Describing Local Boards of Health: Insights from the 2008 National Association of Local Boards of Health Survey

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ABSTRACT

Objectives. We examined findings from the 2008 National Association of Local Boards of Health Survey to provide information about this understudied entity to the public health community.

Methods. The survey instrument consisted of 196 items covering five parts: (1) demographics; (2) composition and organizational structure; (3) roles, responsibilities, and authorities; (4) telecommunications infrastructure; and (5) concerns and needs. The survey was sent to chairs of local boards of health (LBHs) in 2008 ($n=3,276$). After six months of follow-ups and reminders, and a month of data cleaning and screening, the final sample consisted of 870 respondents, for a return rate of 27%.

Results. LBHs tend to represent smaller communities and are primarily appointed. Governing and policy-making boards are more prevalent than advisory boards. Most boards do not have official websites or e-mail addresses of board members available to the public; however, most report the capability to receive training via webcasts. Boards express concerns and needs in a variety of areas, particularly public health law, strategic planning, and accreditation.

Conclusions. Little is known about the more than 3,000 LBHs across the United States that are often charged with making and enforcing public health law. This article is a first step toward providing the public health community with information about LBHs based on survey data.

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A growing field of research, sometimes described as a “sister” discipline to health services research, examines public health systems. Public health services and systems research is defined as a “field of study that examines the organization, financing, and delivery of public health services within communities, and the impact of these services on public health.”¹ As a relatively new field of inquiry, part of the challenge is developing and disseminating data on public health systems to inform the public health research, practice, and policy community. Toward this end, this article addresses several questions about an understudied public health entity, local boards of health (LBHs), which are the cornerstone of the public health system in many communities.

Broadly, the mission of LBHs is to protect and promote the health of the community. LBHs were first and last surveyed in 1997 by the National Association of Local Boards of Health (NALBOH).² Since that time, the public health system has experienced multiple shocks (e.g., natural disasters, rising obesity rates, increased attention paid to the dangers of smoking, and heightened attention given to the threat of terrorism). In addition, while accreditation of local health departments is just around the corner today, it was not even an issue in 1997. Hence, given the key role LBHs often play in determining local response to the public health climate, it is important to understand their role in the public health system.

First, how are LBHs organized, who serves on them, and whom do they serve? Second, how do LBHs exercise their statutory authority? Third, what are the telecommunications capabilities of LBHs? Fourth, what concerns and needs do LBHs report with accreditation on the horizon? In this article, we answer these questions using results from a 2008 survey of LBHs, the first such survey conducted since 1997.³

SUMMARY OF RESULTS FROM THE 1997 SURVEY

The 1997 survey of LBHs was a census of all identified boards of health ($n=3,186$), with a response rate of 44%. More than half of the respondents (57%) served jurisdictions with populations <25,000. About half of the respondents (51%) performed a combination of advisory, governing, and policy-making functions. Twenty-four percent of respondents stated they had the capability to receive training or information transmitted by satellite. A slightly larger percentage (41%) of respondents indicated they communicated via e-mail. Almost three-quarters of respondents (71%) stated

board members were appointed only, 20% indicated members were elected only, and 9% stated members were both elected and appointed. Finally, the top five needs for training, information, or technical assistance identified by respondents were (1) establishing community health priorities (76%), (2) state/local health reform activities (75%), (3) community health assessment (75%), (4) managed care and public health (75%), and (5) identifying funding sources (71%).

THE ORGANIZATION AND COMPOSITION OF LBHs

We examined three aspects of the organizational structure of LBHs: (1) how boards are populated, (2) term length and limit of board members, and (3) size of the board. The size of an LBH is typically set by statute. Governance research on both corporate and non-corporate boards suggests that the optimal number of board members is between nine and 17 members. Smaller boards are potentially capable of making decisions more quickly, but likely less representative of the community. Larger boards may be more representative, but efficient and effective governance is difficult to achieve.⁴ Little research exists on LBHs; thus, we relied on research on similar types of boards (e.g., nonprofit hospital boards) to assess the possible effects of board size on governance outcomes.

Term limit advocates suggest that the pursuant increase in electoral competition will result in increased diversity, new ideas, and more focus on policy-making.^{5,6} Extensive research on state legislatures with term limits documents numerous negative effects, such as decreased responsiveness to citizens, the steep learning curve of new members, loss of institutional memory, more reliance on staff, and increased executive power.^{7,8} Similar arguments are made regarding boards.^{4,9}

In both the corporate and nonprofit worlds, boards are typically appointed and a central concern is accountability. Elected officials are accountable to the public when they face reelection and, theoretically, this helps ensure elected decision makers fulfill the will of the people. If LBH members are primarily appointed, how are they held accountable? An additional concern might be the extent to which LBHs are representative of the community. Most states require boards to be composed of particular individuals, such as doctors, dentists, veterinarians, and community members. Such statutes ensure facets of the professional community familiar with the health needs of the community are represented. State statutes are silent regarding race/ethnicity and gender representation on LBHs.

Exercising statutory authority

As previously noted, most states have statutes specifying composition of board members by profession as well as the board's statutory authority. We were most interested in how boards perceive their authority and subsequently exercise their perceived statutory authority. In a review of state statutes on LBHs, Hiller found that many boards appear to be unaware of their powers and responsibilities under the law.¹⁰ We explored three areas of statutory authority: (1) the type of perceived statutory authority possessed by the LBH (advisory, governing, or policy-making), (2) the activities performed by the board, and (3) the capacity to make and implement policy. We theorized that boards reporting governing and/or policy-making authority would engage in more activities and report a heightened ability to make and implement policy compared with those reporting advisory powers.

Telecommunications capabilities

We examined three aspects of the telecommunications capabilities of LBHs: website presence, e-mail capabilities, and the ability to receive training via webcasts. Boards comprise members of the community who come together periodically to make important decisions that impact the health of the community. Based on state statutes specifying representation of particular professions and the volunteer status of the board members, a reasonable assumption is that if members have Internet and e-mail capabilities, it is likely outside of their role on the LBH. The primary consideration, therefore, is accessibility to the public. A website can provide easy access to public health information to the community, and published e-mail contacts on the website facilitate communication with the public.

The telecommunications capabilities of smaller rural communities compared with larger urban communities is well-documented.¹¹ If a substantial proportion of the community the LBH serves does not have Internet access, what degree of importance should be placed on an online presence? In marked contrast, we assert that the ability to receive training via webcast is critical to all boards of health. Increasingly, organizations at the state and national level are turning to webcasts for training, information sharing, and meetings. LBHs without webcast capabilities will potentially miss out on important opportunities to improve the health of their community.

Preparing for accreditation

Understanding the concerns and needs of LBHs across a variety of issue areas will provide important information concerning how prepared they are to assist local

health departments in their quest for accreditation. We examined the extent to which the needs of LBHs are universal, thus signaling common concerns across the boards, and the extent to which needs are related to geographic size. For example, boards serving smaller rural communities may have different training, information, or technical assistance needs than boards serving larger urban areas.

METHODS

NALBOH received a grant from the Robert Wood Johnson Foundation in 2007 to build an ongoing data collection and analysis program for boards of health. The Local Board of Health National Profile is the first phase of the program. From September 2007 to March 2008, the survey instrument was designed and developed by NALBOH staff and a consultant, based in part on the 1997 survey instrument,² with monthly input from a Profile Working Group.

The Profile Working Group comprised public health professionals representing national organizations who had expertise and experience with conducting national surveys and applying principles of survey design and construction. The aim of NALBOH was to obtain data on the characteristics of LBHs throughout the nation.

The survey instrument consisted of 196 items covering five parts: (1) demographics; (2) composition and organizational structure; (3) roles, responsibilities, and authorities; (4) telecommunications infrastructure; and (5) concerns and needs. It was mailed with a cover letter and stamped, self-addressed envelope to all chairs of LBHs in April 2008 ($n=3,276$). After six months of follow-ups and reminders (using phone calls, e-mail, the NALBOH website, and the *NALBOH Newsbrief*) and a month of data cleaning and screening, the final sample consisted of 870 respondents, for a return rate of 27%. The 10 states with State Associations of Local Boards of Health had a return rate of 30%. For the final sample, 48% of respondents were NALBOH members and 52% were non-members. We performed Chi-square analyses on a variety of variables from the survey and conducted t-tests to compare respondents with nonrespondents across several variables. In addition, we present descriptive data analysis.

Identifying the population of LBHs proved challenging, in part because there is no commonly agreed-upon definition of an LBH. The Director of Membership and Affiliate Relations at NALBOH documented and validated the names of chairs and addresses of all local LBHs in the country so that an accurate mailing list could be compiled. The intent was to conduct a

complete census of the population of LBHs rather than draw a random sample from the population.

RESULTS

Comparing survey respondents with nonrespondents

The most striking difference between respondents and nonrespondents was the response rate for boards that are NALBOH members compared with nonmembers. Of current-year members at the time of the survey, 61% responded to the survey compared with only 18% of nonmembers.

In terms of demographic variables, there was a statistically significant difference between respondents and nonrespondents regarding jurisdiction population size and population density. Mean poverty levels between responding and nonresponding boards of health were not statistically different (Table 1). Among survey respondents, 45% represented boards of health located in rural jurisdictions, while 55% represented LBHs in urban jurisdictions, defined by the U.S. Census as a population of $\geq 50,000$ people. Among nonresponding boards of health, 64% were located in urban jurisdictions (data not shown).

Figures 1 and 2 depict response rates by state and region. The mid-Atlantic region had the lowest response rate (18%) and the second-most jurisdictions ($n=629$). The West, on the other hand, had the fewest jurisdictions ($n=166$) and the highest response rate (41%). There did not appear to be any obvious pattern to response rates by state, although significant portions of the U.S. population in some heavily populated states (e.g., Texas and Florida) were underrepresented.

Organization and composition of LBHs

The median jurisdiction population of survey respondents was 28,000. Twenty-five percent of respondents had a jurisdiction population $<11,501$ and 75% of respondents had a jurisdiction population $<70,401$ (data not shown). A few survey respondents with very large population jurisdictions were represented, with the highest being 1,800,000. Survey respondents

overwhelmingly represented communities comprising non-Hispanic white individuals (about 87%) (data not shown).

Among survey respondents, members of LBHs were, on average, 61% male and 92% white. Most board members (68%) were between the ages of 46 and 69 years. The median size of responding LBHs was six members, with a median term length of three years. Together, 75% of the boards met monthly (51%) or quarterly (24%). As shown in Table 2, a large majority (85%) of respondents reported that members of boards of health serve unlimited terms. A Chi-square analysis of jurisdiction size and term limits revealed a statistically significant relationship between the two variables. As jurisdiction size increased, the percentage of LBHs with unlimited terms decreased. Importantly, however, the percentage was still quite high (76%) for the largest jurisdictions (Table 2).

Given the large representation of non-Hispanic white board members, we compared white and non-white LBH members. The results strikingly supported the hypothesis that term limits increased diversity. Boards reporting one- to two-term limits comprised 22% nonwhite members. Boards reporting three- to four-term limits comprised 12% nonwhite members. Boards with unlimited terms comprised 7% nonwhite members. The relationship between race/ethnicity of board members and term limits was statistically significant at $p=0.001$ (data not shown).

Finally, we examined how boards were populated. Board members may be appointed, elected, elected officials designated by statute to serve (e.g., mayor), and nonelected officials designated by statute to serve (e.g., school superintendent). The majority of responding board members were appointed (60%) or were elected officials designated by statute to serve (19%). Many respondents indicated that more than one method of populating a board applied (data not shown).

Exercising statutory authority

Survey respondents reported statutory authority in the categories of (1) advisory (those reporting to a

Table 1. T-test analysis of respondents and nonrespondents to the 2008 National Association of Local Boards of Health National Profile survey, by population, density, and poverty

Characteristic	Nonrespondents (mean)	Respondents (mean)	P-value
Population, 2006	263,242	225,504	0.01
Population density, 2006 (people per square mile)	643	447	0.001
Poverty, 2004	11.27	11.49	0.25

Source: Census Bureau (US). County and city data book: 2007 [cited 2010 Dec 6]. Available from: URL: <http://www.census.gov/prod/www/abs/cdb07.html>

Figure 1. Percentage of local boards of health that responded to the 2008 National Association of Local Boards of Health National Profile survey, by state

Source: Data obtained from the 2008 Local Boards of Health National Profile. Map produced by Jay Swacker, University of Kentucky.

health officer, county, city, or township commission who then act on that information to establish policies, programs, and budgets for public health operations); (2) governing (those who establish local ordinances and regulations, approve health department budgets and expenditures, establish fees for services, issue permits and licenses, and hire and fire the chief executive or health officer); or (3) policy-making (those who are given their authority by local governing units to set policies, goals, and priorities that guide a public health agency). A little more than half (55%) of respondents perceived singular statutory authority (either advisory or governing or policy-making), while the rest perceived a mixture of statutory authority. Of those listing singular authority, 65% reported governing only, 24% advisory only, and 11% policy-making only (Figure 3a). The 45% of boards that perceived a mixture of statutory authority were primarily governing and policy-making (53%), or advisory, governing, and policy-making (36%) (Figure 3b).

Respondents were asked to provide information across a wide range of functions and activities. Due to space limitations, we present results from only a few categories.

Community health assessment. A community health assessment ensures that the LBH and health department are aware of the needs of the community and the progress being made on various initiatives. Only 61% of survey respondents reported that they either conducted or ensured completion of a community health assessment. Separate Chi-square analyses examining the relationship between statutory authority and conducting a community health assessment ($p=0.06$) and ensuring completion of an assessment ($p=0.14$) failed to achieve traditional levels of statistical significance. A slightly larger percentage of responding advisory boards (43%) conduct a community health assessment compared with governing/policy-making boards (37%), whereas a slightly larger percentage of responding governing/policy-making boards (60%) ensure completion of a community health assessment compared with advisory boards (55%) (data not shown).

Public health regulations. Public health regulations take many forms, including regulation of solid waste, smoking restrictions, and environmental hazards. In some cases, public health regulations may represent politically risky decisions to elected officials. Hence,

Figure 2. Percentage of local boards of health that responded to the 2008 National Association of Local Boards of Health National Profile survey, by region

Source: Data obtained from the 2008 Local Boards of Health National Profile. Map produced by Jay Swacker, University of Kentucky.

the ability to adopt rather than merely propose public health regulations represents a significant power of the board of health. A majority of respondents (68%) reported power to both propose and adopt public health regulations. Holding all other variables constant, a Chi-square analysis showed a statistically significant relationship between statutory authority and the power to adopt public health regulations ($p < 0.001$) (Table 3).

Fees, taxes, fines, and penalties. Almost three-quarters of respondents (74%) reported the power to impose fees, few reported the power to impose taxes (15%), and almost half (48%) reported the power to impose fines and penalties. The results in Table 4 show a highly statistically significant relationship between statutory authority and the power to impose fees, taxes, fines, and penalties.

Table 2. Chi-square analysis of jurisdiction size of local boards of health and term limits of respondents to the 2008 National Association of Local Boards of Health National Profile survey

Term limits	Jurisdiction size ^a				Total N (percent) ^b
	≤11,500 N (percent) ^b	11,501–28,000 N (percent) ^b	28,001–70,400 N (percent) ^b	≥70,401 N (percent) ^b	
1–2 terms	4 (2)	11 (6)	7 (4)	37 (14)	59 (7)
3–4 terms	2 (1)	11 (6)	23 (13)	23 (9)	59 (7)
5–6 terms	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
7–8 terms	0 (0)	0 (0)	1 (<1)	1 (<1)	2 (<1)
Unlimited	171 (97)	160 (88)	152 (83)	195 (76)	678 (85)
Total	177 (100)	182 (100)	183 (100)	256 (100)	798 (100)

^aJurisdiction size is separated into four categories based on 25th, 50th, and 75th percentiles.

^b $p < 0.001$. Column percentages presented in parentheses.

Figure 3a. Percentage of respondents to the 2008 National Association of Local Boards of Health National Profile survey who perceived their local board of health as having singular statutory authority, by category^a

^aA total of 456 (55%) respondents perceived singular authority.

Control of health agencies. Most survey respondents reported substantial control over the public health department. For example, 84% of respondents were responsible for recommending and/or approving the agency budget. Similarly, 85% of boards that responded recommend and/or establish the priorities of the health department. A large majority (80%) reported the power to recommend and/or directly hire and fire the director of the health department (data not shown).

Other areas of responsibility. Survey respondents reported either individual or joint responsibility for emergency preparedness (86%), environmental health (84%), and clinic services (72%). In marked contrast, respondents reported lower levels of individual or joint responsibility in the following areas: mental health (21%), minority health (38%), and oral health (41%) (data not shown).

Figure 3b. Percentage of respondents to the 2008 National Association of Local Boards of Health National Profile survey who perceived their local board of health as having mixed statutory authority, by category^a

^aA total of 373 (45%) respondents perceived mixed authority.

Finally, we assessed the capacity of LBHs to develop and implement policy. Nearly 70% of respondents indicated that their capacity to develop and implement policy has stayed the same during the past three years. Sixteen percent reported an increase in policy capacity, 5% reported a decrease in policy capacity, and 10% were unable to assess policy capacity. A decrease in policy capacity was almost exclusively due to decreases in funding (data not shown).

Telecommunications capabilities

More than 75% of responding boards do not have an official website. Of those boards with an official website, 87% do not list members' e-mail addresses on the website. More than half (64%) of boards reporting no official website indicated they are part of some

Table 3. Chi-square analysis of respondents to the 2008 National Association of Local Boards of Health National Profile survey of authority to adopt public health regulations and statutory authority

Answer	Advisory N (percent) ^a	Governing/ policy-making N (percent) ^a	Total N (percent) ^a
Yes, board has power to adopt public health regulations	206 (73)	478 (89)	684 (84)
No, board does not have power to adopt public health regulations	75 (27)	57 (11)	132 (16)
Total	281 (100)	535 (100)	816 (100)

^a $p < 0.001$. Column percentages in parentheses.

Table 4. Chi-square analysis of respondents to the 2008 National Association of Local Boards of Health National Profile survey of statutory authority and power to impose fees, taxes, fines, and penalties

Answer	Advisory N (percent) ^a	Governing/policy-making N (percent) ^a	Total N (percent) ^a
Fees			
Yes	166 (60)	433 (81)	599 (74)
No	110 (40)	101 (19)	211 (26)
Total	276 (100)	534 (100)	810 (100)
Taxes			
Yes	14 (5)	106 (20)	120 (15)
No	261 (95)	416 (80)	677 (85)
Total	275 (100)	416 (100)	797 (100)
Fines and penalties			
Yes	82 (30)	303 (58)	385 (48)
No	193 (70)	219 (42)	412 (52)
Total	275 (100)	522 (100)	797 (100)

^a $p < 0.001$. Column percentages in parentheses.

other website. While this online presence does give boards visibility, very few (9%) of those boards list e-mail addresses of members on the site. In marked contrast to Web presence, almost 70% of respondents had the capability to receive training via webcasts. As expected, 83% of board members had Internet access and e-mail separate from their role on the LBH (data not shown).

Preparing for accreditation

The final section of the survey asked respondents to indicate if they had no need, some need, or a lot of need for training, information, or technical assistance in a variety of areas. Almost three-quarters (72%) of respondents indicated they had some or a lot of need for assistance in public health law. More than 60% of respondents indicated six additional areas requiring some or a lot of need for assistance: creating a strategic plan (67%), establishing community health priorities (66%), orienting board members (65%), voluntary board of health certification (63%), agency accreditation (62%), and conducting a community health assessment (62%) (data not shown).

We hypothesized that LBHs representing smaller jurisdictions would have different needs preparing for accreditation than boards representing larger jurisdictions. A Chi-square analysis of the top seven areas in which board respondents expressed some or a lot of need for training, information, or technical assistance revealed there was not a statistically significant relationship between jurisdiction size and need, with one important exception. There was a statistically significant relationship ($p=0.007$) between jurisdiction size and the need for assistance preparing for agency accredita-

tion, with a higher percentage of LBHs representing the largest jurisdiction size indicating need for help than those representing the smallest jurisdiction size (Table 5).

DISCUSSION

Local boards of health are an understudied component of the public health system. This study represents a first step toward better understanding LBHs. Our findings show that advisory boards do not simply advise, but they do exercise less authority than governing or policy-making boards. Advocates of strong boards of health may use this information to lobby for changes in state statutes dictating the powers and duties of LBHs. We focus on a few key findings and suggest future avenues of study on boards of health.

First, an overwhelming majority of respondents reported LBH members were white. We found a statistically significant relationship between term limits and diversity, suggesting that term limits are potentially a viable way to increase diversity and, theoretically, provide an influx of new ideas and perspectives. However, given the small jurisdiction size of many LBHs, combined with statutory requirements for professional representation on the boards, it may be unrealistic to impose term limits on some boards.

Second, a surprisingly low percentage of respondents either conducted or ensured completion of a community health assessment. Future studies may focus on how boards of health and health departments make decisions regarding investing resources without the guidance of a community health assessment. Unsurprisingly, perhaps, 62% of respondents indicated the need

for training, information, or technical assistance with conducting a community health assessment.

Third, few respondents reported having the power to impose taxes, three-quarters reported having the power to impose fees, and almost half reported having the power to impose fines and penalties. Are these powers being exercised? And, if so, is there a measurable effect on community health? Future studies of LBHs could examine the extent to which they exercise their statutory power to raise funds to improve public health.

Fourth, although a large percentage of LBH respondents reported the ability to receive training via webcast, LBHs were markedly unavailable to the public in terms of a freestanding website or board members' e-mail addresses. The lack of an online presence and accessibility to the public presents a potentially serious concern not only in a time of crisis, such as the recent H1N1 outbreak, but for day-to-day communication.

Fifth, in terms of need for training, information, or technical assistance expressed by local board respondents, help with public health law concerns ranked first at 72%. Strategic planning; community health priorities and assessment; and orientation, certification, and accreditation were the other prominent areas of concern. These responses indicated that board of health respondents are concerned with staffing boards and agencies with individuals competent to make informed decisions based on evidence and to work within the framework of the law.

CONCLUSIONS

As discussed previously, the response rate for this survey was quite low. Future research efforts will be greatly aided by the Data Harmonization Project involving NALBOH, the National Association of County and City Health Officials (NACCHO), and the Association of State and Territorial Health Officials (ASTHO). In the past, each association has surveyed state and territorial health departments (ASTHO), local health departments (NACCHO), and local boards of health (NALBOH) using different survey instruments and often in different years, resulting in fragmented data. The three associations' surveys provide the primary data on public health agencies, and the differing methods and methodologies employed to gather these data previously have hampered efforts to link the surveys.

Harmonizing three surveys designed for different types of agencies and reaching thousands of constituent agencies pose challenges, but the payoff in terms of improved research possibilities from the final integrated dataset promises great rewards. By 2012, data on state health initiatives, local board governance issues, and local health department services should be available by jurisdiction. The Robert Wood Johnson Foundation plans on providing it free to the public through its archiving agreement with the University of Michigan's Inter-University Consortium for Political and Social Research.

Table 5. Chi-square analysis of jurisdiction size of local boards of health and need for training, information, or technical assistance of respondents to the 2008 National Association of Local Boards of Health National Profile survey

Level of need	Jurisdiction size ^a				Total N (percent) ^b
	≤11,500 N (percent) ^b	11,501–28,000 N (percent) ^b	28,001–70,400 N (percent) ^b	≥70,401 N (percent) ^b	
Board orientation					
No need	68 (39)	61 (33)	55 (31)	92 (37)	276 (35)
Some/lot of need	107 (61)	126 (67)	122 (69)	155 (63)	510 (65)
Total	175 (100)	187 (100)	177 (100)	247 (100)	786 (100)
Board certification					
No need	70 (41)	62 (35)	62 (36)	90 (38)	284 (37)
Some/lot of need	101 (59)	115 (65)	111 (64)	148 (62)	475 (63)
Total	171 (100)	177 (100)	173 (100)	238 (100)	759 (100)
Agency accreditation					
No need ^b	86 (49)	67 (37)	63 (35)	84 (33)	300 (38)
Some/lot of need ^b	89 (51)	116 (63)	115 (65)	168 (67)	488 (62)
Total	175 (100)	183 (100)	178 (100)	252 (100)	788 (100)

^aJurisdiction size is separated into four categories based on 25th, 50th, and 75th percentiles.

^bChi-square results show a statistically significant relationship between need for assistance with agency accreditation and jurisdiction size ($p=0.007$). Column percentages in parentheses.

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