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# What Influences the Use of Administrative Evidence-Based Practices in Local Health Departments?

## Abstract

Evidence based public health (EBPH) in local health departments (LHDs) is a process that involves translating the best available scientific evidence into practice. However, EBPH and implementation of evidence based programs and policies in LHDs are not widespread. This report outlines the patterns and predictors of the use of administrative evidence based practices (A-EBPs) in a national sample of LHD directors. LHDs can improve performance, prepare for accreditation and ultimately improve community health by utilizing an administrative evidence based process.

## Keywords

evidence-based practice; organization and administration; public health practice; public health services and systems research; quality improvement; translational research

## Cover Page Footnote

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**E**vidence based public health (EBPH) is the integration of science-based interventions coupled with community preferences to improve population health.<sup>1</sup> The Public Health Accreditation Board recognizes the importance of an evidence-based process and has integrated EBPH into its accreditation standards.<sup>2</sup> However, a gap remains in the implementation of EBPH into public health practice.<sup>3</sup> This report outlines the patterns and predictors of administrative evidence-based practices (A-EBPs) in a national sample of local public health directors. In early 2013, researchers analyzed results from a cross-sectional study of 517 LHD directors to assess use of 19 individual A-EBPs covering five domains (leadership, workforce development, organizational climate and culture, relationships and partnerships, financial practices). There was a wide range of performance among the five domains with values lowest for organizational culture and climate and highest for relationships and partnerships. Local public health departments (LHDs) with a population jurisdiction of 25,000 or greater and a state governance structure were associated with attaining the highest level of administrative evidence-based practices.<sup>4</sup> The utilization of an administrative evidence-based process can help improve LHD performance, prepare LHD's for accreditation, and ultimately lead to improved community health.

## METHODS

A stratified random sample (from the data base of the National Association of County and City Health Officials) of 1,067 US LHDs was drawn from five groups, according to jurisdiction size of a LHD: <25,000, 25,000-49,999, 50,000-99,999, 100,000-499,999, and 500,000+ persons. The 66-item questionnaire included six sections (i.e., biographical data, A-EBPs, diffusion attributes, barriers to EBPH, use of resources, competencies in EBPH). The A-EBPs section of the instrument included 19 questions that were new and based on findings from a recent literature review.<sup>5</sup> Prior to administration, the survey was field tested and refined based on feedback from cognitive response testing (n=12) and test-retest (n=38).

Data were collected using an online Qualtrics survey that was emailed to 1,067 LHD directors across the US between October and December 2012. There were 517 responses to the survey (54% response rate) out of a final recruitment sample of 967 (non-valid email addresses were excluded from the original sample). Survey administration time averaged 14 minutes. Descriptive statistics were calculated for each of the 19 A-EBP's. For each of the five A-EBP domains and all A-EBPs combined, scores were summed, ranked, and placed into levels (tertiles). Using unconditional logistic regression models, odds ratios (ORs) and 95% confidence intervals (CIs) were calculated to compare those with the highest third of A-EBP scores with those who reported the lowest third. In the final model, significant variables and covariates that contributed to the fit of the model were retained, allowing calculation of adjusted ORs.

## RESULTS

The 517 LHD's that participated in our survey represented all jurisdiction size categories as designed by our study. Two-thirds of respondents were the top health official in the health departments, followed by a deputy or assistant director (23%), with the majority 50 years of age and older (69%). In addition, the smaller LHDs were three times more likely to be led by someone holding a nursing degree (36.6% v. 12.7%) than the larger LHDs. The governance structure of our sample included

health departments with local governance (81%), followed by state (10%), and 9% with shared state/local governance.

Among the five broad A-EBP domains (workforce development, leadership, organizational climate and culture, relationships and partnerships, financial processes), values were lowest for organizational climate and culture (mean= 49.9%) and highest for relationships and partnerships (77.1%). (Table 1) Financial practices were the second highest scoring domain (75.2%) and leadership (56.8%) the second lowest scoring domain. Out of the 19 A-EBP's, there were only 4 practices taking place in 75% of LHD's, and only 5 were reported as present by just under half of LHDs. There was a wide range in scores for the 19 individual A-EBPs, ranging from 35% reporting access to current information on EBPH practices to 96% for funding via a variety of sources.

Several variables predicted attainment of the highest level of A-EBPs (Table 2). Variables associated with attaining the highest level of A-EBPs included age of 50 to 59 years (adjusted odds ratio (aOR) = 2.5; 95% CI = 1.08, 6.0), population jurisdiction of 25,000 or larger (aORs ranging from 4.4 to 7.5) and state governance structure (aOR = 3.1; 95% CI = 1.04, 9.1).

Because jurisdiction size was the most significant variable associated with A-EBP scores, the performance on 19 individual A-EBPs was compared in LHDs serving fewer than 25,000 people and larger LHDs. Of the 19 A-EBPs analyzed, smaller LHDs showed lower performance on all but one A-EBP (promotes lifelong learning). The biggest differences between smaller and larger LHDs were seen for four specific A-EBPs: access to current information on EBPH practices (relative difference [i.e., the higher value minus the lower value divided by the higher value] = 49%), hire people with public health experience (relative difference = 49%), hire people with public health degree (relative difference = 62%), and access to current research evidence (relative difference = 51%).

## **IMPLICATIONS**

This research provides the first nationwide data on an extensive array of A-EBPs among LHDs in the United States. Many of the recommended A-EBPs can be implemented in a relatively short period of time (<1 year), at low cost.<sup>5</sup> Fostering an organizational culture that supports the principles of EBPH and encouraging leadership to embrace and implement A-EBPs, will enhance LHDs efforts in accreditation, quality improvement (QI), and performance.

Providing both leadership and staff training in EBPH competencies is an important piece of enhancing utilization of A-EBPs. This need is particularly evident in smaller LHDs (jurisdiction size <25,000). In addition to training, building capacity and enhancing resources, especially in smaller, rural LHDs can help to bridge-the-gap in EBPH practice. The main limitation of this study is that the data are self-reported and it is challenging to determine the relationship between respondents' reports of A-EBPs and actual implementation of these in the agency. Despite its limitations, this research provides important information on the gaps and areas for improvement in the implementation of A-EBPs that can be linked with ongoing performance, QI, and accreditation efforts in LHDs.

### SUMMARY BOX:

#### **What is Already Known about This Topic?**

There is sparse systematic research indicating the extent to which evidence-based public health is being implemented in local health departments in the US.

#### **What is Added by this Report?**

The patterns and predictors of administrative-evidence based practices can help public health leaders and policy makers in targeting gaps and areas for improvement in implementing EBPH.

#### **What are the Implications for Public Health Practice, Policy, and Research?**

Implications for public health practice are that modest investments in training and capacity building of public health directors and staff in our five domains of A-EB's (particularly climate/culture and leadership) may improve LHD performance, QI and accreditation efforts.

As a part of this research, information briefs have been developed for practitioners on each of the 5 A-EBP domains: *@StLouisPRC has a series of issue briefs for LHDs about adopting administrative practices that have been proven to work: [A-EBP's](#)*

### REFERENCES

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**Table 1. Use of Administrative Evidence-Based Practices (A-EBPs) in Local Health Department Leaders**

Domain	Evidence-based practice	Description	Use of A-EBP in national survey	Link to issue brief
Workforce development	Training	<ul style="list-style-type: none"> <li>• In-service training in quality improvement or evidence-based decision making</li> <li>• Skills-based training (e.g., organization and systems change)</li> <li>• Multi-disciplinary in-service training</li> <li>• Training aligned with essential services and usual job responsibilities</li> </ul>	Access to training in: <ul style="list-style-type: none"> <li>• Quality improvement processes (82.1%)</li> <li>• Performance assessment (71.5%)</li> <li>• Management practices (70%)</li> <li>• Evidence-based decision making (EBDM) (59%)</li> <li>• Access to current information on EBDM processes (35%)</li> </ul>	<a href="#">IssueBrief.WorkforceDevelopment</a>
	Access to technical assistance	<ul style="list-style-type: none"> <li>• Access and use of knowledge brokers<sup>a</sup></li> <li>• Use of process improvement activities (e.g., accreditation, performance assessment)</li> <li>• Face-to-face meetings to share lessons, compare experiences, and provide updates</li> </ul>	<ul style="list-style-type: none"> <li>• Access to current information on EBDM processes (35%)</li> </ul>	
Leadership	Skills and background of leaders	<ul style="list-style-type: none"> <li>• Leadership skill development</li> <li>• Leadership experience</li> <li>• Quality of leadership</li> <li>• Leadership influence</li> <li>• Manager competency to manage change</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to lead in EBDM (52.4%)</li> </ul>	<a href="#">IssueBrief.Leadership</a>
	Values and expectations of leaders	<ul style="list-style-type: none"> <li>• Leadership support of quality improvement, national performance standards, evidence-based decision making, innovation, accreditation</li> <li>• Intend to hire well-educated, experienced staff including specialists (e.g., lab scientists, epidemiologists, environmental health professionals, financial systems experts)</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage use of EBDM (60.2%)</li> <li>• Hire people with experience in public health (52%)</li> <li>• Hire people with public health degree (35.6%)</li> </ul>	
	Participatory decision-making	<ul style="list-style-type: none"> <li>• Management team</li> <li>• Leaders and middle managers seek and</li> </ul>	<ul style="list-style-type: none"> <li>• Foster staff participation in decision making (83.6%)</li> </ul>	

		<p>incorporate employee input</p> <ul style="list-style-type: none"> <li>• Non-hierarchical decision-making</li> </ul>		
Organizational climate & culture	Access & free flow of information	<ul style="list-style-type: none"> <li>• Communication flow</li> <li>• Tailored messaging for evidence-based decision making</li> <li>• 360 degree employee performance reviews geared to evidence-based practices (with extensive feedback)</li> <li>• Ready access to high-quality information</li> </ul>	<ul style="list-style-type: none"> <li>• Access to EBDM information relevant to community needs (43.3%)</li> <li>• Access to current research evidence (42.9)</li> </ul>	<a href="#">IssueBrief.OrganizationalCulture</a>
	Support of innovation & new methods	<ul style="list-style-type: none"> <li>• Leadership/management and employee training in evidence-based decision making that includes new methods</li> <li>• Employees perceiving that management supports innovation</li> <li>• Conscious creation of environments conducive to innovation</li> <li>• Organizational capacity to be in both business-as-usual state and state of exploration</li> </ul>	<ul style="list-style-type: none"> <li>• Culture that supports EBDM (42.2%)</li> </ul>	
	Learning orientation	<ul style="list-style-type: none"> <li>• Shared employee perceptions</li> <li>• Project management teams that encourage communication &amp; collaboration</li> <li>• Presence of multidisciplinary, diverse management teams</li> </ul>	<ul style="list-style-type: none"> <li>• Promotes life-long learning (71%)</li> </ul>	
Relationships & partnerships	Inter-organizational relationships	<ul style="list-style-type: none"> <li>• Build and/or enhance partnerships with schools, hospitals, community organizations, social services, private businesses, universities, law enforcement</li> <li>• Cooperative agreements with state and/or local health departments quality improvement</li> </ul>	<ul style="list-style-type: none"> <li>• Important to develop partnerships with both health and other sectors (92.3%)</li> <li>• Important to have partners who share resources (68.3%)</li> </ul>	<a href="#">IssueBrief.RelationshipsPartnerships</a>
	Vision & mission of partnerships	<ul style="list-style-type: none"> <li>• Clear vision &amp; aligned mission of partnerships</li> <li>• Capacity building over time</li> </ul>	<ul style="list-style-type: none"> <li>• Partnerships have missions that align with agency (70.7%)</li> </ul>	
Financial	Allocation & expenditure of	<ul style="list-style-type: none"> <li>• Outcomes-based contracting</li> </ul>	<ul style="list-style-type: none"> <li>• Allocated resources for quality</li> </ul>	<a href="#">IssueBrief.FinancialPractices</a>

	resources	<ul style="list-style-type: none"> <li>• Resources allocated for quality improvement, evidence-based decision making, innovation, information access, training and implementation</li> <li>• Diverse funding sources</li> </ul>	<p>improvement (54.5%)</p> <ul style="list-style-type: none"> <li>• Funded through a variety of sources (95.8%)</li> </ul>	
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<sup>a</sup>A knowledge broker is defined as a masters-trained individual available for technical assistance



**Table 2. Predictors of administrative evidence-based practices,<sup>a</sup> United States, 2012**

Characteristic	No. in highest tertile	No. in lowest tertile	Unadjusted odds ratio (95% confidence interval)	Adjusted odds ratio <sup>b</sup> (95% confidence interval)
<i>Individual</i>				
Age (yrs)				
20-39	13	24	1.0	1.0
40-49	33	32	1.9 (0.8, 4.4)	1.5 (0.6, 3.9)
50-59	77	61	2.3 (1.1, 5.0)	2.5 (1.08, 6.0)
60 and older	37	40	1.7 (0.8, 3.8)	1.5 (0.6, 3.7)
Gender				
Female	96	95	0.98 (0.6, 1.5)	--
Male	64	62	1.0	--
Job Position				
Top executive, health officer, commissioner	119	97	1.6 (0.7, 3.5)	--
Administrator, deputy, or assistant director	28	43	0.9 (0.4, 2.0)	--
Manager of a division or program, other	13	17	1.0	--
Highest Degree				
Doctoral	39	24	3.1 (1.5, 6.4)	2.1 (0.9, 5.3)
Master of Public Health	28	27	2.0 (0.96, 4.1)	1.9 (0.8, 4.6)
Other masters degree	50	33	2.9 (1.5, 5.7)	1.9 (0.9, 4.1)
Nursing	20	28	1.4 (0.6, 2.9)	1.5 (0.6, 3.6)
Bachelors degree or less	23	44	1.0	1.0
<i>Health Department</i>				
Census Region				
Northeast	19	40	1.0	1.0
Midwest	55	61	1.9 (0.98, 3.7)	1.4 (0.6, 3.0)
South	65	30	4.5 (2.3, 9.2)	1.9 (0.8, 4.8)
West	21	26	1.7 (0.8, 3.8)	1.5 (0.6, 3.6)
Population of Jurisdiction				
<25,000	14	64	1.0	1.0
25,000 to 49,999	40	26	7.0 (3.3, 15.0)	7.5 (3.3, 17.3)
50,000 to 99,999	35	28	5.7 (2.7, 12.2)	4.9 (2.1, 11.2)
100,000 to 499,999	46	23	9.1 (4.3, 19.6)	7.1 (3.0, 16.9)
500,000 or larger	25	16	7.1 (3.0, 16.8)	4.4 (1.6, 12.5)
Governance Structure				
State governed	24	9	3.3 (1.5, 7.4)	3.1 (1.04, 9.1)
Locally governed	114	141	1.0	1.0
Shared governance	22	7	3.9 (1.6, 9.4)	2.5 (0.8, 7.6)

<sup>a</sup>The administrative evidence-based practices (A-EBP) summary score was calculated by summing the respondents' rankings for the 19 individual questions into a summary score then placing the summary scores into tertiles.

<sup>b</sup>Those variables that were significant in unadjusted analyses (i.e., age, highest degree, census region, population of jurisdiction, governance structure) were retained in the final model to calculate adjusted odds ratios. The odds ratios represent the odds of being in the highest tertile of the A-EBP summary score.