2015 Local Board of Health Survey
Technical Documentation

Purpose

The National Association of County and City Health Officials' (NACCHO's) Local Board of Health Survey was designed to determine how the governance boards are defining and applying the Six Functions of Public Health Governance. The information collected from the survey helps to establish the link between governance characteristics and effectiveness of the local public health system.

Identifying Denominator

NACCHO took several steps to identify LHDs with local boards of health to create a denominator for the survey. First, data on presence or absence of a local board of health from Profile surveys of 2005, 2008, 2010 and 2013 were merged to allow analysis of responses over time. Several indicators were examined to determine the initial status of LHDs, including number of times responded to the question on local boards of health, number of times respondents said yes, and the consistency of responses (e.g., all yes, all no). In cases where responses were not consistent over time, state champions were contacted to clarify information on local boards of health of LHDs in their states or additional information (e.g., from LHD websites) was reviewed to determine whether the LHD had a local board of health. The verified list of LHDs were considered the study population from which sample was drawn.

To ensure that only LHDs with local boards of health completed the survey, NACCHO added a screening question at the beginning of the questionnaire, so respondents who selected "no" would exit the survey. Those LHDs were further evaluated on their status regarding local boards of health. Based on the review, two LHDs were deemed as having no boards of health and were removed from the denominator, with 2048 LHDs in the final denominator. Table 1 presents the total number of LHDs and the total number of LHDs with local boards of health in each state. DC and eight states (AR, DE, FL, LA, MS, SC, VA, and VT) do not have any LHDs with boards of health. In nineteen states, all LHDs have boards of health. All other states have some LHDs with boards of health.

Table 1. Total Number of LHDs and LHDs with LBoH by State

State	Total # LHDs	Total # LHDs with LBoH
AK	3	2
AL	67	28
AR	75	0
AZ	15	10
CA	61	8
CO	53	53
CT	74	37
DC	1	0
DE	2	0
FL	67	0
GA	159	159
IA	101	101
ID	7	7
IL	96	96
IN	93	93
KS	100	100
KY	57	57
LA	10	0
MA	329	329
MD	24	22
ME	10	1
MI	45	30
MN	70	70
MO	115	94
MS	9	0
MT	49	49
NC	85	22
ND	28	28
NE	20	20
NH	4	2
NJ	97	84
NM	6	1
NV	4	3
NY	58	28
OH	124	120
OK	70	70
OR	34	34
PA	16	10

SC	4	0
SD	8	1
TN	95	69
TX	64	19
UT	12	12
VA	35	0
VT	12	0
WA	35	35
WI	88	88
WV	49	49
WY	23	7
Total	**2663**	**2048**

Sampling

NACCHO used a stratified random sampling design for the 2015 Local Board of Health Survey. A representative sample was used instead of a complete census design to minimize survey burden on LHDs while enabling the calculation of national-level estimates.

LHDs with one or more local boards of health were stratified by two variables: size of the population served and state. For stratification by size of population served, three categories were used: small (less than 50,000 people served), medium (50,000–499,999 people served), and large (more than 500,000 people served). Because LHDs with large population sizes represent a relatively small portion of all LHDs, these LHDs were oversampled to ensure a sufficient number of responses for the analysis. The sampling plan for all LHDs (except for GA LHDs) was designed to select a minimum of 15% of the LHDs in a given stratum and at least two LHDs per stratum whenever possible. Table 2 presents the percentage of LHDs (excluding GA LHDs) included in the sample according to the total number of LHDs in a state.

Table 2. Percentage of LHDs Selected Based on the Total Number of LHDs with One or More Local Boards of Health in a State

Total Number of LHDs with BoH in a State	Percent sampled
1 - 13	100%
14 - 19	60%
20 - 44	40%
45-99	33%
100-299	25%
300+	15%

GA LHD sample was selected using a different approach because of their unique situation. We decided to use county-level LHDs as the unit of analysis, but the surveys were still sent to district

health officials, who responded to the questions for the selected counties within their districts. In order to keep the burden to the minimum, no more than 3 county-level LHDs were selected from each district. The sample was also stratified by the size of population.

Once the sampling plan was finalized, NACCHO drew a random sample of the specified size from within each stratum. Overall, a sample of 685 LHDs was selected.

Questionnaire Development

NACCHO first reviewed the 2011 Profile surveys conducted by the National Association of Local Boards of Health (NALBOH) to identify important topics. Questions were developed to measure different aspects of governance function, including policy development, resource stewardship, legal authority, partner engagement, continuous improvement, and oversight. Subject matter experts reviewed new questions for face validity. Cognitive interviews were conducted with 10 LHD leaders in December 2014 and January 2015 to determine whether questions were interpreted as intended and whether questions were interpreted consistently across LHDs. Some revisions were made based the responses and feedback of the interview participants. The instrument was then piloted in April 2015 with 20 LHDs; 8 pilot LHDs completed the questionnaire.

NACCHO administered the questionnaire using Qualtrics (http://www.qualtrics.com), an online survey administration tool. The survey link was sent via Qualtrics on July 14, 2015. After the initial invitation, the potential participants received up to five reminder e-mails. In addition, NACCHO made reminder calls to LHDs that had yet to complete the survey, targeting states with low response rates. Some state associations of county and city health officials and state health departments assisted by encouraging their LHDs to take part in the survey.

The survey was closed on Sept. 10, 2015, with 394 responses, including the 8 pilot responses, for a response rate of 58%. Data were downloaded from Qualtrics in Excel format and converted into Stata Version 13 for cleaning and analysis.

Table 3. Response Rates by Size of Population Served

Size of Population Served	Total Number of LHDs in Sample	Number of Respondents	Response Rate
<50,000	394	216	55%
50,000– 499,999	237	145	61%
500,000+	54	33	61%

Table 4. Response Rates by State

State	Total Number of LHDs in Sample	Number of Respondents	Response Rate
AK	2	1	50%
AL	12	7	58%
AZ	10	7	70%
CA	8	1	13%
CO	18	10	56%
CT	15	9	60%
GA	39	12	31%
IA	28	16	57%
ID	7	5	71%
IL	33	20	61%
IN	32	20	63%
KS	27	15	56%
KY	20	17	85%
MA	55	24	44%
MD	10	6	60%
ME	1	1	100%
MI	12	8	67%
MN	25	16	64%
MO	33	17	52%
MT	18	14	78%
NC	10	6	60%
ND	12	10	83%
NE	10	8	80%
NH	2	1	50%
NJ	29	11	38%
NM	1	0	0%
NV	3	2	67%
NY	13	9	69%
OH	31	22	71%
OK	24	9	38%
OR	15	4	27%
PA	10	6	60%
SD	1	1	100%
TN	24	20	83%
TX	13	8	62%
UT	12	6	50%
WA	15	11	73%
WI	31	22	71%

WV	17	7	41%
WY	7	5	71%

Data Cleaning and Weights Generation

After the survey was closed, data were downloaded from Qualtrics in Excel format and converted into Stata Version 13 for cleaning. Partially completed surveys (n=9) were included in the dataset if more than half of the survey was completed. NACCHO conducted data cleaning to identify outliers and detect display logic errors, illogical response errors, and other errors. The outliers for numeric data were manually reviewed to determine whether a value should be kept or set to missing.

Overall and item non-response rates were examined. The response rates and the number of missing values were computed for each primary question (questions that required all participants, rather than a subgroup, to answer). This process not only allowed NACCHO to assess the data quality but also helped to determine whether special weights would be required for some items due to low response rates. Response rates for all items were found to be acceptable. Weights based on states and population category (small, medium, large) were then generated for analysis.