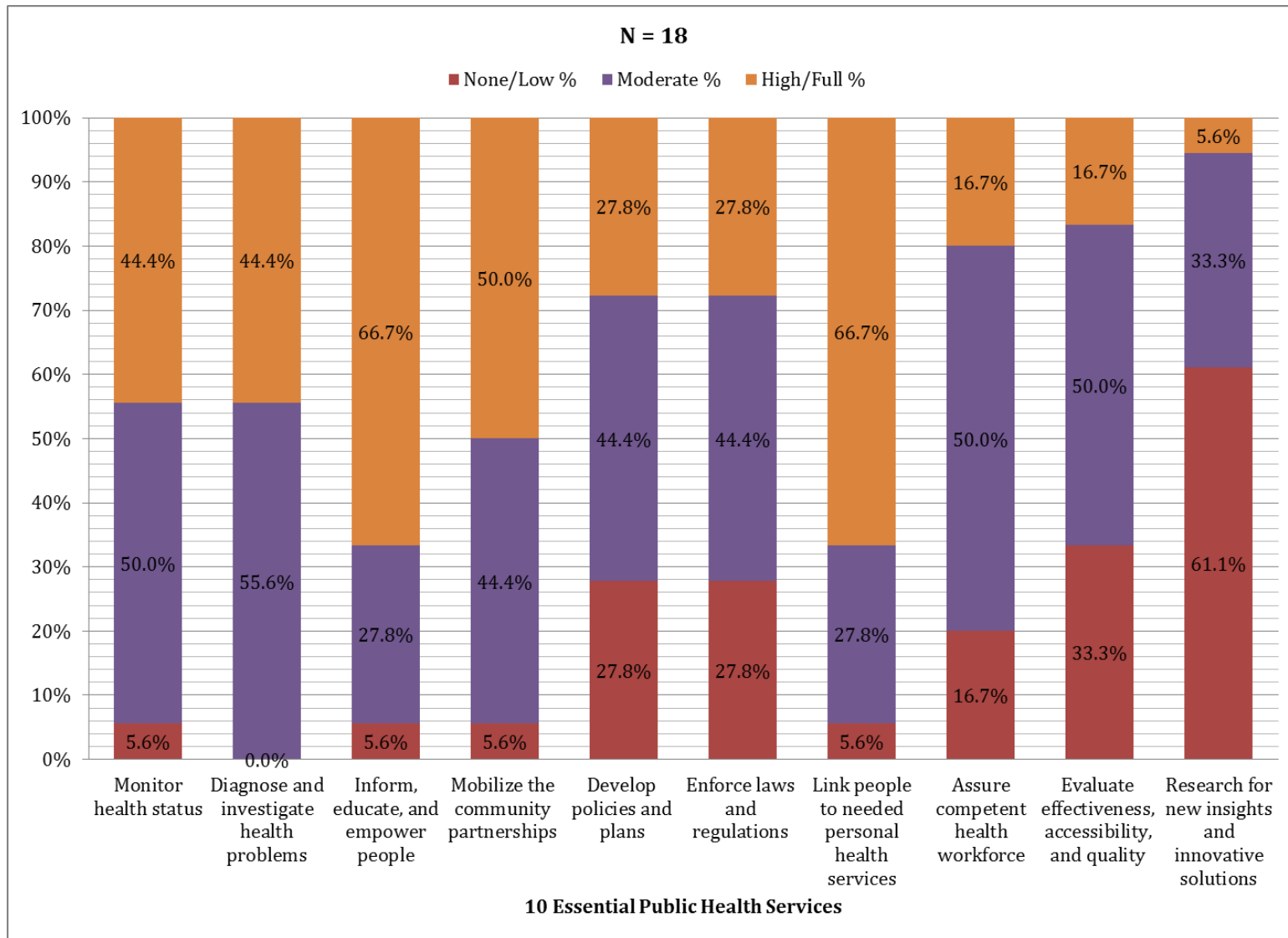


## LHD Director's Satisfaction with the Staff's Competency & Skills, Nebraska 2010



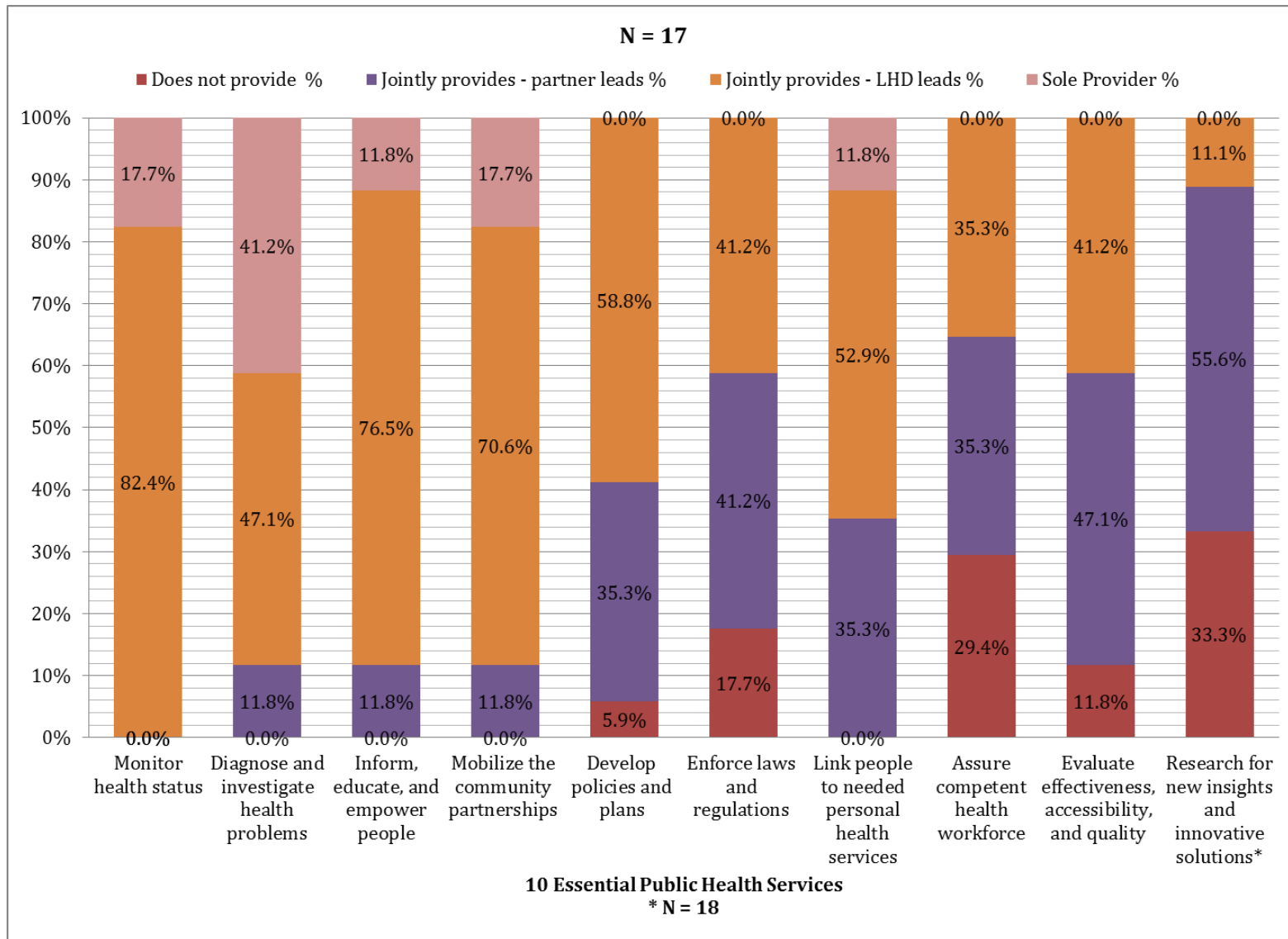


# LHD's Capacity to Carry Out 10 Essential Public Health Services, Nebraska 2010





# LHD's Role in Carrying Out Each of the 10 Public Health Services, Nebraska 2010





### Correlation between Average Satisfaction with LHD Staff's Formal Training & Education and the Level of Capacity to Carry Out 10 Essential Public Health Services (N = 18)

	Average Satisfaction with LHD Staff's Formal Training & Education	p-value
<b>Monitor health status</b>	<b>0.689</b>	<b>0.002**</b>
Diagnose and investigate health problems	0.396	0.104
Inform, educate, and empower people	0.112	0.658
Mobilize the community partnerships	-0.058	0.820
<b>Develop policies and plans</b>	<b>0.496</b>	<b>0.036*</b>
Enforce laws and regulations	0.327	0.185
Link people to needed personal health services	0.245	0.328
<b>Assure competent health workforce</b>	<b>0.518</b>	<b>0.028*</b>
<b>Evaluate effectiveness, accessibility, and quality</b>	<b>0.538</b>	<b>0.021*</b>
Research for new insights and innovative solutions	0.044	0.863

\* p < 0.05; \*\* p<0.01





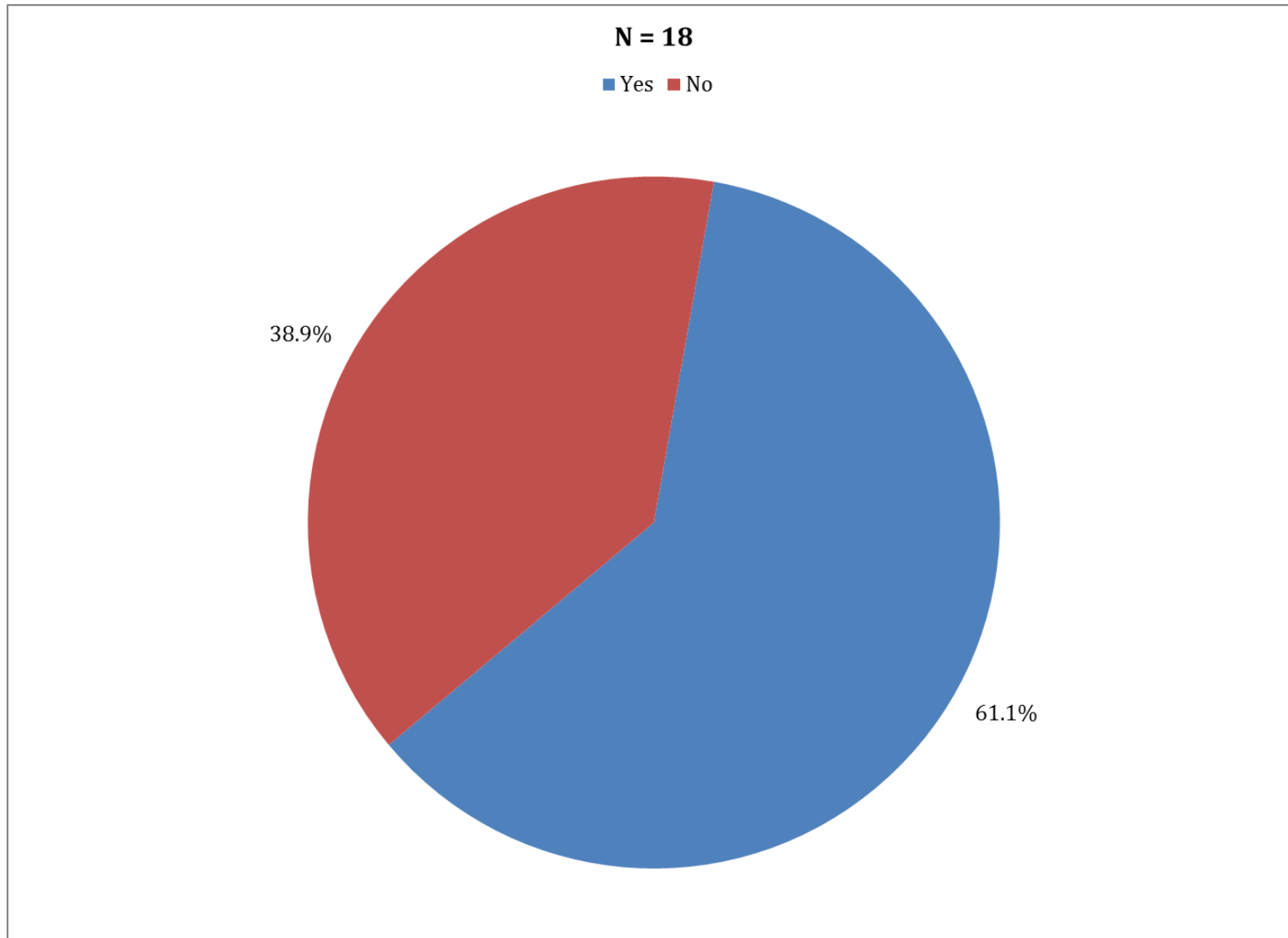
## Correlation between Average Satisfaction with LHD Staff's Competency & Skills and the Level of Capacity to Carry Out 10 Essential Public Health Services

	Average Satisfaction with LHD Staff's Competency & Skills	p-value
<b>Monitor health status</b>	<b>0.709</b>	<b>0.001**</b>
<b>Diagnose and investigate health problems</b>	<b>0.471</b>	<b>0.048*</b>
Inform, educate, and empower people	0.280	0.260
Mobilize the community partnerships	0.241	0.335
<b>Develop policies and plans</b>	<b>0.525</b>	<b>0.025*</b>
Enforce laws and regulations	0.375	0.126
<b>Link people to needed personal health services</b>	<b>0.516</b>	<b>0.029*</b>
<b>Assure competent health workforce</b>	<b>0.605</b>	<b>0.008**</b>
<b>Evaluate effectiveness, accessibility, and quality</b>	<b>0.597</b>	<b>0.009**</b>
Research for new insights and innovative solutions	0.056	0.824

\* p < 0.05; \*\*p < 0.01

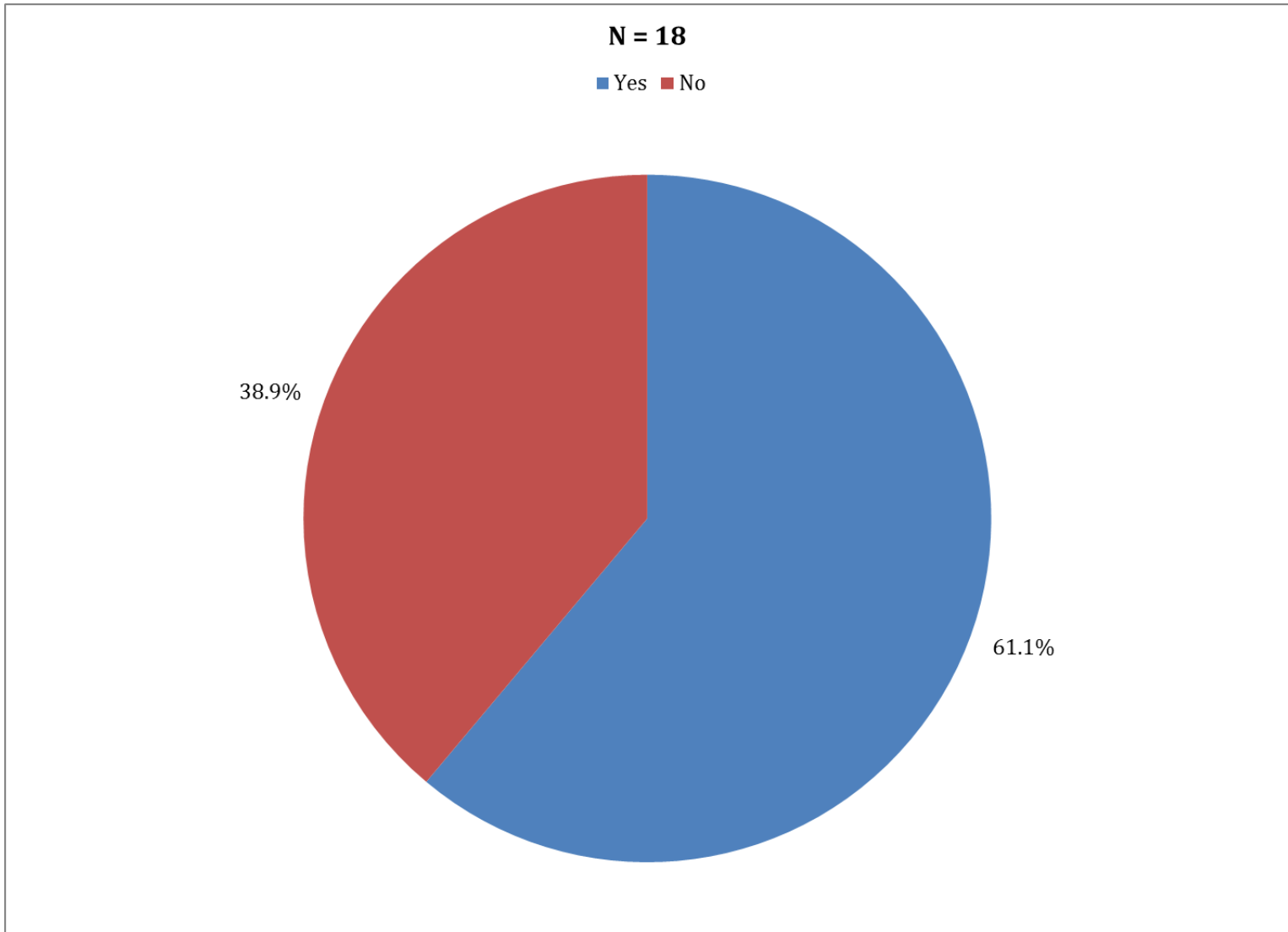


### Proportion of LHDs with Agency Plan for Staff Development & Growth, Nebraska 2010



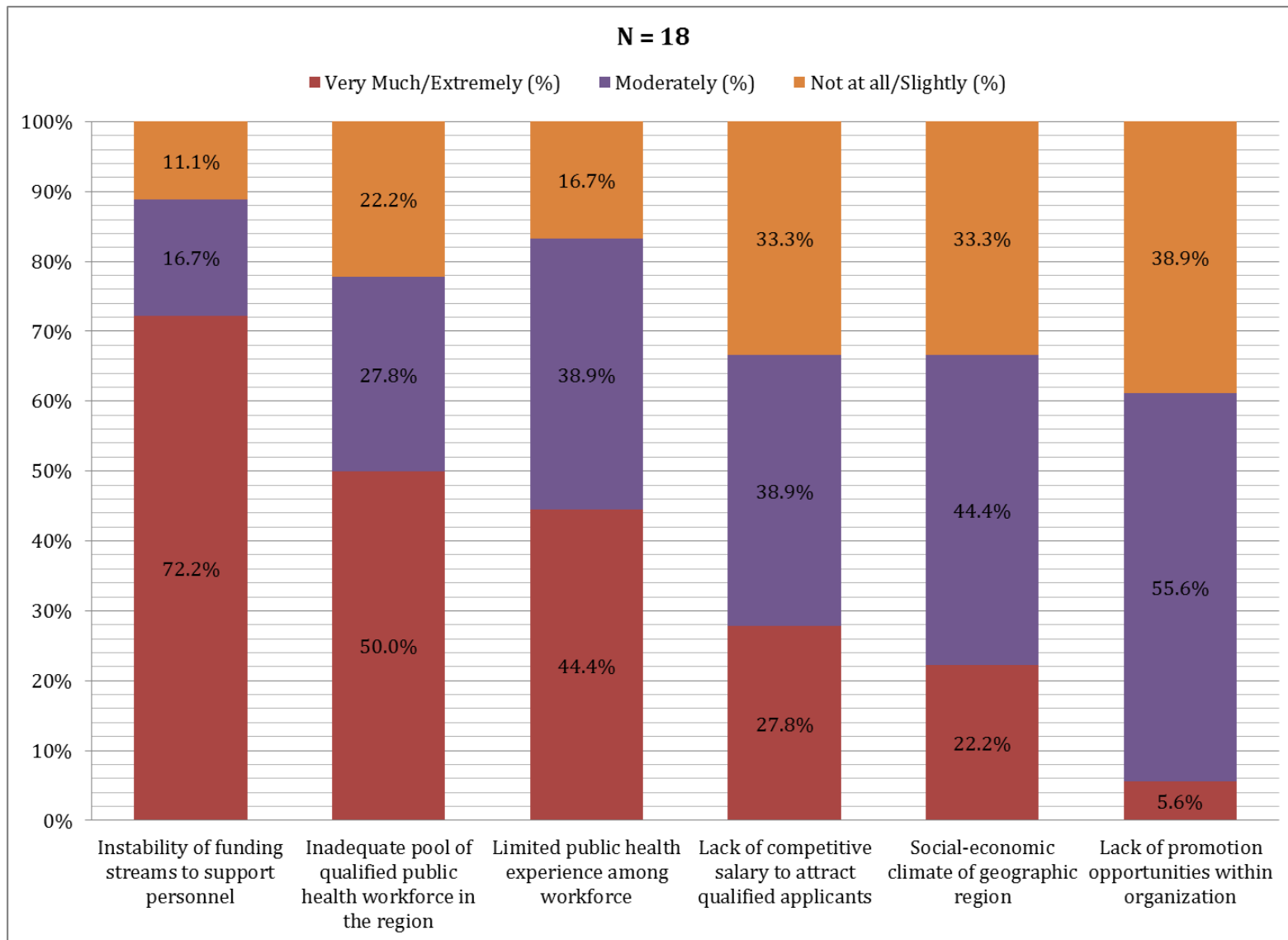


### Proportion of LHDs that Develop Professional Goals and Plan for Each Staff Member, Nebraska 2010





# Barriers & Challenges to Building a Competent LHD Workforce, Nebraska 2010





## Conclusions (from LHD Director Survey)

Using public health topical area approach,

- ❖ LHD average shortage score is negatively associated with its capacity to handle workload.
- ❖ LHD staff training/education is positively associated with its capacity in essential services.
- ❖ LHD staff competency/skill is positively associated with its capacity in essential services.



## Policy Implication & Future Research

- ❖ Public health topical area approach may provide useful information to capture some gap of LHD workforce data.
- ❖ Future research using a larger sample is needed to examine the validity and reliability of the workforce measures based on public health topical areas.



# 2010 Nebraska LHD Staff Survey

## ❖ Survey Content:

- ❖ LHD Workforce Characteristics
- ❖ Public Health Education & Training

## ❖ Sample:

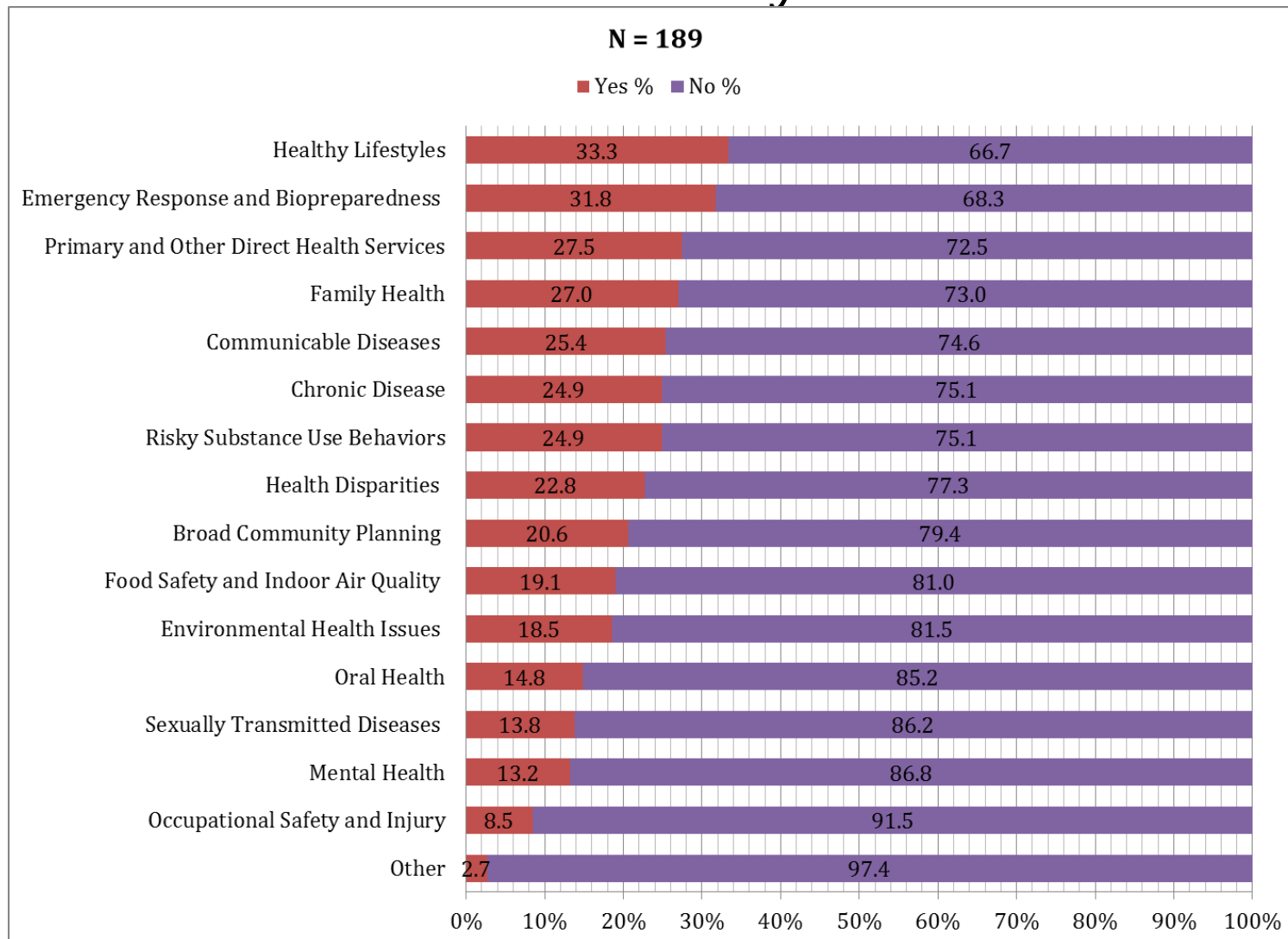
- ❖ Administered survey to all 21 Nebraska LHD directors who, in turn, administered to all their staff [Estimated N = 583 (from 2010 Nebraska LHD Director Survey)]

## ❖ Response:

- ❖ Total of 189 responses (32.4% of estimated total sample)
  - ❖ Regional: n = 159 (84.1% of total responses)
  - ❖ Single-County: n = 30 (15.9% of total responses)



# Public Health Issue Covered by LHD Staff

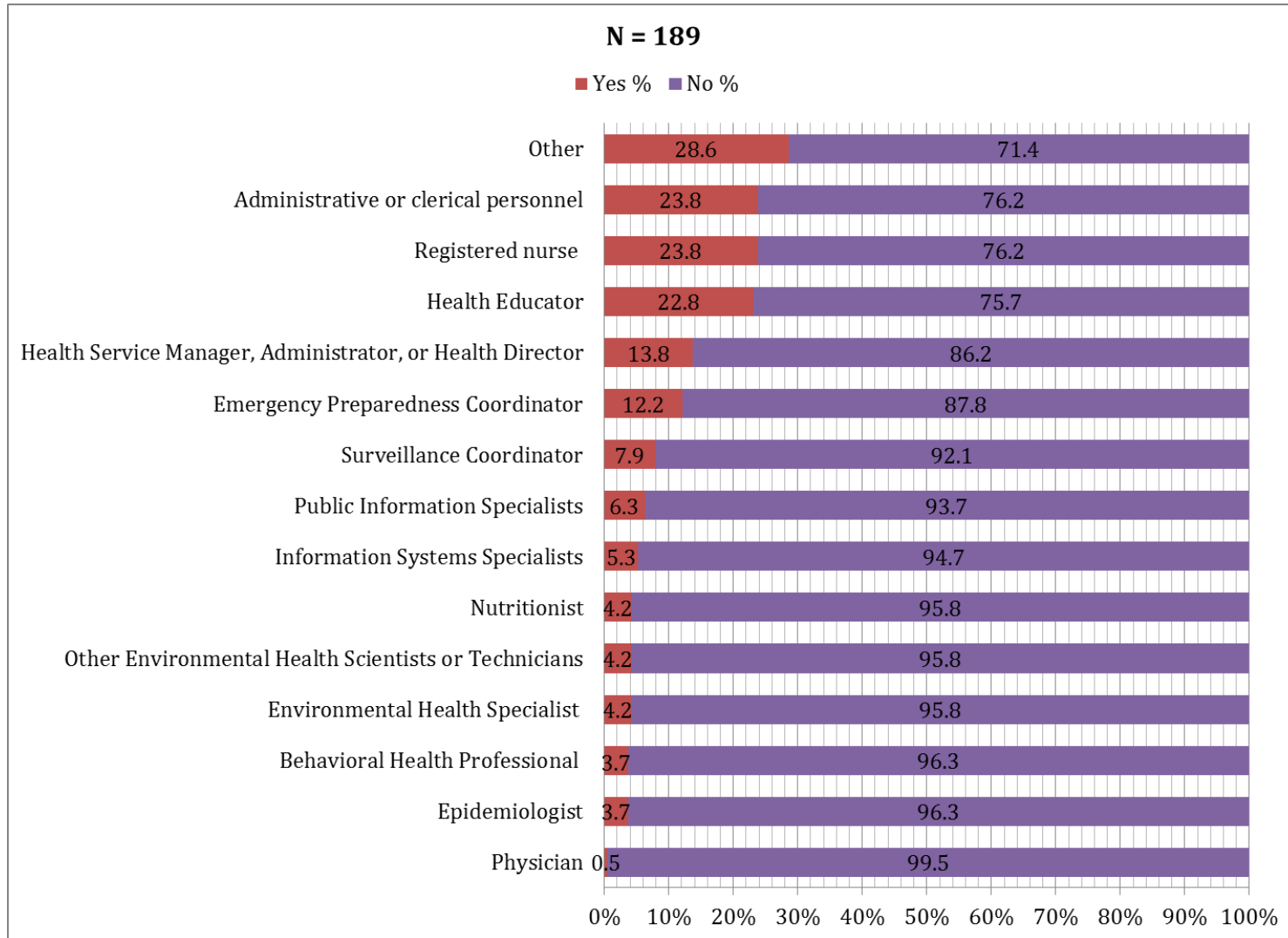


Source: 2010 Nebraska LHD Staff Survey





# Occupation of LHD Staff





# References

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THANK YOU