

Identifying pathways for improving performance: Results from the National Public Health Performance Standards Program

Michelyn W. Bhandari, Dr.P.H.¹, F. Douglas Scutchfield, MD², Richard Charnigo, Ph.D.², Martha Riddell, Dr.P.H.²,
Madhubindu Kanneganti, MBBS, MPH¹, Glen P. Mays, Ph.D.³

Research Funded by the National Network of Public Health Institutes in cooperation with
Centers for Disease Control and Prevention, Office of Chief of Public Health Practice

Introduction

This analysis explores how the performance of essential public health services varies across communities and identifies underlying domains of activity that may be driving variation in performance.

Methods

This is a study of 452 local public health systems located within 30 states that completed the National Public Health Performance Standards Program (NPHPSP) Version 1 local public health system assessment instrument. The assessment instrument provides a summary measure of performance on the ten essential public health services (EPHS) and measures for 31 performance indicators, which represent major components, activities, or practice areas of the essential services.

Step 1: A factor analysis of the 31 performance indicators using principal components extraction and varimax rotation was conducted to examine the underlying domains of performance that are reflected in these measures.

Step 2: Using the results of the factor analysis, composite variables were created for each of the domains by computing the average of the scores for each performance indicator associated with each domain. Descriptive statistics for each of the composite variables were computed.

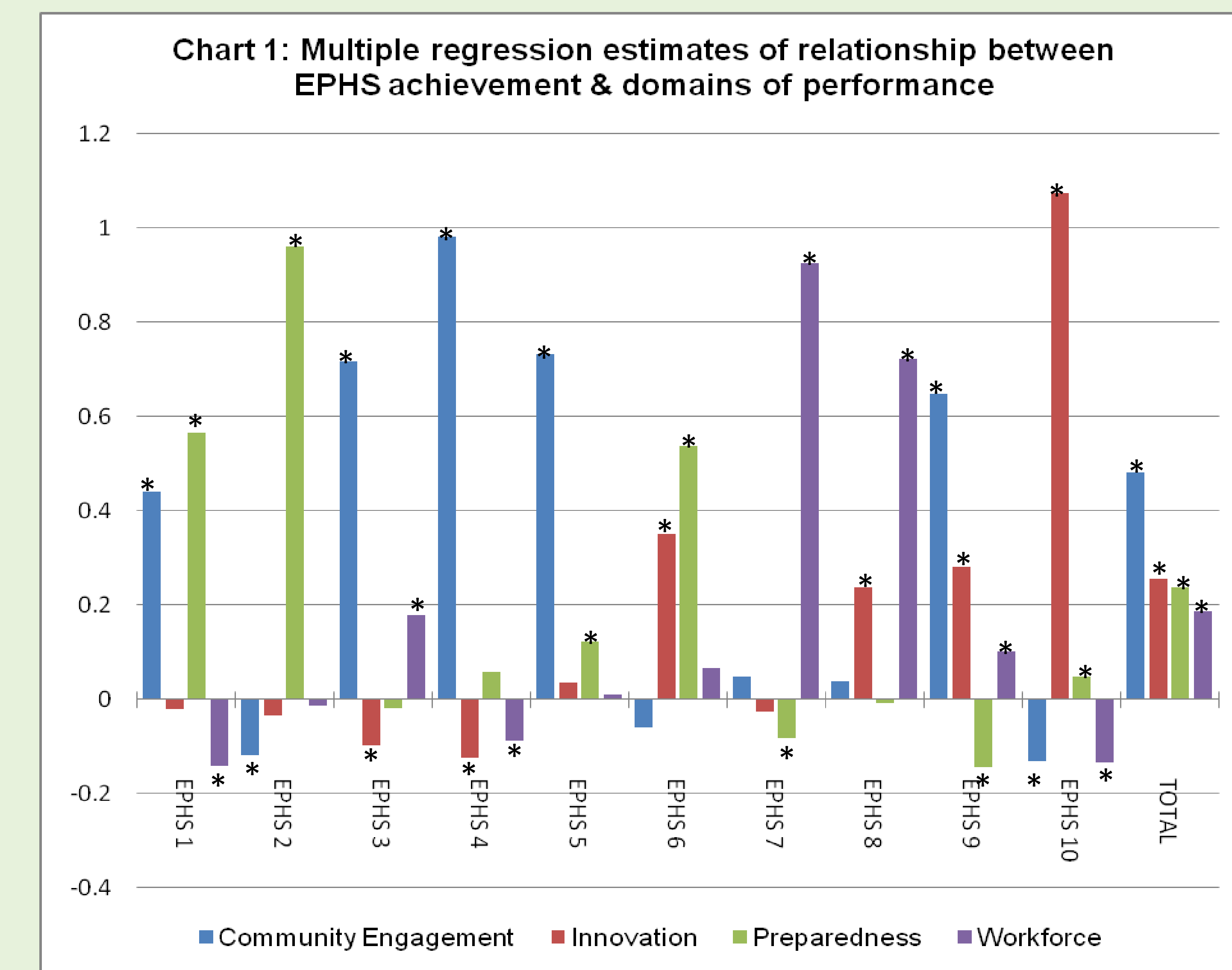
Step 3: Linear regression models were computed to examine the relationship between each of the composite variables representing the domains of performance from the factor analysis and the measures of performance on the ten essential services and average total performance.

Results

The factor analysis revealed 4 domains or groupings of indicators that explain 54.7% of the variance in the 31 indicators (see Table 1). The domains could be generally categorized using the following descriptors: Domain 1—Community Engagement; Domain 2—Innovation; Domain 3—Preparedness; and Domain 4—Workforce. Descriptive statistics for the composite measures of the four domains are shown in Table 2. Chart 1 shows the regression estimates of the relationship between each of the four domains and performance on the essential services.

1. Community Engagement	2. Innovation	3. Preparedness	4. Workforce
1.1 Population Based Community Health Profile	6.2 Improvement of Laws, Regulations and Ordinances	1.2 Access to and Utilization of Current Technology	7.1 Identification of Populations with Barriers to System
3.1 Health Education	8.1 Workforce Assessment	1.3 Maintenance of Population Health Registries	7.2 Identifying Personal Health Service Needs of Population
3.2 Health Promotion Activities	9.2 Evaluation of Personal Health Care Services	2.1 Identification and Surveillance of Health Threats	7.3 Assuring Linkage of People to Personal Health Services
4.1 Constituency Development	10.1 Fostering Innovation	2.2 Plan for Public Health Emergencies	8.2 Public Health Workforce Standards
4.2 Community Partnerships	10.2 Linkage with Institutions of Higher Learning/Research	2.3 Investigate and Respond to Public Health Emergencies	8.3 Continuing Education, Training and Mentoring
5.2 Public Health Policy Development	10.3 Epidemiological, Policy & Service Research Capacity	2.4 Laboratory Support for Investigation of Health Threats	8.4 Public Health Leadership Development
5.3 Community Health Improvement Process		5.1 Governmental Presence at Local Level	
5.4 Strategic Planning and Alignment		6.1 Review/Evaluate Laws, Regulations, and Ordinances	
9.1 Evaluation of Population-Based Services		6.3 Enforce laws, Regulations and Ordinances	
9.3 Evaluation of Local Public Health System			

Composite variable	Descriptive Statistics			
	Mean	SD	Minimum	Maximum
1. Community engagement	52.56	20.23	10.05	98.27
2. Innovation	47.46	21.48	1.71	97.15
3. Preparedness	73.74	14.40	20.57	99.77
4. Workforce	66.05	16.47	22.21	100.00



Conclusions and Discussion

The domains of performance identified in this study can assist public health administrators and planners in identifying pathways for improving performance in multiple EPHS by focusing improvement on the activities within the domains. For example, if you need to improve or maintain performance on EPHS 2, Inform, Educate, and Empower about Health Issues, a local public health system would be best served by focusing on the activities of the indicators in Domain 1 (Community Engagement) because these are correlated with improved performance. To improve or maintain performance on EPHS 7, Linkage to Personal Health Services, local public health systems would be well-served to focus on the activities of indicators in Domain 4 (Workforce).

This study is limited by its cross-sectional design and its use of self-reported data generated from public health systems that voluntarily participated in the NPHPSP.

