

The Association Between Evidence-Based Decision Making and Accreditation of State Health Departments

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ABSTRACT

Objective: To assess the association between evidence-based decision making, including implementation of evidence-based interventions (EBIs), with accreditation of state health departments through the Public Health Accreditation Board (PHAB).

Design: This was a cross-sectional, electronic survey of state health department practitioners. We utilized a survey instrument focused on evidence-based public health, de-implementation, and sustainability of public health programs. Survey questions were organized into 6 domains: (1) demographic information; (2) individual-level skills; (3) decision making on programs ending; (4) decision making on programs continuing; (5) organization/agency capacity; and (6) external influences.

Participants: The targeted practitioners were randomly selected from the 3000-person membership of National Association of Chronic Disease Directors and program manager lists from key Centers for Disease Control and Prevention-supported programs in cancer and cancer risk factors. The final target audience for the survey totaled 1329 practitioners, representing all 50 states.

Main Outcome Measure(s): The main outcome measures included the strength of association between a state's PHAB accreditation status and variables related to evidence-based public health and use of EBIs that fell within the individual participant skills, organization/agency capacity, and external influences domains.

Results: We received 643 valid responses (response rate = 48.4%), representing all 50 states, with 35 states being PHAB accredited. There was a statistically significant association between PHAB accreditation and state health department use of quality improvement processes ($P = .002$), leadership plans to implement EBIs ($P = .009$), and leadership reactions to EBI implementation issues ($P = .004$). Respondents from PHAB-accredited states were significantly more likely than participants from nonaccredited states to report greater engagement with legislators and governors regarding EBIs and 14% less likely to report the inappropriate termination of programs in their work unit ($P = .05$).

Conclusions: The importance of accreditation relates to both internally focused functions and externally focused activities, especially regarding policy-related impact.

KEY WORDS: evidence-based public health, public health accreditation, state health departments

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The Public Health Accreditation Board (PHAB) was incorporated in 2007 as the vehicle for voluntary accreditation of state, local, tribal, and territorial health departments. As of November 19, 2019, a total of 283 health departments (36 state, 243 local, 3 tribal, and 1 army installation of public health) as well as 1 statewide integrated local public health department system (Florida) have achieved 5-year initial accreditation or reaccreditation, covering 81% of the US population.¹ A special supplement of the *Journal of Public Health Management and*

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Practice in 2018 provided a 10-year assessment of the impact of accreditation, with the most notable findings pertaining to quality improvement (QI) and performance management; partnerships; and administration and management.² Using multiple surveys of 324 health departments that had applied for accreditation, Siegfried et al³ found that those health departments that had subsequently achieved accreditation were significantly more likely to report immediate increases in QI and performance management activities as a result of undergoing the PHAB accreditation process. Ingram et al⁴ used data from the National Longitudinal Study of Public Health Systems to describe public health systems changes before and after accreditation, finding that health departments that achieved accreditation offered a broader array of public health services, involved more partners in the delivery of those services, and documented a higher percentage of comprehensive public health systems than unaccredited health departments. Ye et al⁵ reported higher work environment and job satisfaction in health departments that had achieved accreditation, while Nicolaus⁶ reported qualitatively that health departments seeking and achieving accreditation were more engaged with their governing boards of health. Subsequent to the special issue of *Journal of Public Health Management and Practice*, in a study of 329 local health departments (LHDs), Shah et al⁷ found significantly higher governing board engagement with those LHDs that had completed the required prerequisites for accreditation (a community health assessment, a community health improvement plan, and an organizational strategic plan), compared with unaccredited LHDs.

Evidence-based decision making (EBDM) in public health practice involves “making decisions using the best available scientific evidence, systematically using data and information systems, applying program-planning frameworks (that often have a foundation in behavioral science theory), engaging the community in assessment and decision making, conducting sound evaluation, and disseminating what is learned.”^{8(p177)} Both individual-level and organizational-level supports for EBDM have been identified, including the quality of leadership, workforce training in EBDM, and formal relationships between public health practice and academia.^{9,10} Although there has been relatively less focus on the association between accreditation and EBDM, several of the findings described previously involve administrative evidence-based practices as delineated by Brownson et al,¹¹ including governance, use of process-improvement activities, values and expectations of leaders, and interorganizational partnerships. Yeager et al¹² recently analyzed data from the 2017 Public Health Workforce Interests and Needs Survey,

showing that respondents from accredited health departments (state or local) were more likely to report awareness of evidence-based public health practice than respondents from (as yet) unaccredited health departments. A recent study of 350 LHDs found that PHAB-accredited LHDs were more likely to report higher capacity and resources for EBDM and higher evaluation capacity than LHDs not yet preparing for accreditation.¹³ Given the value of evidence-based public health in improving community health, as documented extensively through the *Guide to Community Preventive Services*,¹⁴ we sought to assess the association between EBDM, including implementation of evidence-based interventions (EBIs), with accreditation of state health departments (SHDs).

Methods

Participants

The reported data were collected in a cross-sectional survey of state-level public health practitioners working in SHDs, which was part of a larger study on misimplementation of cancer control programs.¹⁵ Misimplementation includes both ending effective interventions (inappropriate termination) and continuing ineffective interventions (inappropriate continuation) in health settings.¹⁶ The targeted practitioners for this study were randomly selected from the 3000-person membership of National Association of Chronic Disease Directors and program manager lists from key Centers for Disease Control and Prevention (CDC)-supported programs in cancer and cancer risk factors. These practitioners included individuals who direct and implement population-based intervention programs in SHDs. As previously described, “examples of the individuals in the target audience include (1) the director of a CDC-funded comprehensive cancer control program for the state; (2) the director of a state program addressing primary prevention of cancer (tobacco, inactivity, diet, sun protection); (3) the director of state programs promoting early detection of breast, cervical, and colorectal cancers among underserved populations; or (4) state health department epidemiologists, evaluators, policy officers, and health educators supporting cancer control programs.”^{15(pp4-5)} The final target audience for the survey totaled 1329 practitioners, with multiple public health practitioners invited from each of the 50 US SHDs.

Survey development

The survey development is described in detail elsewhere.^{15,17} Briefly, a focused literature review was

conducted to search for existing instruments related to evidence-based public health, de-implementation, and sustainability of public health programs. Survey questions were derived from validated instruments as well as newly developed and organized 6 domains: (1) demographic information; (2) individual-level skills; (3) decision making on programs ending; (4) decision making on programs continuing; (5) organization/agency capacity; and (6) external influences.¹⁷ External influences included 4 Likert scale agreement items: (1) “The activities of my work unit fit with the priorities of most of our state legislators”; (2) “In this past legislative session, most of our state legislators were supportive of evidence-based interventions in public health”; (3) “The activities of my work unit fit with the priorities of the governor’s office”; and (4) “In the past year, the governor’s office was supportive of evidence-based interventions in public health.” All questions were on a 5-point Likert scale. Individual skill, external influences, and some organizational capacity response options were “Strongly Disagree” to “Strongly Agree.” Leadership-related organizational capacity response options were on a scale of “Not at all” to “Very great extent.” Once the initial draft survey was developed, it went through cognitive response testing to ensure that questions were adequately worded and achieving their intended responses, and additional test-retest steps were carried out to improve reliability. The final survey was distributed in an online format (Qualtrics software¹⁸) via e-mail and remained opened for a 3-month time period. Nonrespondents received e-mail and phone follow-up to boost response. All respondents were offered a gift card incentive. Institutional review board approval was provided through Washington University in St Louis. The final survey instrument is included as a Supplemental Digital Content, available at <http://links.lww.com/JPHMP/A653>.

Data analysis

Upon closure of the survey, ineligible cases were removed from the data set (did not meet criteria for inclusion, eg, position was not in an SHD). State-level variables (such as population size, CDC funding, governance type, accreditation status, etc.) were added to the data set from other data sources, including CDC Grant Funding Profile, Association of State and Territorial Health Officials State Profiles, and PHAB data.^{19,20} State-level data included PHAB accreditation status of the SHD as of September 2018. Data cleaning, descriptive, and inferential analyses were conducted in SPSS version 24. Basic descriptive statistics were calculated for the participants, states, and variables of interest in the survey. Variables were

dichotomized by creating a separate variable with the top 2 highest scaled responses (eg, “strongly agree” and “agree”) coded as 1 and the remaining responses coded as 0. Bivariate χ^2 tests of associations were calculated to determine the strength of association between a state’s PHAB accreditation status and variables that fell within the individual participant skills, organization/agency capacity, and external influences domains.

Results

Sample characteristics

Of the 1329 practitioners who were solicited for participation, 643 responded (response rate = 48.4%). Table 1 shows the demographic characteristics of the study sample. Classified into 3 main categories, the number of participants differed by state population size: small (<2.1 million), n = 178 participants; medium (2.1-6.1 million), n = 224 participants; and large (>6.1 million), n = 217 participants. Of all the 50 states that were represented, 35 states were PHAB accredited at the time of the survey, which accounted for 66.9% of the survey respondents. The number of respondents per SHD varied. The geographic distribution of respondents included: New England (n = 106, 16.5%), South (n = 147, 22.9%), West (n = 104, 16.2%), Midwest (n = 149, 23.2%), and Mid-Atlantic (n = 137, 21.3%). The majority of the study sample was non-Hispanic white (79.5%), female (79.8%), 40 to 59 years of age (54%), and working as a program manager or coordinator (50.7%). Furthermore, 90 (14.0%) participants were directors, overseeing multiple programs, and 205 (33.0%) were specialists working as an epidemiologist, health educator, statistician, and so forth. Approximately 40% (263) of the participants had formal educational training in public health. When asked about their primary work area within the SHDs, 172 (26.7%) worked in multiple areas, followed by 149 (23.2%) in the “other” category (which includes rural health, asthma, school health, etc.), 91 (14.2%) in cancer, and 80 (12.4%) in obesity. The average time worked in participants’ current position was 5.9 years, in their current state agency was 10.7 years, and in public health practice overall was 14.8 years.

Associations between PHAB accreditation and individual, organizational, and external factors

Chi-square tests of independence were performed to examine the association between state PHAB accreditation and individual, organizational, and external factors (Table 2). There were statistically significant

TABLE 1
Demographics of State Health Department Survey
Participants, United States, 2018

Survey Participant Demographics (n = 643)	N (%)
<i>State characteristics</i>	
Regions	
New England	106 (16.5)
South	147 (22.9)
West	104 (16.2)
Mountains/Midwest	149 (23.2)
Mid-Atlantic and Great Lakes	137 (21.3)
State size (population)	
Small (<2.1 million)	178 (27.7)
Medium (2.1-6.1 million)	224 (34.8)
Large (>6.1 million)	217 (33.7)
<i>SHD practitioner characteristics</i>	
Gender	
Male	131 (19.8)
Female	528 (79.8)
Other gender identity	3 (0.5)
Age, y	
<20	5 (<1)
20-39	213 (33.1)
40-59	352 (54.7)
60+	90 (14.0)
Race/ethnicity	
White	527 (79.5)
Black or African American	74 (11.2)
Asian	37 (5.6)
Hispanic	27 (4.1)
American Indian or Alaska Native	14 (2.1)
Hawaiian or Pacific Islander	6 (0.9)
Other	14 (2.1)
Education	
Any public health education (BSPH, MPH, PhD in Public Health, DrPH, Public Health certificate)	263 (39.7)
Primary work area	
Cancer	91 (14.2)
Cardiovascular	45 (7.0)
Diabetes	38 (5.9)
Obesity	80 (12.4)
Tobacco	68 (10.6)
Work in multiple areas	172 (26.7)
Other (eg, rural health, asthma, school health, etc)	149 (23.2)
Position	
Program manager or coordinator	326 (50.7)
Director overseeing multiple programs	90 (14.0)

(continues)

TABLE 1
Demographics of State Health Department Survey
Participants, United States, 2018 (Continued)

Survey Participant Demographics (n = 643)	N (%)
Specialist (eg, epidemiologist, health educator, statistician, etc)	205 (33.0)
Other (eg, administrative roles)	22 (2.0)
Average years in current position	5.9 y
Average years in current agency	10.7 y
Average years in public health	14.8 y

Abbreviation: SHD, state health department.

associations between PHAB accreditation and several measures of organizational capacity. Specifically, there was a statistically significant association between PHAB accreditation and agency use of QI processes ($P = .002$), leadership plan to implement EBIs ($P = .009$), and leadership reacts to EBI implementation issues ($P = .004$). The PHAB accreditation was also significantly associated with several measures of governmental leadership support. Compared with participants from nonaccredited states, those from PHAB-accredited states were significantly more likely to report that their work unit activities fit legislators' and governors' priorities ($P = .002$ and $.001$, respectively), and that their legislators and governors supported EBIs ($P = .003$ and $.007$, respectively).

Individuals from PHAB-accredited SHDs were 14% less likely than participants from nonaccredited states to report the inappropriate termination of programs in their work unit (ie, that ineffective programs overseen by the SHD ended when they should have continued), and this was borderline statistically significant at $P = .05$ (Table 2). Conversely, individuals from a PHAB-accredited state were 5% less likely to report the inappropriate continuation of programs, which did not reach statistical significance. There were no statistically significant associations between PHAB accreditation and perception of individual skills. Participants from PHAB-accredited states did not differ from participants in nonaccredited states in being knowledgeable about evidence-based public health processes, in having skills to modify EBIs from one population to another, and in ability to lead evidence-based public health in their work unit.

Discussion

The principal findings of this study indicate that PHAB-accredited SHDs are more likely than nonaccredited SHDs to have leadership that is more engaged with EBIs, including greater engagement with legislators and governors. The activities of PHAB-accredited

TABLE 2**Public Health Accreditation Board (PHAB) Accreditation Versus Individual, Organizational, External Factors and Misimplementation Variables**

Dependent Variable (Agree/Strongly Agree)	Respondents in 35 PHAB-Accredited SHDs ^a (N = 430), n (%) ^b	Respondents in 15 SHDs Not PHAB-Accredited ^a (N = 213), n (%) ^b	χ^2 , P
Individual-level skills			
I am knowledgeable about evidence-based public health processes.	412 (95.8)	203 (95.3)	$\chi^2_1 = 0.09$, P = .76
I have the skills I need to modify evidence-based interventions from one priority population to another.	325 (76)	159 (74.6)	$\chi^2_1 = 0.15$, P = .69
I have the ability to lead efforts in evidence-based public health in my work unit.	173 (40.2)	77 (36.2)	$\chi^2_1 = 0.99$, P = .32
I have the skills to manage program and policy change within my work unit.	167 (38.8)	78 (36.6)	$\chi^2_1 = 0.29$, P = .58
I have the skills to effectively communicate the value of evidence-based interventions to leaders in my agency.	172 (40)	79 (37.1)	$\chi^2_1 = 0.51$, P = .48
I have the skills to effectively communicate information on evidence-based interventions to decision makers outside my agency (such as community leaders, policy makers, elected officials, business leaders).	164 (38.1)	78 (36.6)	$\chi^2_1 = 0.14$, P = .71
Agency/organizational skills			
Does your work unit use the CDC Community Guide in its work? ^c	341 (79.3)	157 (73.7)	$\chi^2_2 = 2.68$, P = .26
In my agency, the number of layers of authority impedes decisions about program continuation or ending.	203 (49.4)	108 (53.5)	$\chi^2_1 = 0.89$, P = .34
My agency uses quality improvement processes such as LEAN, Plan-Do-Study-Act, etc.	296 (68.8)	120 (56.3)	$\chi^2_1 = 9.74$, P = .002 ^g
My work unit plans for sustainability of programs.	308 (71.6)	143 (67.1)	$\chi^2_1 = 1.37$, P = .24
My work unit includes economic evaluation in its decision making about programs.	185 (43)	83 (39)	$\chi^2_1 = 0.96$, P = .33
My work unit chooses evidence-based programs because it works in populations similar to those we serve.	343 (79.8)	161 (75.6)	$\chi^2_1 = 1.46$, P = .23
My work unit's leaders are competent at managing change.	287 (66.7)	133 (62.4)	$\chi^2_1 = 1.16$, P = .28
There are champions in my work unit who strongly support evidence-based programs.	354 (82.3)	177 (83.1)	$\chi^2_1 = 0.05$, P = .81
Leadership in my work unit has developed a plan to facilitate implementation of evidence-based interventions. ^d	247 (57.4)	99 (46.5)	$\chi^2_1 = 6.88$, P = .009 ^g
Leadership has removed obstacles to the implementation of evidence-based interventions. ^d	172 (40)	66 (31)	$\chi^2_1 = 4.96$, P = .03 ^g
Leadership recognizes and appreciates employee efforts toward successful implementation of evidence-based interventions. ^d	250 (58.1)	106 (49.8)	$\chi^2_1 = 4.04$, P = .04 ^g
Leadership encourages planning for sustainability of programs. ^d	251 (58.4)	110 (51.6)	$\chi^2_1 = 2.62$, P = .11
Leadership perseveres through the ups and downs of implementing evidence-based interventions. ^d	246 (57.2)	110 (51.6)	$\chi^2_1 = 1.79$, P = .18
Leadership supports employees' efforts to use evidence-based interventions. ^d	299 (69.5)	134 (62.9)	$\chi^2_1 = 2.84$, P = .09
Leadership reacts to critical issues regarding the implementation of evidence-based interventions by openly and effectively addressing the problem. ^d	211 (49.1)	79 (37.1)	$\chi^2_1 = 8.26$, P = .004 ^g
To what extent is your agency willing to make changes (eg, enhance workforce training, seek out new partners) to enable the use of evidence-based interventions? ^d	197 (45.8)	85 (39.9)	$\chi^2_1 = 2.02$, P = .16
External factors			
The activities of my work unit fit with the priorities of our state legislators.	188 (43.7)	66 (31)	$\chi^2_1 = 9.67$, P = .002 ^g
In this past legislative session, most of our state legislators were supportive of evidence-based interventions in public health.	130 (30.2)	41 (19.2)	$\chi^2_1 = 8.80$, P = .003 ^g

(continues)

TABLE 2
Public Health Accreditation Board (PHAB) Accreditation Versus Individual, Organizational, External Factors and Misimplementation Variables (Continued)

Dependent Variable (Agree/Strongly Agree)	Respondents in 35 PHAB-Accredited SHDs ^a (N = 430), n (%) ^b	Respondents in 15 SHDs Not PHAB-Accredited ^a (N = 213), n (%) ^b	χ^2 , P
The activities of my work unit fit with the priorities of the governor's office	238 (55.3)	77 (36.2)	$\chi^2_1 = 21.01$, P = .001 ^g
In the past year, the governor's office was supportive of evidence-based interventions in public health.	202 (47)	76 (35.7)	$\chi^2_1 = 7.41$, P = .007 ^g
It is important for my work unit to develop partnerships with both health and other work sectors to address our state's health issues.	400 (93)	194 (91.1)	$\chi^2_1 = 0.76$ P = .38
Misimplementation variables			
Ineffective programs overseen by the SHD end when they should have continued . ^e	213 (52.2)	124 (60.5)	$\chi^2_1 = 3.78$, P = .05
Ineffective programs overseen by the SHD continue when they should have ended . ^f	207 (51.4)	109 (54.2)	$\chi^2_1 = 0.44$, P = .51

Abbreviation: CDC, Centers for Disease Control and Prevention; PHAB, Public Health Accreditation Board; SHD, state health department.

^aAccredited by the Public Health Accreditation Board by July 2018 at the time of survey.

^bNumber and percentages of respondents who strongly agreed or agreed with statement from a 5-point Likert where 1 = strongly disagree and 5 = strongly agree.

^cResponse options were: 0—No; 1—Yes, Often; 2—yes, Sometimes; 3—I am not familiar with the community guide.

^dNumber and percentages of respondents who marked Great Extent or very Great Extent from a 5-point Likert scale where 1 = Not at all and 5 = Very Great Extent.

^eNumber and percentages of respondents who reported sometimes, often, or always when asked "How often do **effective** programs, overseen by your work unit, **end** when they should have **continued**?"

^fNumber and percentages of respondents who reported sometimes, often, or always when asked "How often do **ineffective** programs, overseen by your work unit, **continue** when they should have **ended**?"

^gP < .05.

SHDs were more likely to fit with the priorities of state legislators and governors, and state legislators and governors were more supportive of EBIs in public health in PHAB-accredited SHDs.

It is not possible, in this cross-sectional study, to determine the temporal pattern of these associations, whether, for example, more engagement with elected officials is an outcome of accreditation, or if accreditation is the outcome of greater engagement with policy makers. Since preparations for accreditation typically take at least 2 years' time, and commitment and resources for the processes, it is plausible that internal leadership engagement may precede accreditation. Our findings are also consistent with previous research on PHAB accreditation that staff from accredited SHDs were more likely to report the SHD engages in QI processes than those from nonaccredited SHDs. In addition, we found a borderline statistically significant difference in one aspect of misimplementation: respondents from PHAB-accredited SHDs were less likely than those from nonaccredited SHDs to report that ineffective programs overseen by the SHD ended when they should have continued.

What the findings of this study indicate, whatever the temporal pattern of association, is that the importance of accreditation moves beyond a focus on the internal functions of public health agencies—QI

and performance management—to an external focus, especially regarding policy-related impact. These external foci have been less visible in the accreditation-related literature but are slowly becoming more apparent, as noted previously: health departments that have achieved accreditation have involved more partners in the delivery of services,⁴ and accredited health departments have been shown to be more engaged with their governing boards of health.^{6,7} Accredited health departments have also been more likely to partner with tax-exempt hospitals in completing community health assessments.²¹ In addition, having achieved accreditation as an integrated public health system, the Florida Department of Health credits the accreditation process in improving Florida's response to the 2016 Zika outbreak, including developing and implementing integrated surveillance systems, integrating vector management, risk communication, and community engagement.²²

It has long been recognized that a core function of an effective SHD is consistent and meaningful engagement with the legislative branch of government.²³ The finding in this study of the association between accreditation and engagement with policy makers regarding EBIs can be expected because of the explicit inclusion of numerous policy-related domains, standards, and measures for accreditation. This is

particularly highlighted in the crosswalk between PHAB standards and the EBIs in the *Community Guide* as described by Mercer et al.²⁴ Domain 1—Conduct and Disseminate Assessments Focused on Population Health Status and Public Health Issues Facing the Community—requires health departments to show evidence of the use of data for informing health policy development. Domain 4—Engage With the Community to Identify and Address Health Problems—requires documentation showing the engagement with the governing entity, advisory boards, and/or elected officials about policies and/or strategies that will promote the public's health. Domain 5—Develop Public Health Policies and Plans—emphasizes that, “health departments should play a central and active role in the establishment of policies and practices, whenever governing entities, elected officials, governmental departments, and others set policies and practices that have public health implications.”^{25 (p125)} Required documentation for achieving measures in Domain 5 may include examples of health departments directly engaging with elected officials on setting policies with public health impact and considering evidence when setting state health-related funding priorities. Such documentation may include issue briefs, evidence of health department staff providing official department public testimony, and evaluations or assessments of current and/or proposed policies. Domain 6—Enforce Public Health Laws—requires health departments to review existing laws with governing entities and elected/appointed officials and to update such laws as needed. Domain 11—Maintain Administrative and Management Capacity—includes requirements for health departments to ensure “that policies, programs, services, materials, and processes intentionally address health disparities and health inequities [and] will enhance the health department's ability to impact the health of the population.”^{25 (p238)} And finally, Domain 12—Maintain Capacity to Engage the Public Health Governing Entity—explicitly focuses on the health department's support and engagement of its governing entity in maintaining and strengthening the public health infrastructure, and for some SHDs that governing entity is the governor. It is worth noting, vis-à-vis policy engagement, that the language of the PHAB standards is in the present tense, that is, fulfilling the standards is meant to be an ongoing, active process, not one that reflects only completion of an activity in the past. Since health departments document their continued fulfillment of the required standards to attain periodic reaccreditation, accredited health departments have opportunity,

encouragement, and reminders to continue to engage with policy makers.

The greater engagement with policy makers on EBIs may also be a function of leadership training, which is part and parcel of the accreditation process. The Association of State and Territorial Health Officials provides technical assistance and training to states for accreditation readiness and QI.²⁶ Their year-long Leadership Institute for new state and territorial health officials provides executive leadership training, and much of it is focused on engaging with governors and legislators.²⁷ In addition, the Association of State and Territorial Health Officials provides resources and support for states to promote evidence-based public health through adoption of the recommendations in the *Guide to Community Preventive Services* to form state health policy.²⁸ The National Association of Chronic Disease Directors also provides extensive leadership training for its members, including the Chronic Disease Academy²⁹ as well as support for trainings in evidence-based public health through the Prevention Research Center at Washington University in St Louis.³⁰

Limitations and strengths

There are several limitations to this study. First, the response rate (48.4%) was lower than that in some previous surveys, and we had no means for determining the extent to which nonresponders differed in important ways from responders. State Internet servers may have blocked e-mails, and we could not verify inaccurate contact information. Second, this was a cross-sectional study, and associations do not imply causality. The PHAB-accredited SHDs may become more engaged with policy makers over evidence-based public health as a function of the accreditation process; alternatively, states with more active engagement with policy makers may be more likely to become accredited. Third, although we conducted cognitive testing of the survey instrument, data were self-reported and could not be validated. Fourth, it is possible that there are other differences between accredited and nonaccredited health departments that might account for the differences in EBDM that we did not consider in our analysis. Characteristics such as size of the health department and organizational structure (eg, centralized vs decentralized), however, are more impactful at the level of local/county health departments rather than state level. Fifth, our survey was conducted among chronic disease staff and there is variation in related practices across program areas (chronic diseases, infectious diseases, environmental health) in previous research.³¹ Therefore, we cannot

Implications for Policy & Practice

- The primacy of policy change over individual change to impact the public's health is fundamental to public health practice in the 21st century.
- Fulfilling many of the PHAB domains, standards, and measures requires health departments to be engaged with policy makers, and thus PHAB accreditation processes, procedures, and outcomes can provide the platform for greater engagement with policy makers, especially regarding EBIs.
- The importance of accreditation moves beyond a focus on the internal functions of public health agencies—quality improvement and performance management—to an external focus, especially regarding policy-related impact.

be sure that the patterns noted would hold across a wide range of health department programs. We also note several strengths of this study. First, the National Association of Chronic Disease Directors members who were targeted for this study represent, as a group, the most knowledgeable public health practitioners regarding chronic disease prevention and control public health programs. Second, the study is the first to refine and further develop reliable and valid measures of misimplementation of public health programs. Third, responses came from all states, and respondents had no a priori knowledge of our interest in exploring the association between accreditation and misimplementation.

Conclusions

This study has several practical public health implications. The PHAB accreditation process and/or ongoing procedures and outcomes can provide the platform for greater engagement with policy makers. As noted previously, fulfilling many of the PHAB domains, standards, and measures requires health departments to be engaged with policy makers. The primacy of policy change over individual change to impact the public's health is fundamental to public health practice in the 21st century.

New and/or expanded types of trainings that focus on policy development, implementation, surveillance, and evaluation can both draw from expertise in SHDs and benefit public health practitioners and others. Involving others outside of SHDs in such trainings can be valuable as a means of strengthening partnerships that may already have been enhanced through the PHAB accreditation process.

Finally, to better understand the association between accreditation and engagement with policy

makers, we believe that this study is a further call for more research to understand policy makers' perspectives on accreditation. Have they experienced a shift in the level of engagement with public health practitioners as a result of accreditation, and if so, how has this stronger engagement manifested itself in the policy-making process? Capturing this information can be valuable to both accredited and nonaccredited health departments but particularly the latter if such information provides a further incentive to seek accreditation.

References

1. Public Health Accreditation Board. Who is accredited? <https://phaboard.org/who-is-accredited/>. Published 2019. Accessed December 24, 2019.
2. Kronstadt J, Bender K, Beitsch L. The impact of Public Health Department Accreditation: 10 years of lessons learned. *J Public Health Manag Pract.* 2018;24:S1-S2.
3. Siegfried A, Heffernan M, Kennedy M, Meit M. Quality improvement and performance management benefits of public health accreditation: national evaluation findings. *J Public Health Manag Pract.* 2018;24(suppl 3):S3-S9.
4. Ingram RC, Mays GP, Kussainov N. Changes in local public health system performance before and after attainment of national accreditation standards. *J Public Health Manag Pract.* 2018;24(suppl 3):S25-S34.
5. Ye J, Verma P, Leep C, Kronstadt J. Public health employees' perception of workplace environment and job satisfaction: the role of local health departments' engagement in accreditation. *J Public Health Manag Pract.* 2018;24(suppl 3):S72-S79.
6. Nicolaus T. Perspectives on the impact of accreditation on the work of governing boards. *J Public Health Manag Pract.* 2018;24(suppl 3):S89-S91.
7. Shah GH, Corso L, Sotnikov S, Leep CJ. Impact of local boards of health on local health department accreditation, community health assessment, community health improvement planning, and strategic planning. *J Public Health Manag Pract.* 2019;25(5):423-430.
8. Brownson RC, Fielding JE, Maylahn CM. Evidence-based public health: a fundamental concept for public health practice. *Annu Rev Public Health.* 2009;30(1):175-201.
9. Erwin PC, Parks RG, Mazzucca S, et al. Evidence-based public health provided through local health departments: importance of academic-practice partnerships. *Am J Public Health.* 2019;109(5):739-747.
10. Jacob RR, Duggan K, Allen P, et al. Preparing public health professionals to make evidence-based decisions: a comparison of training delivery methods in the United States. *Front Public Health.* 2018;6:257.
11. Brownson RC, Allen P, Duggan K, Stamatakis KA, Erwin PC. Fostering more-effective public health by identifying administrative evidence-based practices: a review of the literature. *Am J Prev Med.* 2012;43(3):309-319.
12. Yeager VA, Balio CP, Kronstadt J, Beitsch LM. The relationship between health department accreditation and workforce satisfaction, retention, and training needs. *J Public Health Manag Pract.* 2019;25(suppl 2), Public Health Workforce Interests and Needs Survey 2017(2 Suppl):S113-S123.
13. Allen P, Mazzucca S, Parks RG, Robinson M, Tabak RG, Brownson R. Local health department accreditation is associated with organizational supports for evidence-based decision making. *Front Public Health.* 2019;7:374.
14. Community Preventive Services Task Force. The guide to community preventive services. <http://www.thecommunityguide.org/index.html>. Published 2005. Accessed April 26, 2016.
15. Padek M, Allen P, Erwin PC, et al. Toward optimal implementation of cancer prevention and control programs in public health: a study protocol on mis-implementation. *Implement Sci.* 2018;13(1):49-49.

16. Brownson RC, Allen P, Jacob RR, et al. Understanding mis-implementation in public health practice. *Am J Prev Med.* 2015;48(5):543-551.
17. Padek, M, Allen P, Luke D, Tsai E, Weno Rodriguez E, Brownson R. Predictors of mis-implementation of chronic disease control programs in state health departments. In progress.
18. Qualtrics. Qualtrics: survey research suite. <http://www.qualtrics.com/>. Published 2017. Accessed March 6, 2017.
19. Centers for Disease Control and Prevention. FY2018 grant funding profiles. CDC. <http://www.cdc.gov/fundingprofiles/>. Published 2019. Accessed September 10, 2018.
20. Association of State and Territorial Health Officials. *ASTHO Profile of State Public Health*. Arlington, VA: Association of State and Territorial Health Officials; 2017.
21. Singh SR, Carlton EL. Exploring the link between completion of accreditation prerequisites and local health departments' decision to collaborate with tax-exempt hospitals around the community health assessment. *J Public Health Manag Pract.* 2017;23(2):138-147.
22. Philip C, Wells KT, Eggert R, et al. Accreditation's role in bolstering resilience in the face of the Zika virus outbreak. *J Public Health Manag Pract.* 2018;24(suppl 3):S92-S94.
23. Williams-Crowe SM, Aultman TV. State health agencies and the legislative policy process. *Public Health Rep.* 1994;109(3):361.
24. Mercer SL, Banks SM, Verma P, Fisher JS, Corso LC, Carlson V. Guiding the way to public health improvement: exploring the connections between the community guide's evidence-based interventions and health department accreditation standards. *J Public Health Manag Pract.* 2014;20(1):104-110.
25. Public Health Accreditation Board. Standards and measures, version 1.5. http://www.phaboard.org/wp-content/uploads/PHAB-Guide-to-National-Public-Health-Department-Accreditation-Version-1_0.pdf. Published 2014. Accessed April 15, 2014.
26. Association of State and Territorial Health Officials. Accreditation readiness and performance improvement technical assistance to states. <https://www.astho.org/Accreditation-and-Performance/Accreditation-Readiness-and-Performance-Improvement-Technical-Assistance-to-States/>. Published 2019. Accessed December 8, 2019.
27. Association of State and Territorial Health Officials. The ASTHO leadership institute <https://www.astho.org/Member-Services/ASTHO-Leadership-Institute/>. Published 2019. Accessed December 8, 2019.
28. Association of State and Territorial Health Officials. Evidence-based public health. <https://www.astho.org/Programs/Evidence-Based-Public-Health/>. Published 2019. Accessed December 8, 2019.
29. National Association of Chronic Disease Directors. Learning center. <https://www.chronicdisease.org/page/Learningcenter>. Published 2019. Accessed December 8, 2019.
30. Prevention Research Center in St Louis. Evidence-based public health training. <https://prcstl.wustl.edu/items/evidence-based-public-health-training/>. Published 2019. Accessed December 8, 2019.
31. Erwin PC, Harris JK, Smith C, Leep CJ, Duggan K, Brownson RC. Evidence-based public health practice among program managers in local public health departments. *J Public Health Manag Pract.* 2014;20(5):472-480.