2018

The *Forces of Change* in America's Local Public Health System

FORCES of CHANGE

NATIONAL PROFILE OF LOCAL HEALTH DEPARTMENTS

NACCHO
National Association of County & City Health Officials

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Executive Summary

Local health departments (LHDs) face both challenges and opportunities as the public health environment evolves, and NACCHO has periodically surveyed LHDs to assess the impact of this changing environment on their budgets, workforce, and activities. The 2018 Forces of Change survey was distributed to a stratified random sample of 966 LHDs in the United States; 591 completed it for a response rate of 61%. The survey included six topics: Budget Cuts and Job Losses, Response to Opioid Use and Abuse, Population Health Activities, Influenza Preparedness and Response, Informatics Capacity, and Environmental Health Activities.

Budget Cuts and Job Losses

LHDs have eliminated a total of 56,360 jobs over the past decade, reporting an estimated 800 jobs lost in 2017. This is the lowest reported estimate since 2008. In addition, 2017 saw a net gain of 170 job positions within LHDs—driven by large LHDs; small and medium LHDs continued to experience net job losses. This evidence indicates that LHDs continued to show signs of recovery from staffing and budget cuts due to the Great Recession. However, 19% of LHDs expect future budget cuts.

Response to Opioid Use and Abuse

Approximately two-thirds of LHDs reported conducting activities to address the opioid crisis in 2017. To do so, LHDs partnered with local/state government agencies and healthcare organizations. Regardless of population size served, the major barrier to conducting opioid-related activities was a lack of dedicated funding. Combating the opioid epidemic to ensure resilient communities requires an integrated public health effort.

Population Health Activities

As the health of a community is impacted by people's access to resources, LHDs are increasingly working in population health. In 2017, nearly 75% of LHDs conducted activities to address food insecurity. Regardless of topic area, most LHDs reported partnering with local/state government agencies and non-profits to conduct population health activities. Uniquely positioned as the face of public health, LHDs must be a partner and leader in population health work.

Influenza Preparedness and Response

The 2017-2018 influenza (flu) season was particularly bad, and LHDs addressed this risk by focusing on disseminating information to the public through outreach/education and communications activities. In addition, 59% of LHDs participated in immunization-focused partnerships as leaders or conveners.

Informatics Capacity

Informatics enables communication among providers to streamline healthcare systems. More than half of LHDs had access to data from an electronic syndromic surveillance (ESS) system that uses hospital emergency department data. In addition, LHDs use these ESS systems to detect influenza-like and food-borne illnesses.

Environmental Health (EH) Activities

LHDs reported service reductions in emergency preparedness. In addition, fewer LHDs addressed many EH issues impacted by climate change in 2017 than in 2012. Local EH work protects the public against a wide range of threats that can be worsened by climate change.

Background

Since 2008, the National Association of County and City Health Officials (NACCHO) has periodically surveyed local health departments (LHDs) to assess the impact of the Great Recession.

NACCHO recently expanded the survey to address more generally the forces that affect change in LHDs, including emerging public health threats and a growing need to focus on population health.

This expanded assessment is called the Forces of Change survey.

The Forces of Change survey helps to identify infrastructure challenges, as well as opportunities to strengthen public health capacity.

Although the economic situation is slowly improving for many LHDs, workforce capacity challenges persist. One-third of LHDs reported experiencing job losses in 2017.

In addition to these budget and staffing realities, LHDs also face emerging threats to their communities such as the increased use of opioids, high severity of influenza seasons, and impacts of climate change.

LHDs are adapting to these changing priorities by adopting a Public Health 3.0 model incorporating social determinants of health. For example, LHDs reported addressing issues related to food insecurity, family supports, community infrastructure, housing, and violence.

An additional factor supporting public health transformation is informatics capacity, which enables LHDs to collect, analyze, and communicate data across health systems.

NACCHO uses these findings to raise awareness about these issues among leaders in Congress, federal agencies, and other organizations involved in decisions driving public health funding and policymaking.

Methods

NACCHO distributed the Forces of Change survey to a statistically representative random sample of 966 LHDs in the United States from March to May 2018. This sampling strategy allows nationally representative and state-level estimates, if sufficient response was received from a state.

A total of 591 LHDs completed the survey for a response rate of 61%.

NACCHO generated national statistics using estimation weights to account for sampling and non-response. Some detail may be lost in the figures due to rounding.

NACCHO conducted Chi-square and *t*-tests to assess statistical significance of differences between means or proportions of mutually exclusive comparative groups, for example, between small, medium and large LHDs or groups of LHDs governed by state, local, or shared governments. In this report, sentences ending with an asterisk (*) or (**) denote that differences between the means or proportions is statistically significant (*p<.05; **p<.01) meaning that comparative groups are different.

All data collected were self-reported; NACCHO did not independently verify the data provided by LHDs.

Discussions about the results from the collected data and their possible implications presented throughout this document were done in consultation with NACCHO subject matter experts in each of this report's topic areas.

A detailed description of survey methodology (e.g., questionnaire development, data cleaning, data analysis and statistical significance, and limitations) can be found on NACCHO's Forces of Change webpage at *http://nacchoprofilestudy.org/wp-content/uploads/2018/09/2018-Forces-of-Change-Survey-Technical-documentation.pdf*.

LHDs are grouped in the analysis by a variety of characteristics.

Throughout this report, data are presented based on different subgroup analyses.

Statistics are compared across the size of the population served by the LHDs. Small LHDs serve populations of less than 50,000 people. Medium LHDs serve populations of 50,000 to 499,999 people. Large LHDs serve populations of 500,000 people or more.

Data are also presented by type of governance, which refers to the LHDs' relationship to their state agency. Locally governed LHDs are agencies of local government. State-governed LHDs are local or regional units of the state health agency. LHDs that are governed by both state and local authorities are referred to as shared governance.

A final subgroup by which data are presented is United States census region. LHDs are designated as being in the Northeast, South, Midwest, or West based on the state in which they are located, per the U.S. Census Bureau classifications.

Budget Cuts and Job Losses

Since 2008, results from NACCHO's surveys consistently demonstrate LHD funding and staffing challenges and the negative impacts these challenges have on LHD infrastructures.

These surveys include the 2008, 2009, 2011, and 2012 Local Health Department Job Losses and Program Cuts surveys; the 2010, 2013, and 2016 National Profile of Local Health Departments studies; and the 2014, 2015, 2017, and 2018 Forces of Change surveys.

In the current survey, LHDs reported the fewest number of jobs lost in 2017 to date. However, local public health agencies experienced a net gain of only 170 jobs nationwide. Significant reductions in LHD staff undermine efforts to rebuild the public health workforce to pre-recession levels.

Local public health agencies are finally rebounding from the effect of the Great Recession, but economic forces continue to affect LHD capacity and the provision of essential services. Changes in overall federal budget priorities pose challenges for some LHDs as federal, state, and local sources have cut funding and threaten the resiliency of communities nationwide.

References

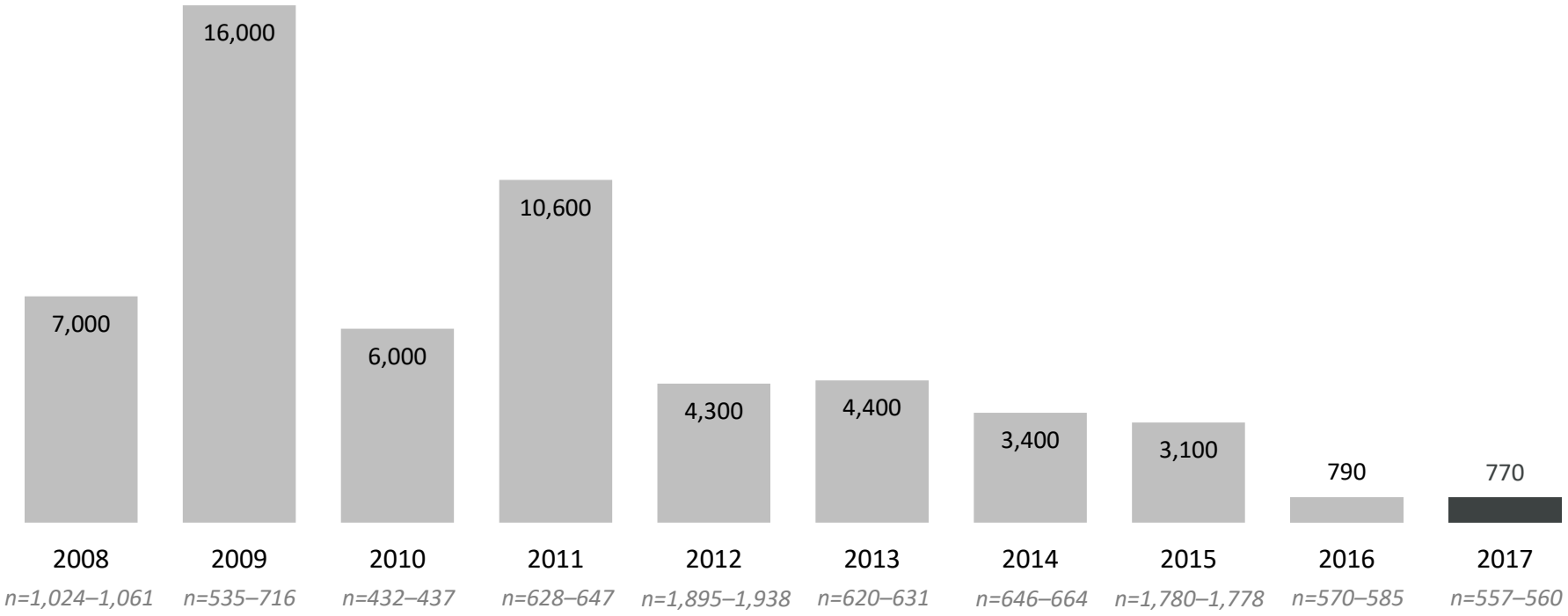
National Association of County and City Health Officials (NACCHO). (2018). Research - NACCHO. Washington, DC. https://www.naccho.org/resources/lhd-research.

LHDs reported the fewest number of jobs lost to date since 2008.

Since 2008, LHDs have eliminated a cumulative total of 56,360 jobs. In 2017, LHDs reported an estimated 800 jobs lost. Of those, 500 were due to layoffs, and another 300 were due to attrition (because of hiring freezes or budget cuts). This estimate is similar to the reported number of jobs lost in 2016, indicating that LHD staffing levels are starting to stabilize since the Great Recession.

Total Jobs Lost Across LHDs Nationwide

Number of jobs lost

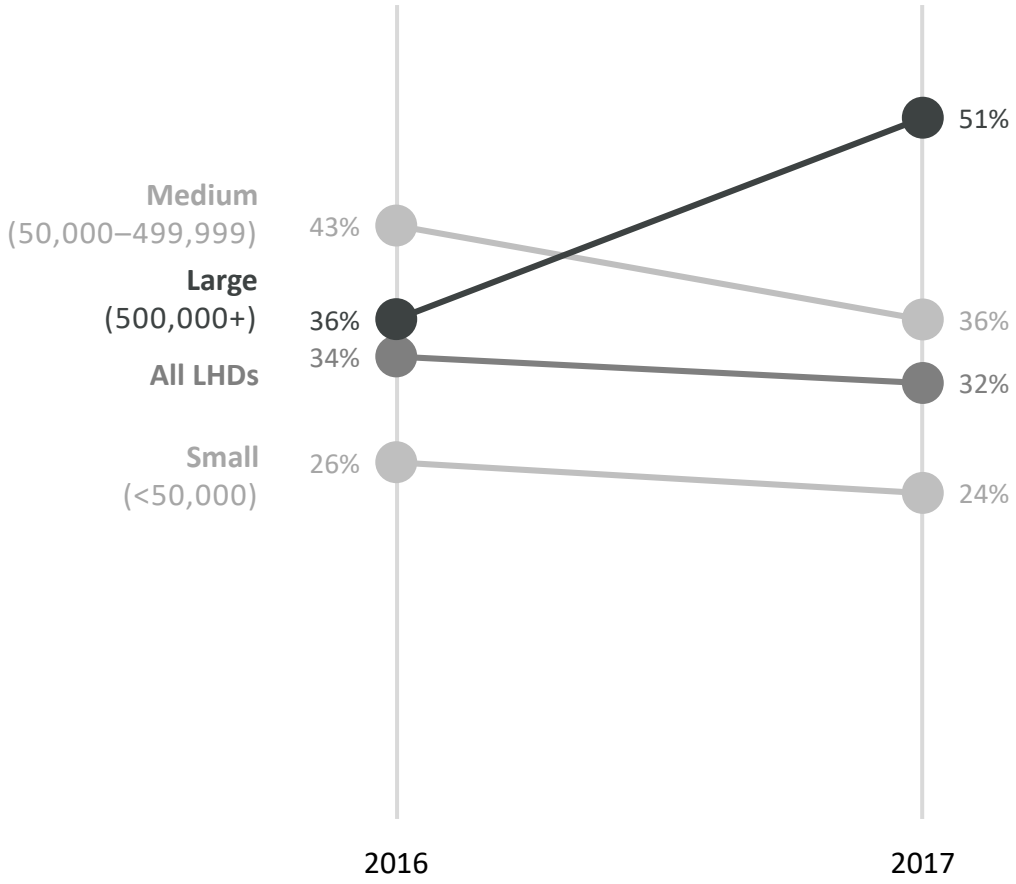


Reference page 7 of this document for data sources.

Technical Note: Special weighting methodology applied to account for item non-response.

More than half of large LHDs experienced job losses over the past year.

LHDs Reporting at Least One Job Lost
Percent of respondents



n(2016)=570–585
n(2017)=563

Overall, one-third of all LHDs lost at least one staff position due to layoffs or attrition in 2017.

The percentage of small LHDs reporting job losses remained the same (approximately 1 in 4) between 2016 and 2017. Medium agencies reported fewer job losses in 2017 than in 2016.

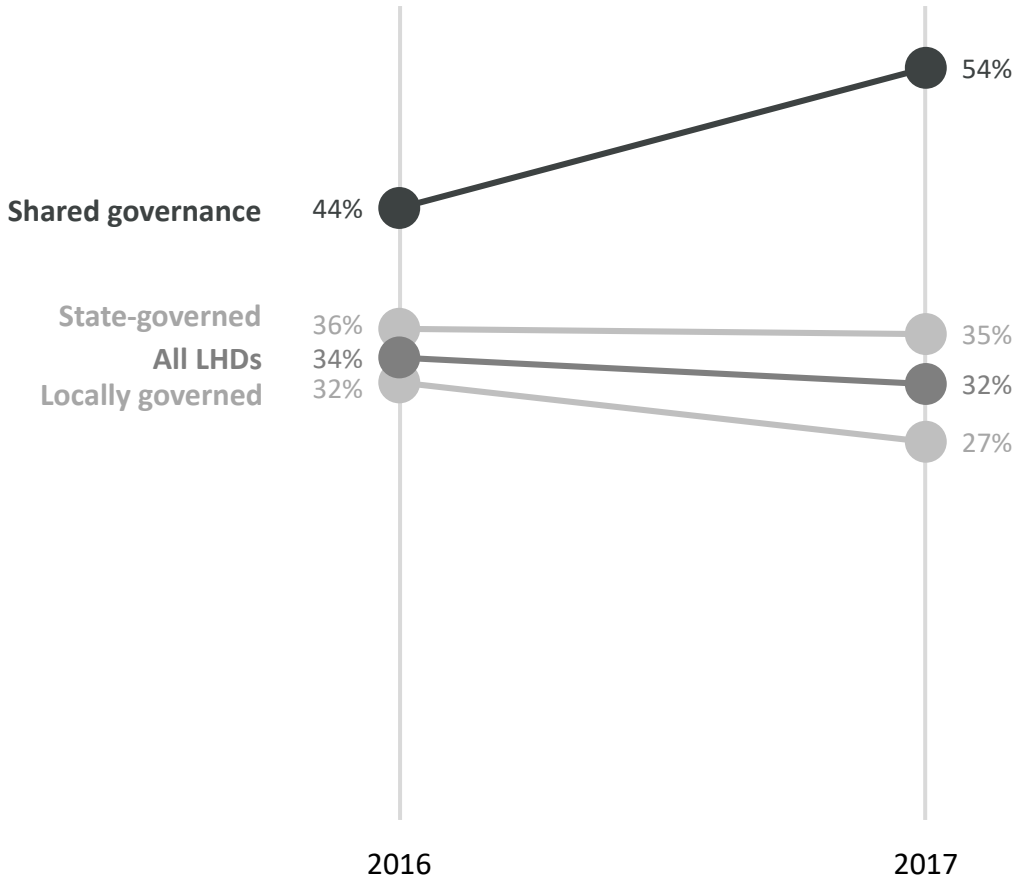
More than half of large LHDs reported a job loss in the past year—a 15 percentage point increase from 2016. Because these agencies serve the majority of the U.S. population, these workforce reductions can affect the health and safety of many residents nationwide.

2016 Data Source

National Association of County and City Health Officials (NACCHO). (2017). The Changing Public Health Landscape: Findings from the 2017 Forces of Change Survey. Washington, DC. http://nacchoprofilestudy.org/wp-content/uploads/2017/10/2017-Forces-of-Change-Main-Report1.pdf.

LHDs with shared governance experienced a spike in job losses in 2017.

LHDs Reporting at Least One Job Lost
Percent of respondents



n(2016)=570–585
n(2017)=563

The majority of LHDs with shared governance (i.e., governed by both state and local authorities) reported job losses in 2017, with a 10 percentage point increase in the number of LHDs compared to 2016.

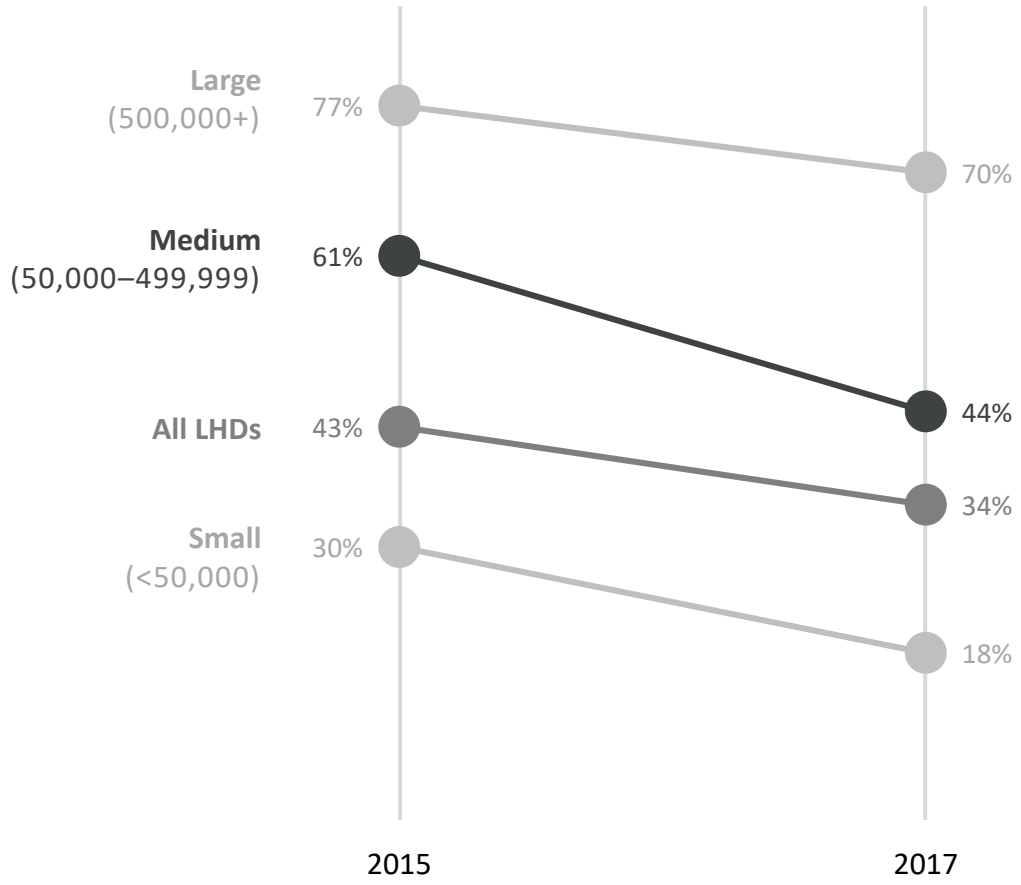
In contrast, fewer locally governed LHDs reported decreased workforce capacity in 2017 than 2016. The proportion of state-governed LHDs experiencing job losses was relatively steady between 2016 and 2017.

2016 Data Source

National Association of County and City Health Officials (NACCHO). (2017). The Changing Public Health Landscape: Findings from the 2017 Forces of Change Survey. Washington, DC. http://nacchoprofilestudy.org/wp-content/uploads/2017/10/2017-Forces-of-Change-Main-Report1.pdf.

Fewer LHDs have increased workforce capacity compared to 2015.

LHDs Reporting at Least One Job Gained
Percent of respondents



n(2015)=1,599
n(2017)=546

In 2017, only one-third of all LHDs added at least one staff person by either creating a new position or filling a vacancy from a hiring freeze compared to 43% of LHDs reporting the same in 2015.

Both small** and medium** LHDs reported fewer job gains in 2017 than in 2015.

However, 70% of large LHDs were able to create new jobs despite a 7 percentage point decline in these agencies reporting job gains since 2015. This may be due to agencies filling vacancies resulting from staff turnover rather than new positions.

2015 Data Source

National Association of County and City Health Officials (NACCHO). (2017). 2016 National Profile of Local Health Departments. Washington, DC. http://nacchoprofilestudy.org/wp-content/uploads/2017/10/ProfileReport_Aug2017_final.pdf.

Technical Note

**Statistical significance at p<0.01 level.

In 2017, large LHDs added nearly twice the number of positions than were eliminated.

Change in Number of Job Positions in LHDs

Number of jobs (among LHDs that reported values for all positions eliminated and added)

	Number of positions eliminated	Number of positions added	Net change
All LHDs			
2011 *(n=604, 617)*	9,970	3,700	**-6,270**
2012 *(n=1,775)*	4,090	3,680	**-410**
2015 *(n=1,261)*	2,720	3,570	**850**
2017 *(n=545)*	730	900	**170**
Size of population served			
Small (<50,000)			
2011 *(n=333, 346)*	2,200	600	**-1,600**
2012 *(n=1,033)*	820	620	**-200**
2015 *(n=809)*	620	720	**100**
2017 *(n=283)*	110	90	**-20**
Medium (50,000–499,999)			
2011 *(n=220, 215)*	4,500	1,350	**-3,150**
2012 *(n=633)*	2,030	1,650	**-3,800**
2015 *(n=397)*	1,460	1,640	**180**
2017 *(n=203)*	380	320	**-60**
Large (500,000+)			
2011 *(n=51, 56)*	3,270	1,740	**-1,530**
2012 *(n=109)*	1.240	1,400	**160**
2015 *(n=55)*	640	1,210	**570**
2017 *(n=59)*	250	490	**240**

Reference page 7 of this document for data sources.

In 2017, the local public health system experienced a net gain of 170 jobs among all LHDs. Local agencies reported eliminating the fewest jobs in 2017. However, they also reported adding the fewest positions.

Small and medium LHDs reported more jobs lost than gained in 2017. During the same year, large LHDs continued to increase their workforce.

Technical Notes

This page references local health departments that reported values for all positions eliminated and added.

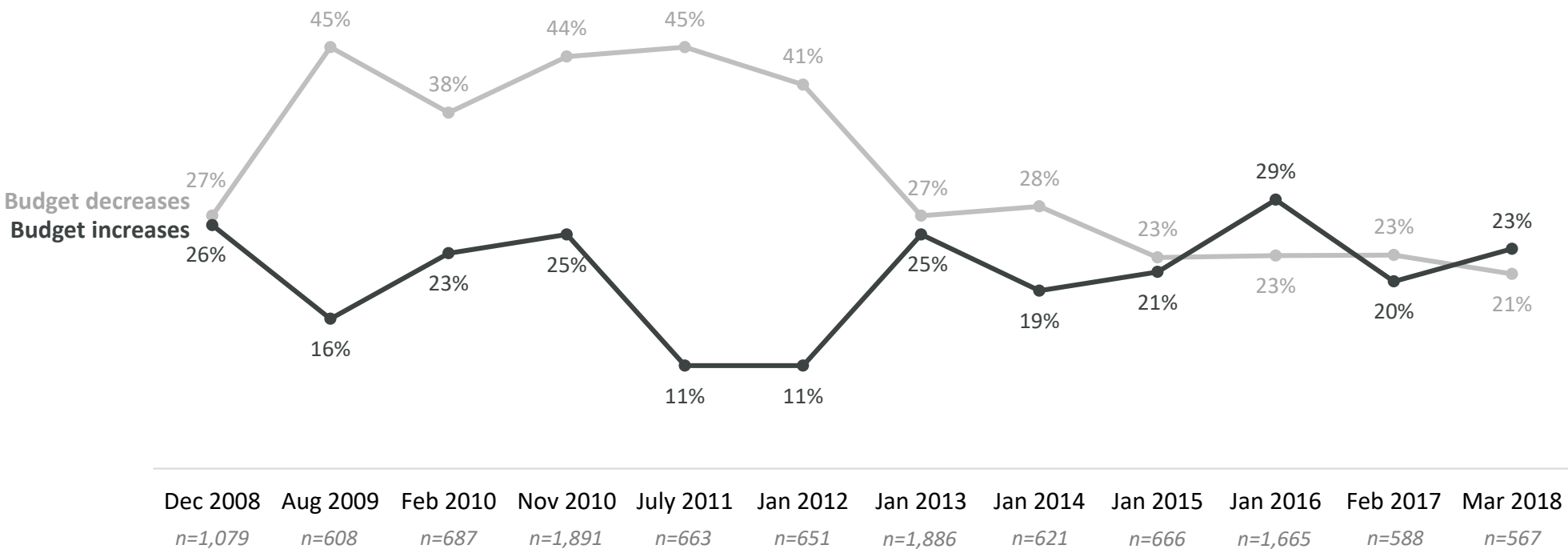
Special weighting methodology applied to account for item non-response.

More LHDs reported budget increases over the past year, but one in five LHDs continued to experience budget decreases.

In 2017, one in five LHDs (21%) reported a lower budget in the current fiscal year compared to the previous fiscal year. However, slightly more LHDs (23%) reported an increase in their budget for their current fiscal year compared to their previous fiscal year.

Change in LHD Budget Capacity

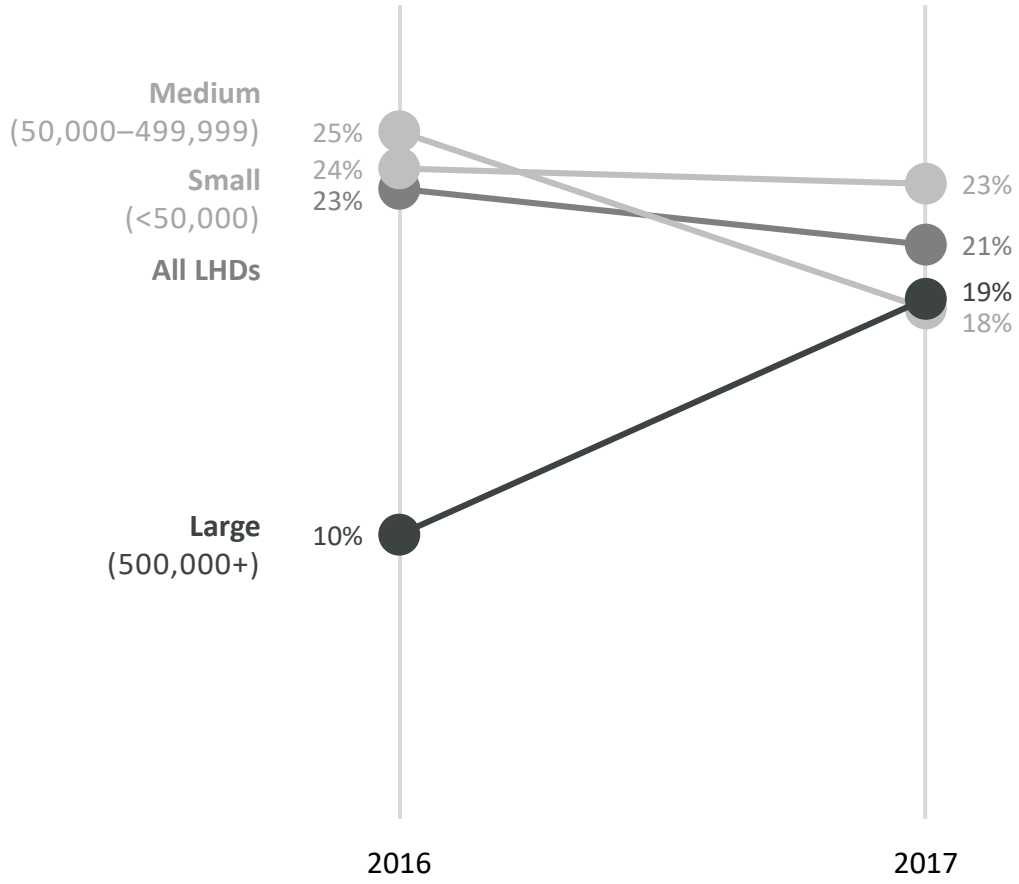
Percent of LHDs reporting budget decreases or budget increases



Reference page 7 of this document for data sources.

More large LHDs reported a decreased budget in 2017 compared to 2016.

LHDs Experiencing Budget Cuts in Current Fiscal Year
Percent of respondents



n(2016)=588
n(2017)=567

Overall, one in five LHDs (21%) experienced a decrease in their current budget from the previous fiscal year.

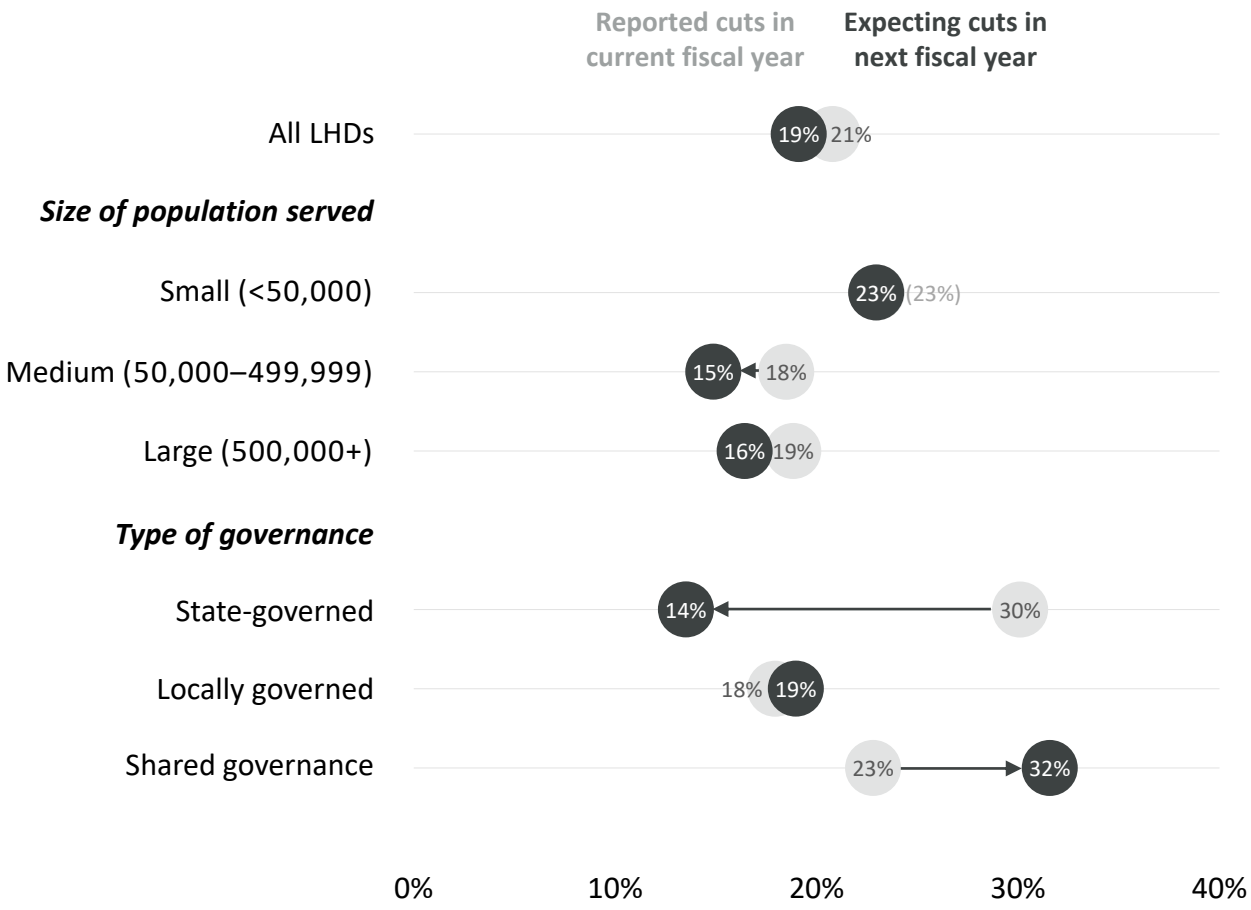
More LHDs serving large populations reported budget cuts in their current fiscal year (19%) compared to their previous fiscal year (10%). Between 2016 and 2017, fewer medium LHDs reported budget cuts. Small LHDs remained relatively stable.

2016 Data Source

National Association of County and City Health Officials (NACCHO). (2017). The Changing Public Health Landscape: Findings from the 2017 Forces of Change Survey. Washington, DC. http://nacchoprofilestudy.org/wp-content/uploads/2017/10/2017-Forces-of-Change-Main-Report1.pdf.

Nearly one-fifth of LHDs reported expecting budget cuts in the next fiscal year.

LHD Experiencing or Expecting Budget Cuts
Percent of respondents



n=552–567

Nearly one-fifth (19%) of all LHDs foresee budget cuts in their next fiscal year, while 21% reported budget cuts in their current fiscal year.**

Twenty-three percent of LHDs serving small populations reported having smaller budgets in the current fiscal year; 23% of these agencies also expect to have smaller budgets in the next fiscal year. However, for both medium** and large** LHDs, differences between reported and expected cuts were significant (18% versus 15% and 19% versus 16% respectively). These agencies anticipate future budget cuts compared to their reported cuts in the current fiscal year. Additionally, the proportion of LHDs governed by the state that are expecting decreased budgets (14%) is approximately half of those that reported budget cuts (30%).* One in three LHDs (32%) with shared governance expect a budget cut,* representing the largest potential impact on LHDs.

Technical Note

*Statistical significance at p<0.05 level.
**Statistical significance at p<0.01 level.

Discussion

In 2017, LHDs continued to show signs of recovery from staffing cuts due to the Great Recession. These local public health agencies reported eliminating fewer than 800 jobs overall. Furthermore, they have been able to create new positions and fill vacancies that resulted in a new gain of more than 100 jobs nationwide.

Despite the stabilization of the workforce, the negative cumulative effect of jobs lost for the past decade and the slow rebuilding of the LHD workforce still has an impact on the ability of LHDs to provide population-based and clinical services.

For the past five years, the percentage of LHDs experiencing budget cuts or increases remained constant. Although more LHDs reported budget increases than cuts, one in five LHDs continues to be affected by limited budgetary capacity.

An investment of sufficient and stable funding is critical to ensure LHDs are able to address dynamic health needs in their communities, and LHDs have been able to maintain their workforce in recent years.

Fewer LHDs predict future budgetary restrictions, indicating that LHDs may start to rebound from the long-term impacts of the recession. However, shifts in overall federal, state, and local budgets may have some LHDs continuing to remain cautious about future funding and staffing capacity.

Response to Opioid Use and Abuse

According to the CDC, more than 350,000 deaths in the U.S. have been attributed to opioid overdose over the past 20 years. Although the primary catalyst of these deaths has been prescription medication, the recent spike in deaths due to increased use of heroin and synthetic opioids (e.g., fentanyl) has stressed the public health infrastructure with already limited resources.

With the growth in opioid use, LHDs are being called to play a more active role in addressing this epidemic.

Despite being one of the more visible faces of public health, LHDs have not played a prominent role in addressing substance abuse outside of tobacco and alcohol. In 2016, only 9% of LHDs reported providing clinical services to address any type of substance abuse.

In contrast, most services are provided by other organizations independent of LHD funding; 89% of LHDs reported that substance abuse services have been provided by others.

The role LHDs play in addressing opioid use and abuse focuses not only on providing services, but also on partnering with diverse stakeholders. Local public health agencies offer unique perspectives and experiences within partnerships, supporting improved health and safety of their communities.

References

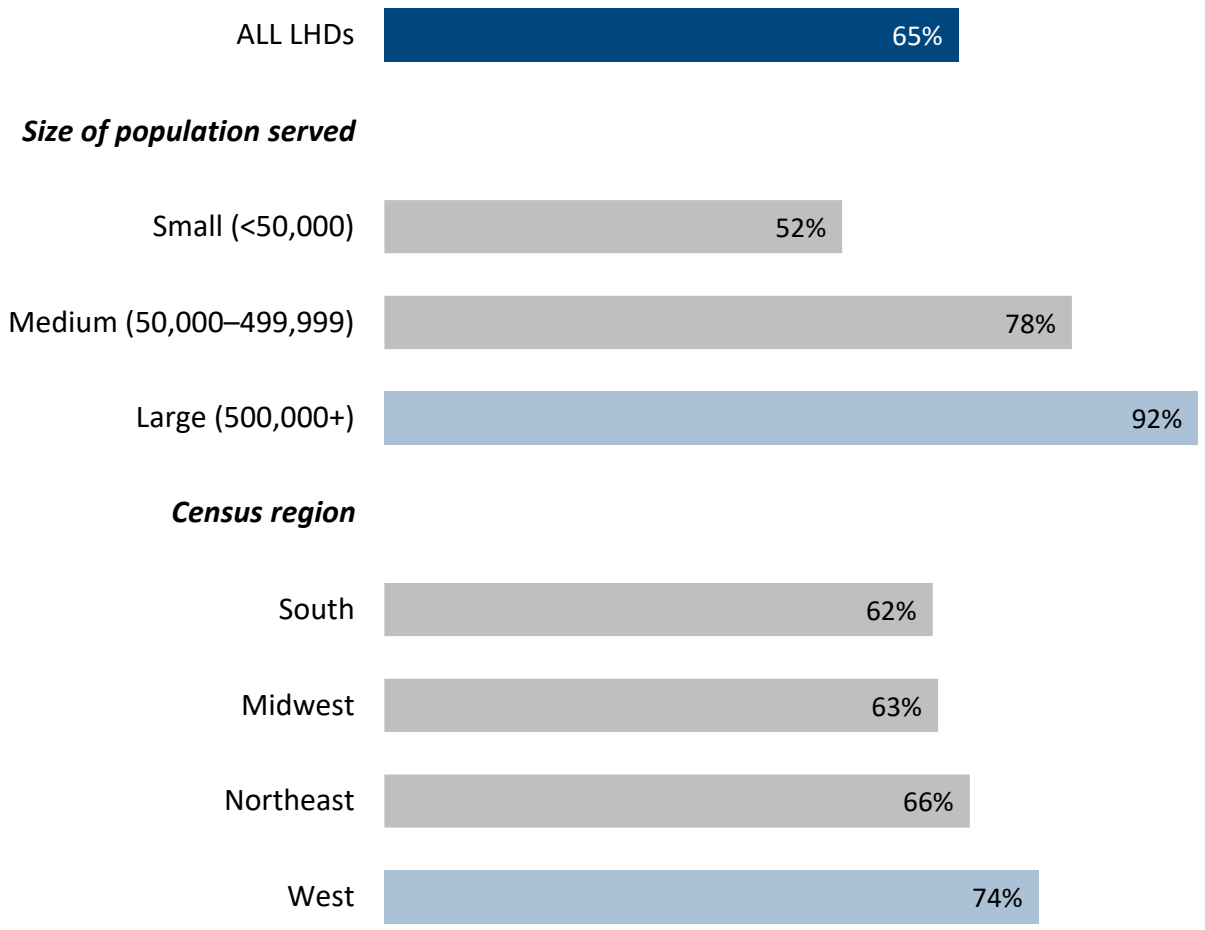
Centers for Disease Control and Prevention (CDC). (2017). Understanding the epidemic. Retrieved from https://www.cdc.gov/drugoverdose/epidemic/index.html

National Association of County and City Health Officials (NACCHO). (2017). 2016 National Profile of Local Health Departments. Washington, DC. http://nacchoprofilestudy.org/wp-content/uploads/2017/10/ProfileReport_Aug2017_final.pdf.

Many LHDs conducted activities to address opioid use and abuse in 2017.

LHDs Conducting Activities to Address Opioid Use and Abuse

Percent of respondents



n=565

In 2017, approximately two-thirds of all LHDs conducted activities to address opioid use and abuse.

Although more than half of agencies conducted these activities despite the size of population served, 92% of large LHDs worked to combat the opioid epidemic, which is significantly different compared to small** and medium* LHDs.

In addition, more LHDs located in the western region of the U.S. (74%) reported providing opioid-related services compared to LHDs in other areas of the country.

Technical Note

*Statistical significance at p<0.05 level.
**Statistical significance at p<0.01 level.

An estimated 2,000 LHD employees are working to address the opioid epidemic.

LHD Employees Currently Working on Opioid Use and Abuse Activities
Number of employees

	Total number of employees	Median number of employees	Mean number of employees
All LHDs *(n=552)*	**1,990**	**1**	**3**
Size of population served			
Small (<50,000) *(n=284)*	380	0	1
Medium (50,000–499,999) *(n=204)*	800	2	4
Large (500,000+) *(n=64)*	800	3	12
Type of governance			
State-governed *(n=109)*	410	1	4
Locally governed *(n=387)*	1,200	1	3
Shared governance *(n=56)*	380	2	6

Overall, LHDs reported an estimated total of approximately 2,000 employees working on activities to address opioid use and abuse. According to the 2016 National Profile of Local Health Departments study, this represents less than 2% of the total LHD workforce.

Small LHDs reported half the number of employees working on opioid programming than agencies serving medium and large populations.**

LHDs with state or shared governance reported approximately 400 employees compared to nearly three times that number that are working on opioid activities at locally governed agencies.*

References

National Association of County and City Health Officials (NACCHO). (2017). 2016 National Profile of Local Health Departments. Washington, DC. http://nacchoprofilestudy.org/wp-content/uploads/2017/10/ProfileReport_Aug2017_final.pdf.

Technical Notes

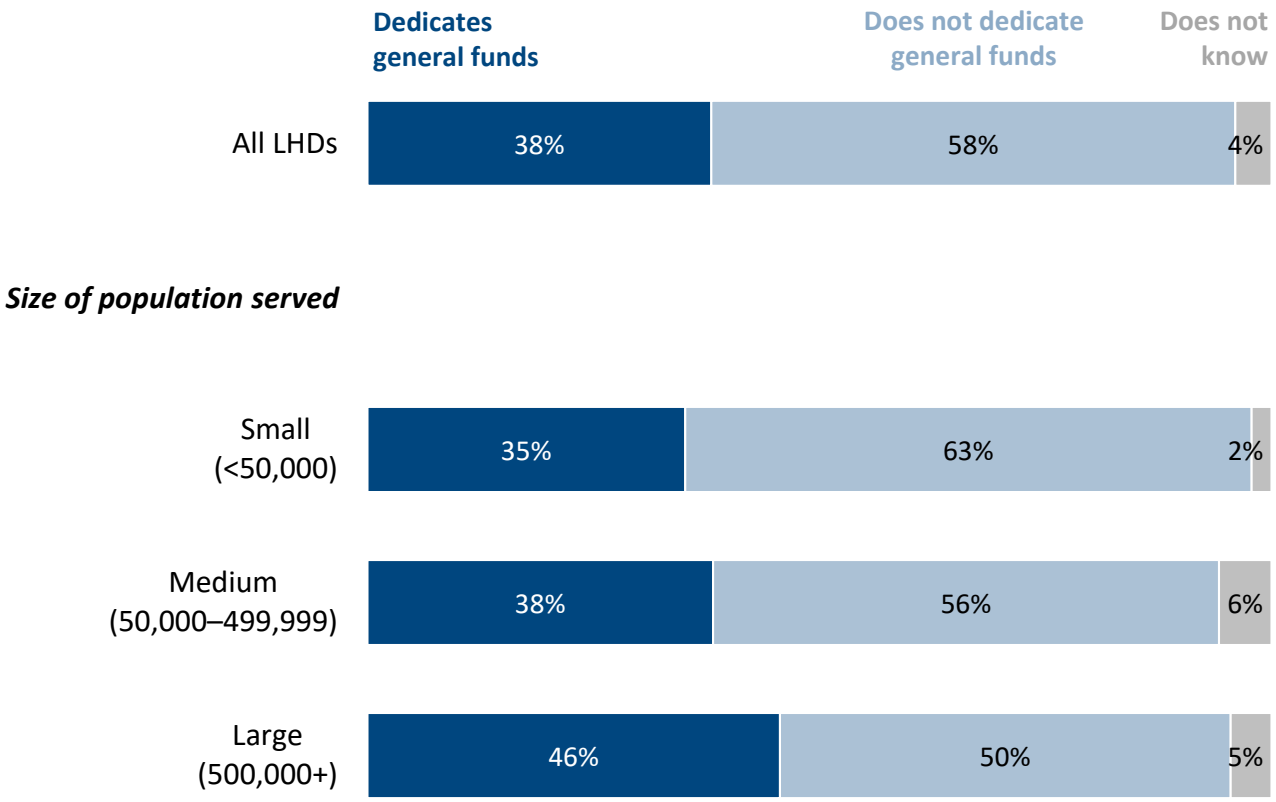
Special weighting methodology applied to account for item non-response.

*Statistical significance at p<0.05 level.
**Statistical significance at p<0.01 level.

More than half of LHDs did not dedicate general funds to conduct activities focused on opioid use.

Dedication of General Funds to Conduct Opioid-Related Activities

Percent of respondents (among those that conducted activities)



n=379

Nearly 60% of LHDs that conducted activities focused on opioid use reported not dedicating general funds to such activities.

Over one-third of small and medium LHDs involved in opioid-related work dedicated general funds to these activities. During the same time, 46% of large LHDs dedicated funds to this work.

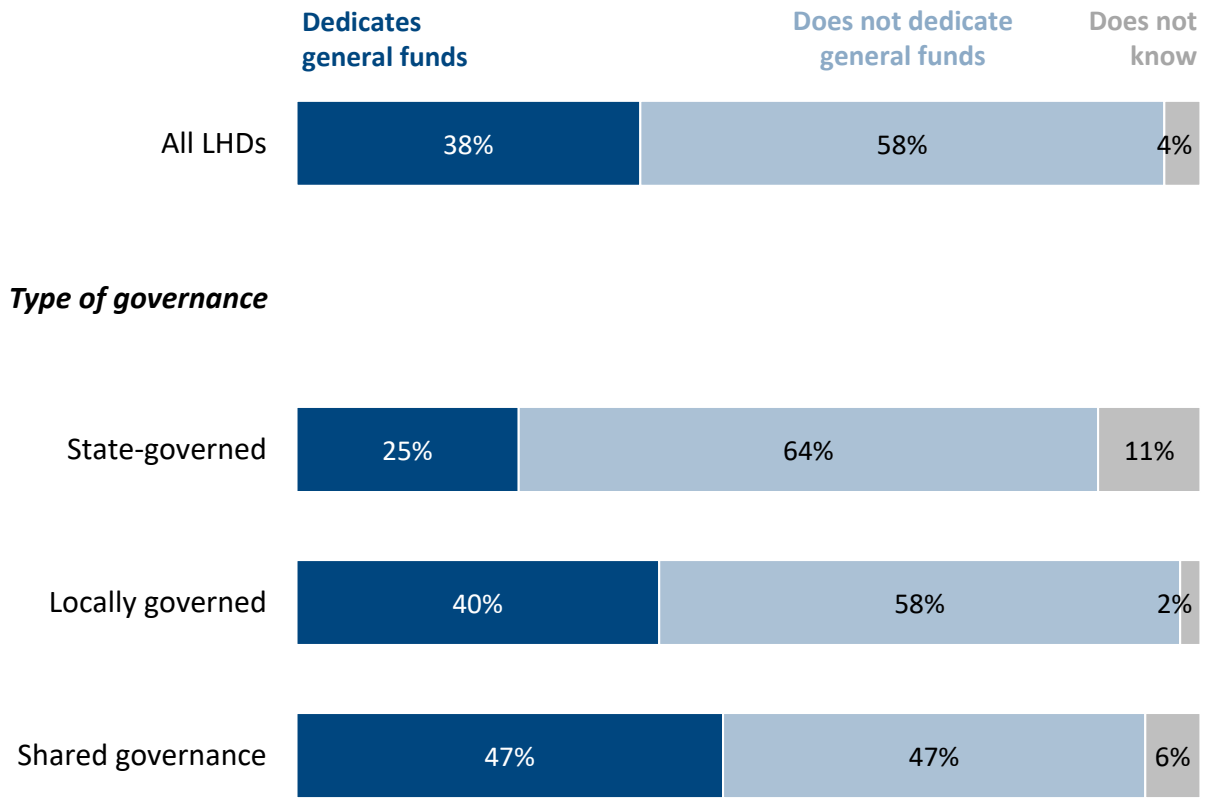
Technical Note

This page references local health departments that reported conducting activities in 2017 to address opioid use and abuse.

Few state-governed LHDs dedicated general funds to conduct opioid-related activities.

Dedication of General Funds to Conduct Opioid-Related Activities

Percent of respondents (among those that conducted activities)



n=379

More than one-third of all LHDs reported dedicating general funds to conduct opioid-related activities. Differences between type of governance showed that only 25% of state-governed agencies reported dedicated general funds. This difference is significant when comparing LHDs with state to local and state to shared governance.*

Additionally, 11% of state-governed LHDs were unsure whether they dedicated general funds.

In 2017, nearly half of LHDs with shared governance dedicated general funds to combat the opioid crisis.

Technical Notes

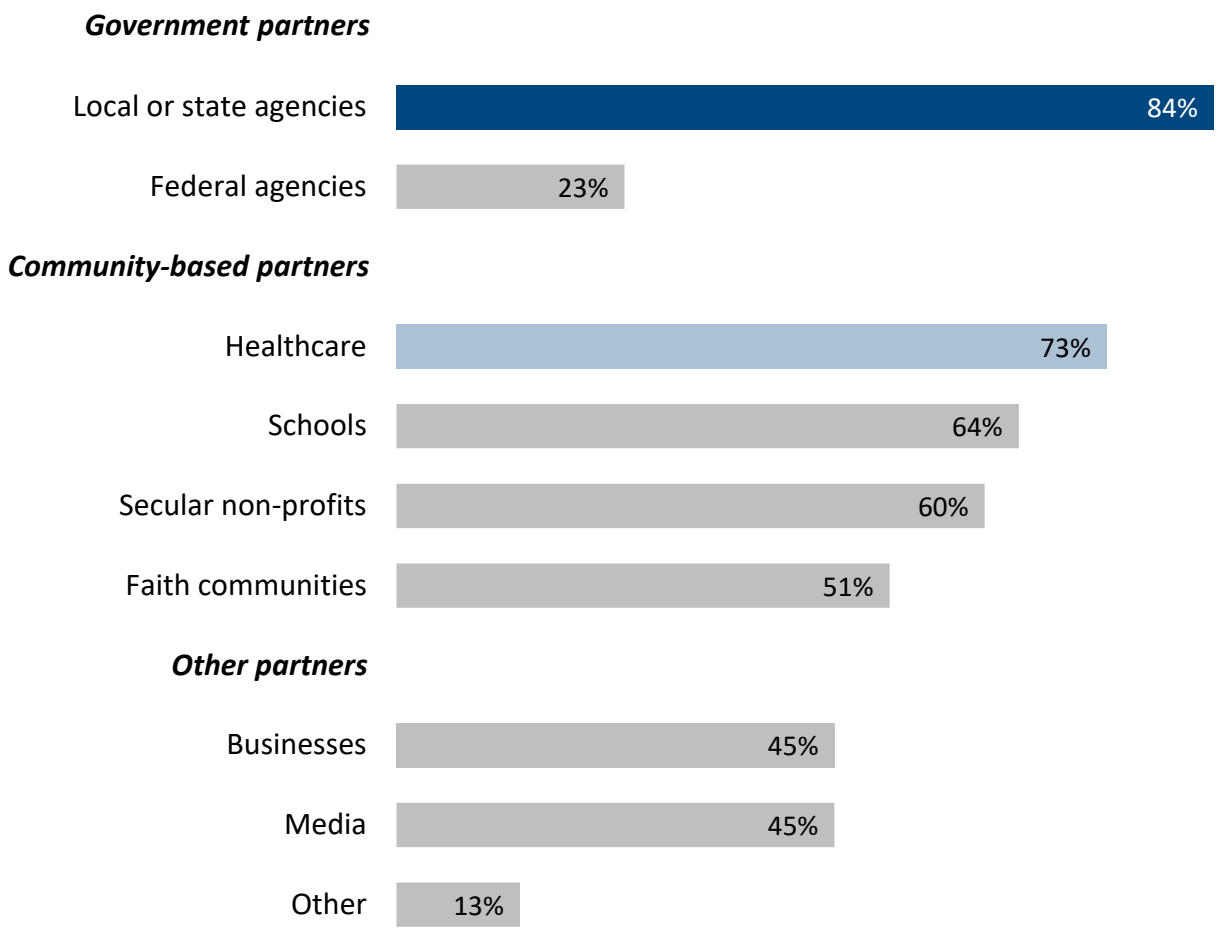
This page references local health departments that reported conducting activities in 2017 to address opioid use and abuse.

*Statistical significance at $p<0.05$ level.

Many LHDs partner with local or state government agencies to combat opioid use.

Organizations Partnering with LHDs to Conduct Opioid-Related Activities

Percent of respondents (among those that conducted activities)



n=384

LHDs most commonly selected local/state government agencies and healthcare as partners for conducting activities related to opioid use and abuse.

More than half of LHDs also reported partnering with schools, secular non-profits or community-based organizations, and faith communities.

The least commonly reported partner organizations were federal agencies, with only 23% of LHDs involved in opioid-related activities collaborating with them.

The 13% of LHDs selecting "other" partners predominantly noted law enforcement, as well as prevention coalitions/community members.

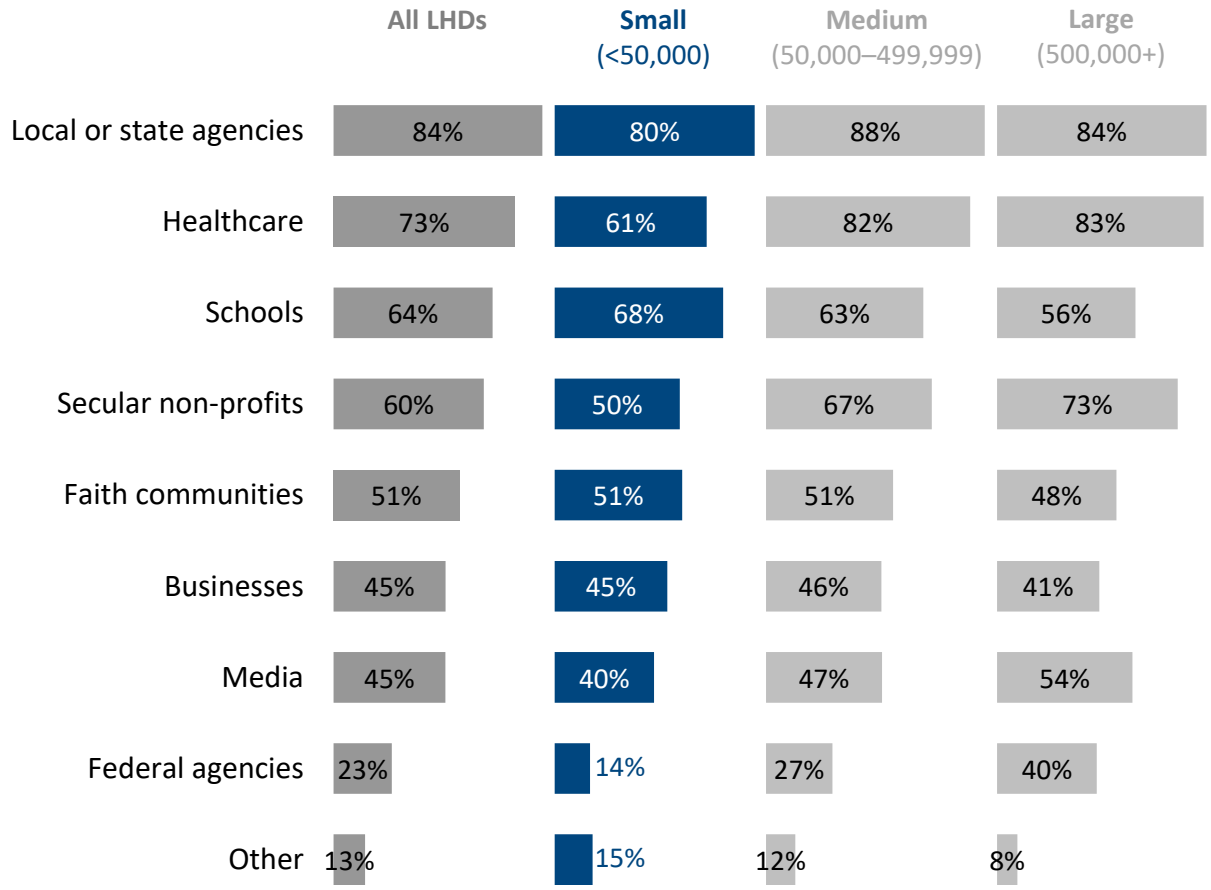
Technical Note

This page references local health departments that reported conducting activities in 2017 to address opioid use and abuse.

Fewer small LHDs partnered with a variety of organizations to conduct activities focused on opioid use.

Organizations Partnering with LHDs to Conduct Opioid-Related Activities

Percent of respondents (among those that conducted activities)



n=384

Among the 65% of all LHDs that conducted opioid-related activities in 2017 (see page 18), those serving small populations were less likely to report being involved in collaborations with select organization than LHDs serving large populations.

In particular, only 61% of small LHDs collaborated with healthcare organizations, 50% with secular non-profits (including community based organizations), and 14% with the federal government. These differences were significant when comparing small to medium and small to large LHDs.** This may be an indication that resources (e.g., staff, time, funding) and the availability of organizations to address diverse public health issues are higher in large jurisdictions.

Technical Notes

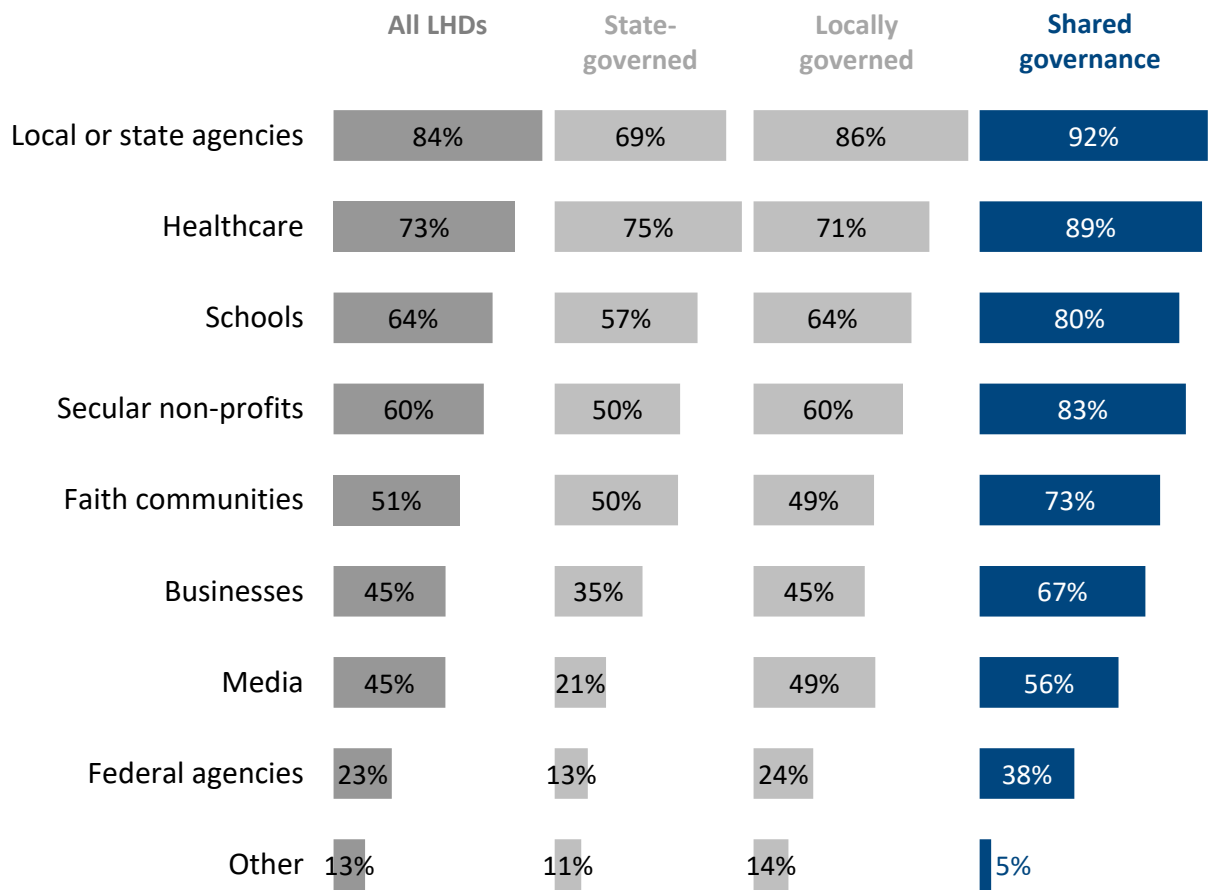
This page references local health departments that reported conducting activities in 2017 to address opioid use and abuse.

**Statistical significance at p<0.01 level.

LHDs with shared governance collaborated with a wide range of organizations to do opioid work.

Organizations Partnering with LHDs to Conduct Opioid-Related Activities

Percent of respondents (among those that conducted activities)



n=384

Across most organization types, more than half of LHDs with shared governance partnered to conduct activities to address opioid use and abuse except for federal agencies.

The distribution of LHDs partnering to address the opioid crisis across organization types is similar between shared and locally governed LHDs and shared and state governed LHDs. The partnerships between shared and local and shared and state governed agencies significantly differ only for the organizational types of businesses, media, and federal agencies.*

Technical Notes

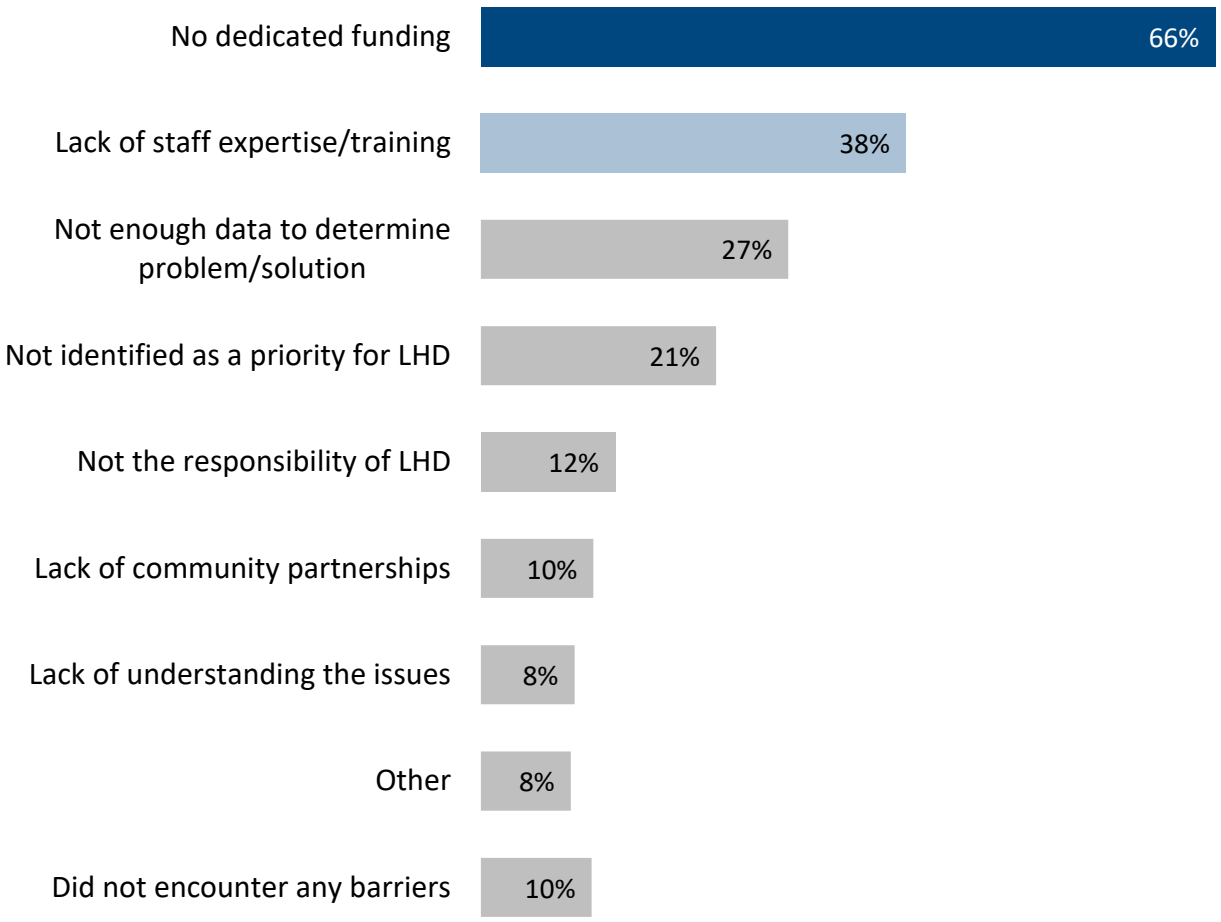
This page references local health departments that reported conducting activities in 2017 to address opioid use and abuse.

*Statistical significance at $p<0.05$ level.

Most LHDs experienced a lack of dedicated funding as a barrier to conducting activities focused on the opioid epidemic.

Barriers to Conducting Activities to Address Opioid Use and Abuse

Percent of respondents



n=556

Two-thirds of LHDs (66%) reported no dedicated funding as a barrier to conducting activities addressing opioid use.

The second most commonly selected barrier was lack of staff expertise/training, with 38% of agencies indicating this was a challenge.

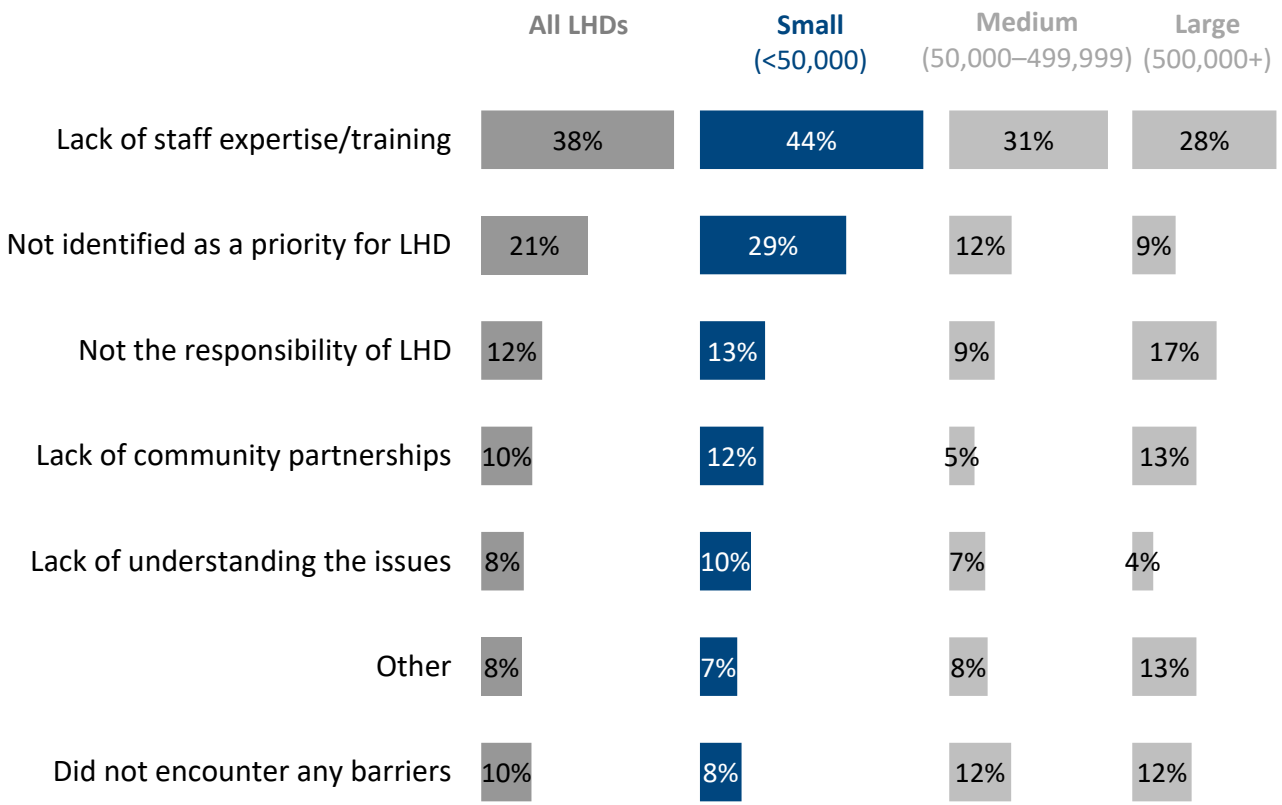
In contrast, few agencies reported challenges related to insufficient community partnerships (10%) or a lack of understanding the issues associated with the epidemic (8%).

Other barriers reported by 8% of LHDs included insufficient number of staff and lack of time to dedicate to the work.

Small LHDs reported having insufficient staff expertise or training to combat the opioid crisis.

Barriers to Conducting Activities to Address Opioid Use and Abuse

Percent of respondents



n=556

Although not shown, lack of dedicated funding was the prominent barrier to addressing opioid use for LHDs regardless of population size served. In addition, the distribution of LHDs reporting a lack of data to determine problem/solution as a barrier was similar across jurisdiction sizes.

Forty-four percent of small LHDs reported having insufficient expertise or training to combat the opioid crisis. In addition, small agencies were more likely to report that opioid-related work was not a priority for their agencies compared to those serving medium and large populations. These differences between small versus medium and small versus large were significant.*

This may indicate small LHDs must allocate their limited resources to address other public health issues or that opioid use and abuse is not a prevalent issue within their jurisdictions.

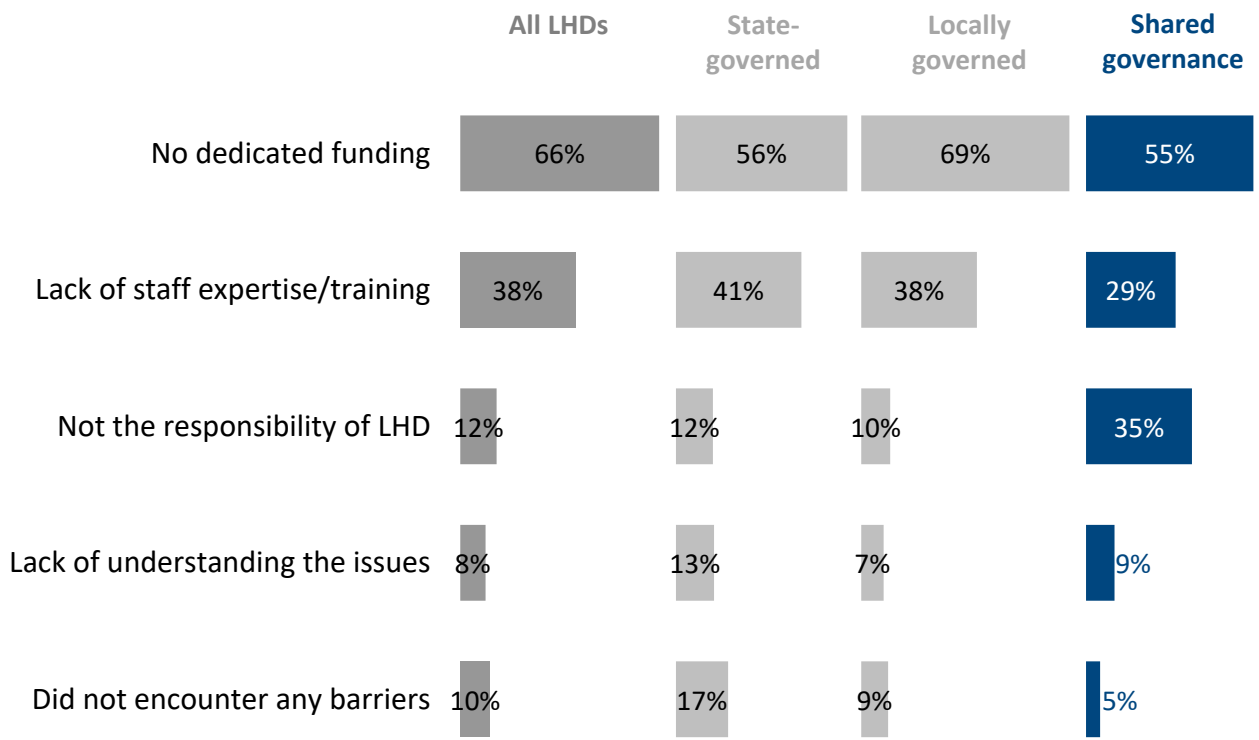
Technical Note

*Statistical significance at p<0.05 level.

One-third of LHDs with shared governance reported opioid-related work was not the responsibility of their agencies.

Barriers to Conducting Activities to Address Opioid Use and Abuse

Percent of respondents



n=556

Although not shown, the distribution of LHDs reporting a lack of data to determine problem/solution, lack of community partnerships, and not identified as a priority for the agency as barriers was similar across governance types.

Lack of dedicated funding was a barrier to conducting opioid-related activities for more than half of LHDs, especially for those with state and local governance.*

Notably, 35% of LHDs with shared governance indicated combating the opioid epidemic was not their responsibility. Ten percent of locally governed and 12% of state-governed agencies reported this as a barrier. Differences between shared versus state and shared versus local were significant.**

Nearly one in five state-governed LHDs (17%) reported they did not encounter any barriers to addressing opioid use and abuse.

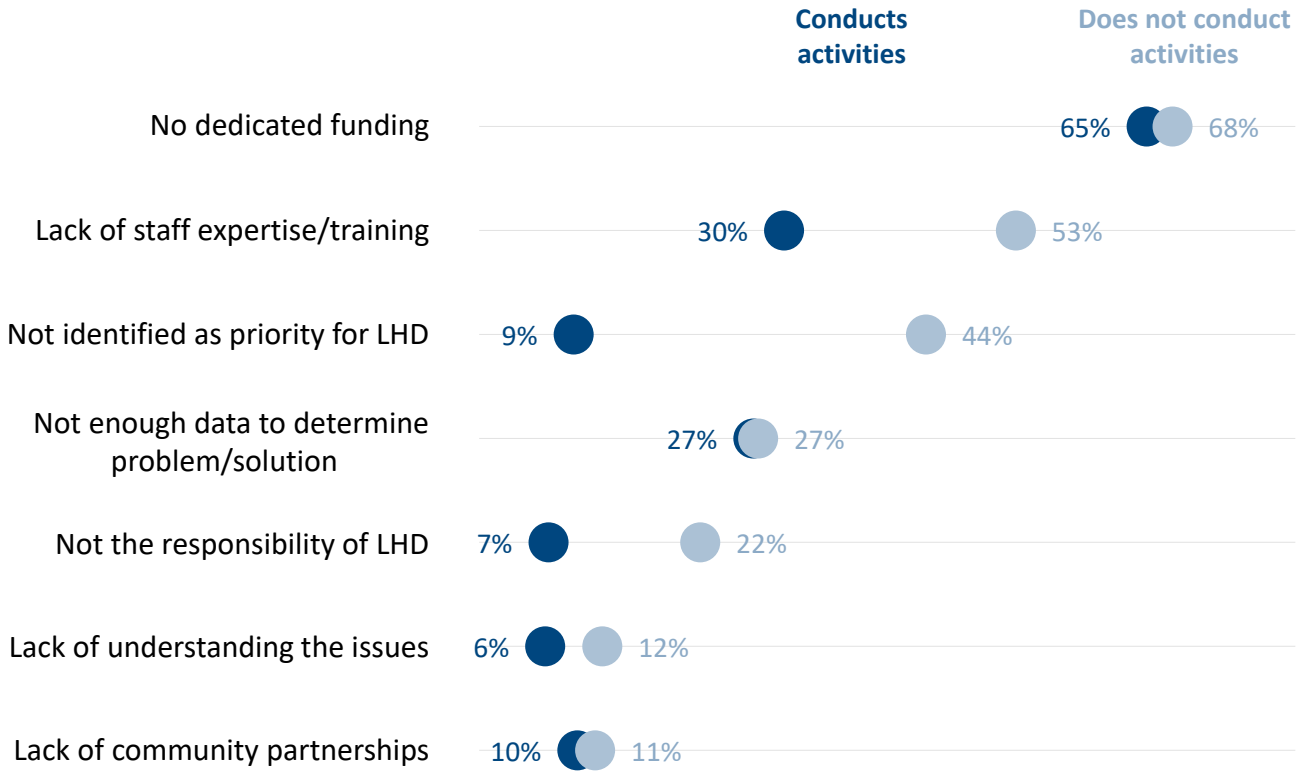
Technical Note

*Statistical significance at p<0.05 level.
**Statistical significance at p<0.01 level.

LHDs that did not conduct activities addressing opioid use were challenged by insufficient staff expertise and training.

Barriers to Conducting Activities to Address Opioid Use and Abuse

Percent of respondents



n=555

As reported on page 18, 65% of all LHDs conducted opioid-related activities in 2017. Two-thirds of these LHDs experienced insufficient funding as a barrier. Likewise, two-thirds of LHDs that did not address opioid use in 2017 also indicated no dedicated funding was a barrier.

However, for LHDs that reported not conducting activities, 53% lacked staff expertise/training—compared to the 30% of agencies that did conduct activities.**

Additionally, 44% of agencies that did not conduct activities reported opioid-related work was not a priority for their LHD. In contrast, only 9% of LHDs that did conduct activities reported the same.**

Technical Note

**Statistical significance at p<0.01 level.

Discussion

The results provide a snapshot of LHD capacity, partnerships, and barriers related to addressing the opioid crisis.

Many LHDs are conducting activities to address opioid use and abuse; however, there is still an urgent need to bolster the local public health workforce and funding capacity dedicated to this work.

Furthermore, LHDs must continue exploring partnerships with a wide range of stakeholders across sectors, including law enforcement, education, healthcare, policymakers, philanthropy, and advocates. Although local partnerships are critical to meeting the unique needs of each community, LHDs in small jurisdictions are less likely to collaborate with some partners to combat opioid use and abuse.

Lastly, LHDs must expand their data collection and analysis efforts to gain a complete picture of the opioid crisis within their communities in order to determine the priorities and best practices to address them.

Combating the opioid epidemic and ensuring resilient communities requires a broad and integrated effort across the local public health system.

Population Health

Population health is defined as “a cohesive, integrated, and comprehensive approach to health that considers the distribution of health outcomes within a population, the health determinants that influence the distribution of care, and the policies and distributions that impact and are impacted by the determinants.”

As the health of a community is impacted by people's access to resources and supports, LHDs are increasing their work in population health.

LHDs are working towards developing their workforce to collect, analyze, and use population health data collaboratively with community partners to address relevant issues.

The 2018 Forces of Change focused on five domains of population health that encompass the underlying factors driving social determinants of health: community infrastructure; community violence; family and social supports; food insecurity, hunger, and nutrition; and housing instability and homelessness.

References

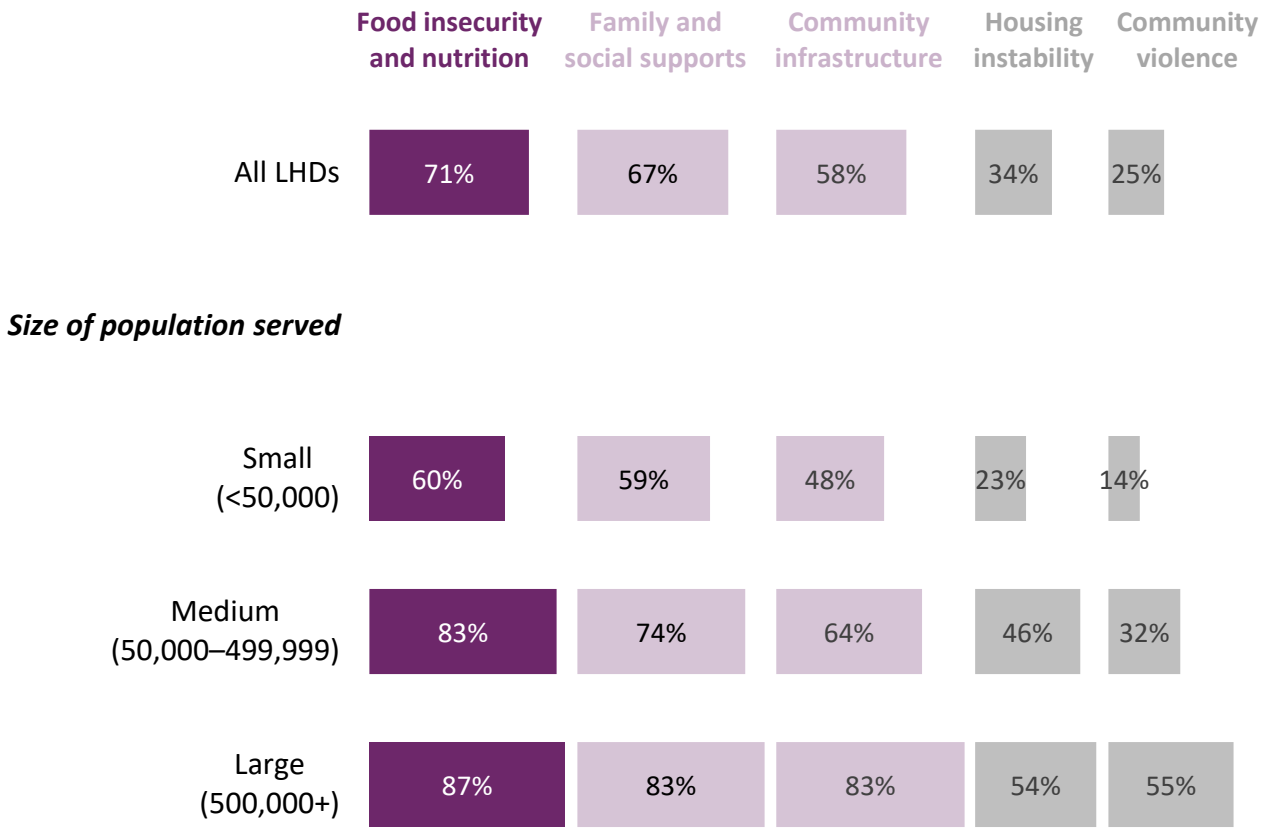
Institute of Medicine. (2003). *The future of the public’s health in the 21st century*. Washington, DC: The National Academies Press.

World Health Organization (WHO). Closing the gap in a generation: Health equity through action on the social determinants of health. Retrieved from http://www.who.int/social_determinants/en

Nearly three-quarters of LHDs conducted activities to address food insecurity, hunger, and nutrition in 2017.

LHDs Conducting Activities to Address Population Health Topic Areas

Percent of respondents



n=520–555

The majority of LHDs reported conducting activities focused on food insecurity, family and social supports, and community infrastructure.

However, only one in three LHDs were engaged in activities focused on housing instability and one in four on community violence.

LHDs serving large and medium populations were more likely to conduct activities to address these focus areas than smaller LHDs.** This may be an indication that these issues are more prevalent in larger populations or that large and medium LHDs have more resources to conduct these activities.

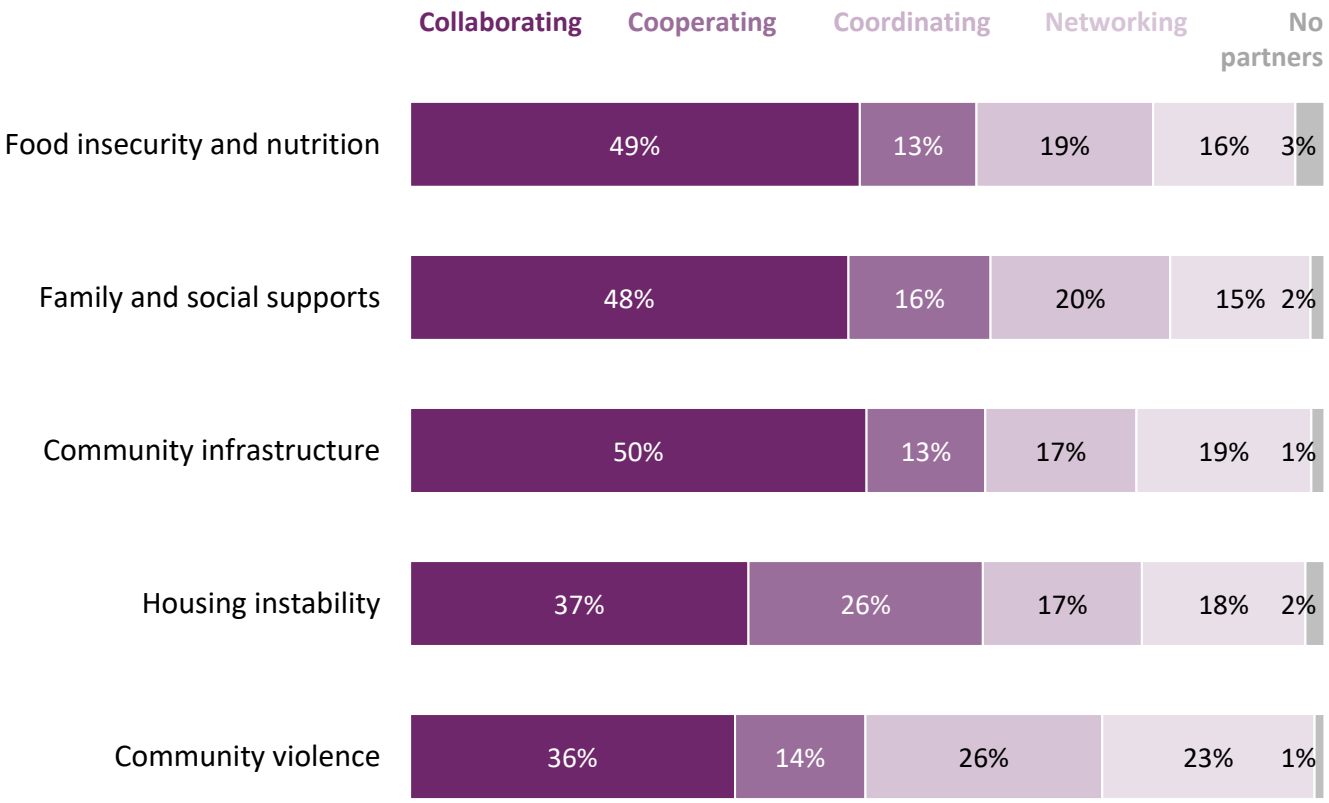
Technical Note

**Statistical significance at p<0.01 level.

Most LHDs collaborated, cooperated, or coordinated with community partners to address population health issues.

Level of Partnerships with Other Organizations to Address Population Health

Percent of respondents (among those that conducted activities in topic area)



n=137–407

Almost half of LHDs that conducted activities in 2017 reported collaborating with partners on activities related to food insecurity and nutrition, family and social supports, and community infrastructure.

In addition, one-third of LHDs that conducted activities collaborated with partners to address housing instability (including homelessness), and community violence.

Technical Notes

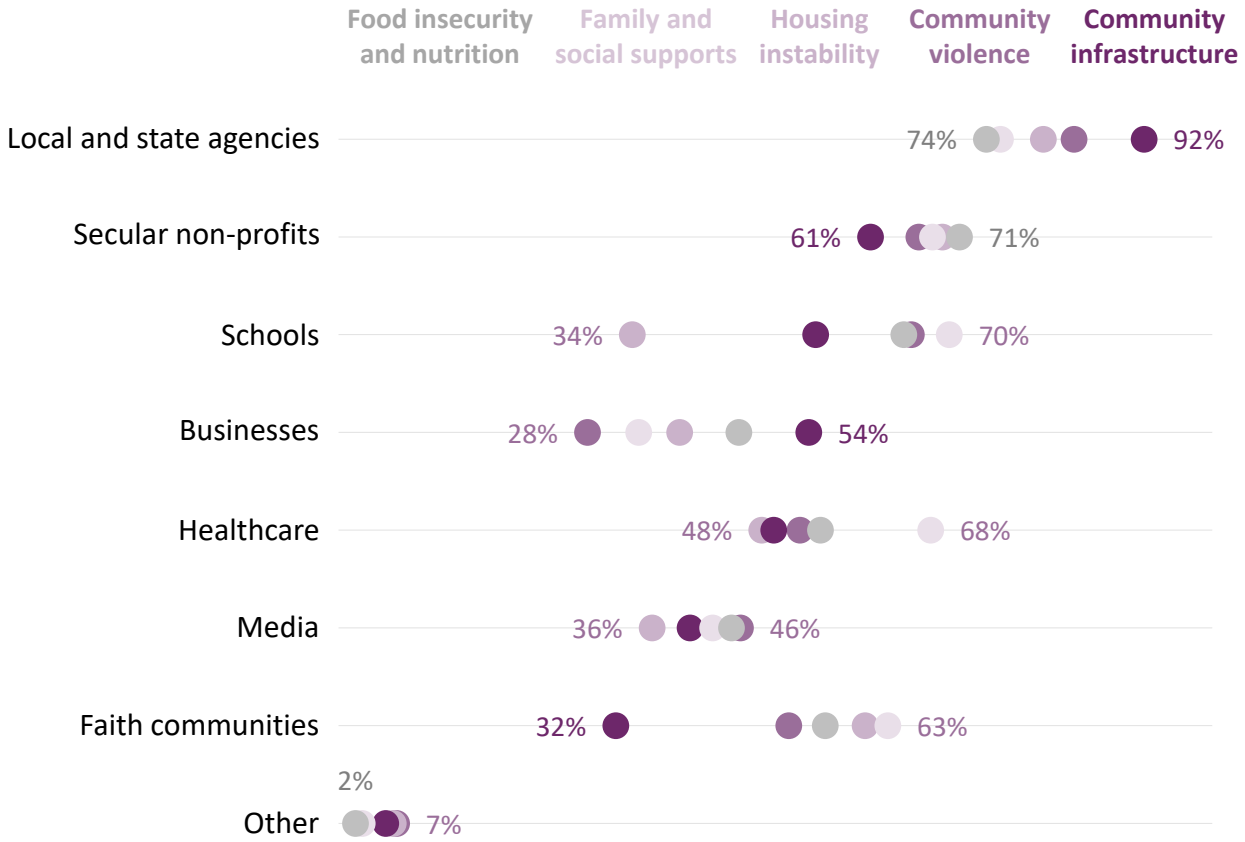
This page references local health departments that reported conducting activities in 2017 to address at least one population health topic area.

Networking includes exchanging information. *Coordinating* includes exchanging information and altering activities. *Cooperating* includes exchanging information, altering activities, and sharing resources. *Collaborating* includes enhancing the capacity of the other partner for mutual benefit and a common purpose, in addition to the above activities.

LHDs partnered with other local and state government agencies to conduct population health activities in 2017.

Organizations Partnering with LHDs to Conduct Population Health Activities

Percent of respondents (among those that partnered with at least one organization)



n=132–380

At least three-quarters of LHDs reported partnering with local/state government agencies to conduct population health activities. In addition, most LHDs partnered with secular non-profits (including community-based organizations), as well as schools.

However, few LHDs partnered with schools to address housing instability (including homelessness), with businesses to address community violence, and with faith communities to address community infrastructure.

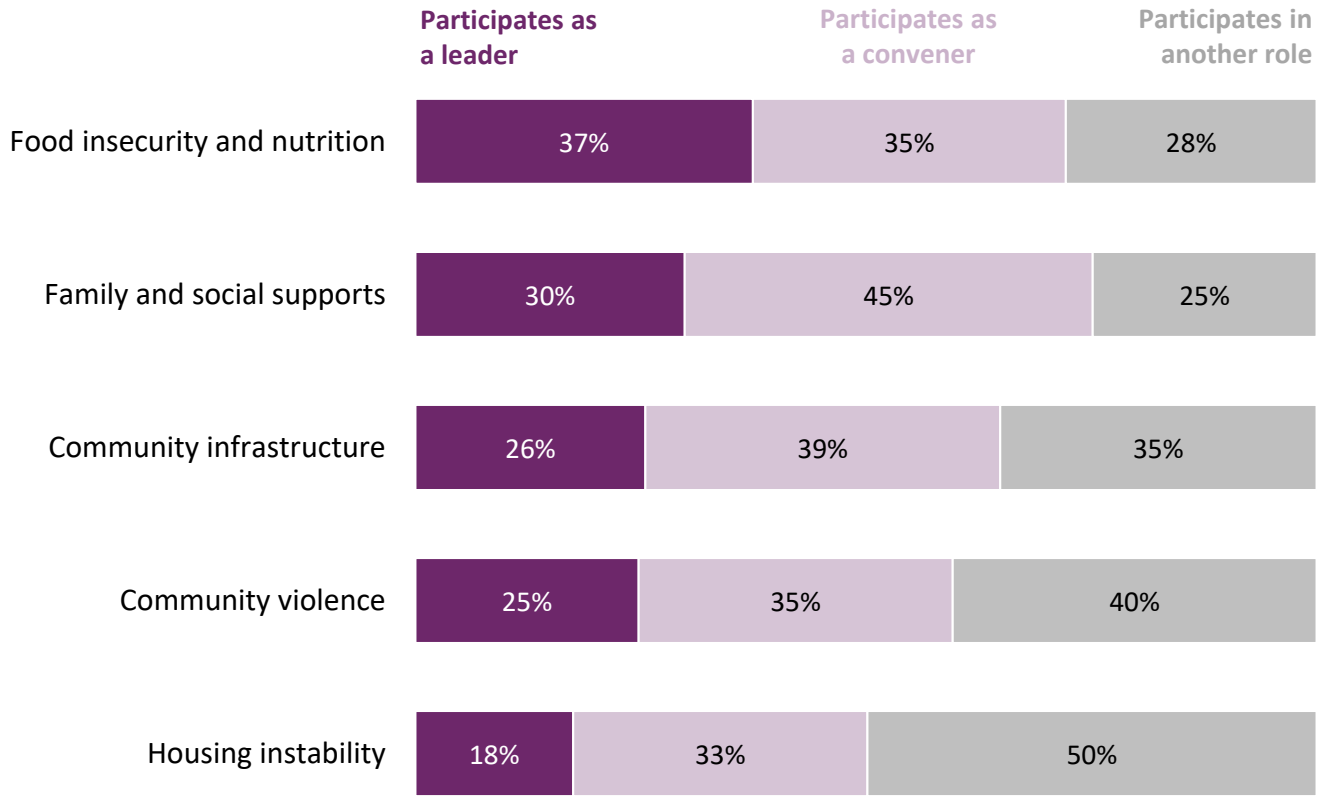
Technical Note

This page references local health departments that reported conducting activities in 2017 to address at least one population health topic area and partnered with at least one organization to do so.

One-third of LHDs participated in population health-focused partnerships as a convener.

Participation in Partnerships to Conduct Population Health Activities

Percent of respondents (among those that partnered with at least one organization)



n=134–389

Most LHDs reported acting as either the leader or convener in partnerships to address food insecurity and nutrition (including hunger), as well as family and social supports.

Additionally, half of LHDs participated in another role in partnerships to address housing instability (including homelessness). LHDs were least likely to have a leadership role in partnerships conducting activities on this topic area.

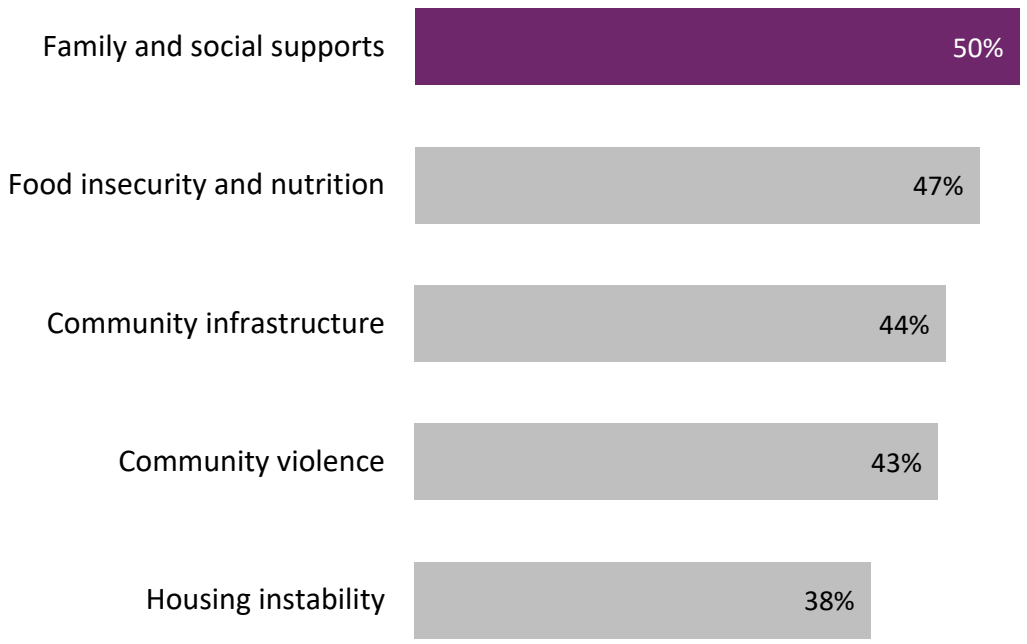
Technical Note

This page references local health departments that reported conducting activities in 2017 to address at least one population health topic area and partnered with at least one organization to do so.

Few LHDs dedicated funds to conduct activities addressing population health issues.

Dedication of General Funds to Conduct Population Health Activities

Percent of respondents (among those that conducted activities in topic area)



n=120–365

Less than half of LHDs that conducted population health activities reported dedicating general funds to that work, with the exception of those focused on family and social supports.

Although not shown, this varied by size of population served. Agencies serving larger populations were likely to have dedicated funds.

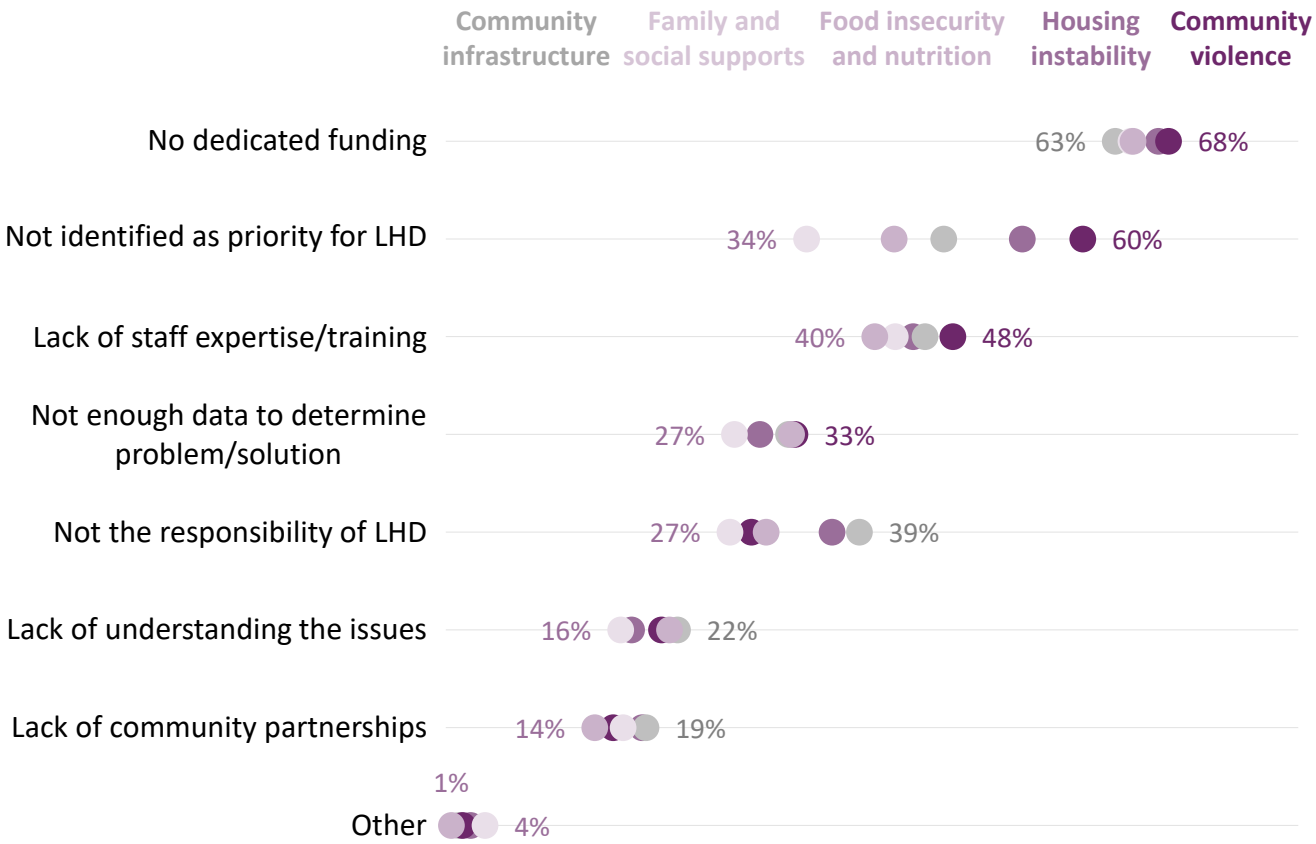
Technical Note

This page references local health departments that reported conducting activities in 2017 to address at least one population health topic area.

LHDs cited no dedicated funding as the top barrier to conducting population health activities.

Barriers to Conducting Activities to Address Population Health

Percent of respondents (among those that did not conduct activities in topic area)



n=136–361

Two-thirds of LHDs reported a lack of dedicated funding continues to prevent them from providing critical services that protect the public's health.

In addition, most LHDs indicated that activities addressing select population health issues, such as community violence and housing instability, were not a priority for their agencies. Although not shown, large LHDs were likely to report this barrier. Small and medium LHDs were challenged by a lack of data about this issue.

Technical Note

This page references local health departments that reported conducting activities in 2017 to address at least one population health topic area and partnered with at least one organization to do so.

Discussion

In 2017, most LHDs were involved in activities addressing food insecurity, family and social supports, and community infrastructure. These issues impact an individual's ability to access and use resources that ensure positive and healthy lives.

Regardless of the specific population health topic area, LHDs conducting related activities are forming the community relationships beyond networking required to effectively address the issues. In addition, most LHDs indicated relationships beyond networking with key partners.

Fewer LHDs were involved in activities to address housing instability and homelessness and community violence. These areas may not traditionally be in the scope of LHD work, but the community and financial instability imposed by these issues threaten the public's health.

Funding continues to play a major barrier for LHDs. At least half of LHDs conducting activities did not have dedicated funds to do so, stretching their limited resources and potentially impeding the provision of services to their communities.

Prioritization is another barrier LHDs experience in conducting population health activities. Although other entities provide related services in some communities, LHDs must be a partner and leader as they are uniquely positioned as the face of public health.

By bolstering the local public health system's capacity to adequately address population health threats, LHDs can influence the social and economic conditions for communities nationwide and create a healthier country.

References

Kushel M.B., Gupta R., Gee L., & Haas J.S. (2006). Housing instability and food insecurity as barriers to health care among low-income Americans. *J Gen Intern Med, 21*(1), 71-77.

Frederick T.J., Chwalek M., Hughes .J, Karabanow J., & Kidd S. (2014). How stable is stable? Defining and measuring housing stability. *J Community Psychol, 42*(8), 964-979.

Influenza Preparedness and Response

Influenza (flu) is a contagious respiratory viral infection, and special populations—such as children, the elderly, and people with certain conditions (e.g., pregnancy, asthma, diabetes)—are at risk for more severe consequences of contracting the illness. The 2017-2018 flu season was particularly bad. One of the dominant strains during this flu season, H3N2, is associated with complications in people with certain conditions.

According to the CDC, one of the best ways to avoid contracting flu is to vaccinate against it.

Additionally, early and effective treatment can prevent serious complications, which might result in a hospital stay. Treatment for flu often consists of antiviral drugs, which can lessen symptoms and shorten the duration of the illness. Antivirals can make a significant difference for high-risk populations.

Because the vaccine and antivirals have a significant impact on the spread and severity of flu, it is imperative that they are readily available in all communities nationwide.

Notably, this year marks the centennial of the 1918 influenza pandemic, which is estimated to have infected 500 million people. This was more than one-third of the world's population at the time, and the number of deaths is estimated to be 50 million internationally and 670,000 in the U.S.

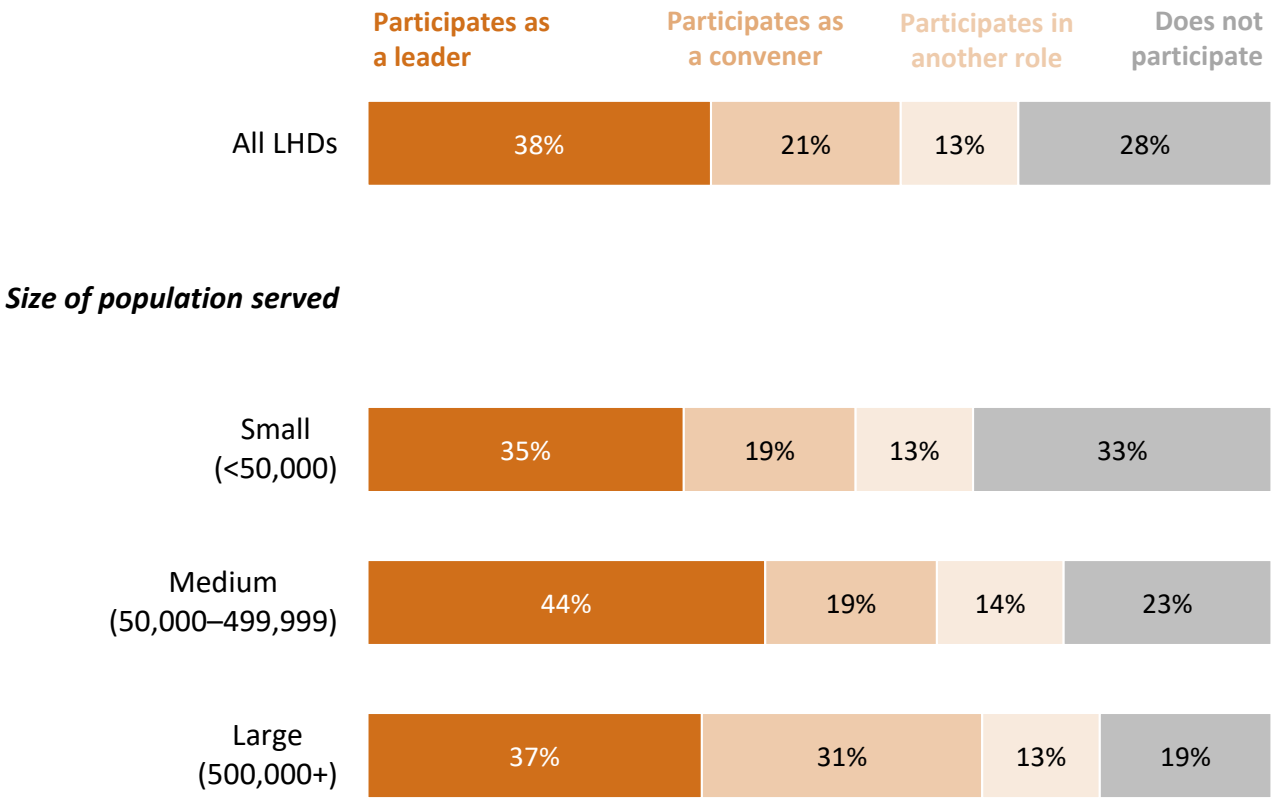
References

Centers for Disease Control and Prevention (CDC). (2018). Influenza (flu) including seasonal, avian, swine, pandemic, and other. Retrieved from https://www.cdc.gov/flu/index.htm

Most LHDs participated in immunization-focused partnerships or coalitions in some capacity.

Participation in Immunization-Focused Partnerships

Percent of respondents



n=564

Overall, three in four LHDs (72%) reported participating in immunization-focused partnerships or coalitions.

Slightly more than one-third of all LHDs (38%) acted as a leader in these immunization-focused partnerships and coalitions.

However, 28% of LHDs reported not participating in immunization-focused partnerships and coalitions.

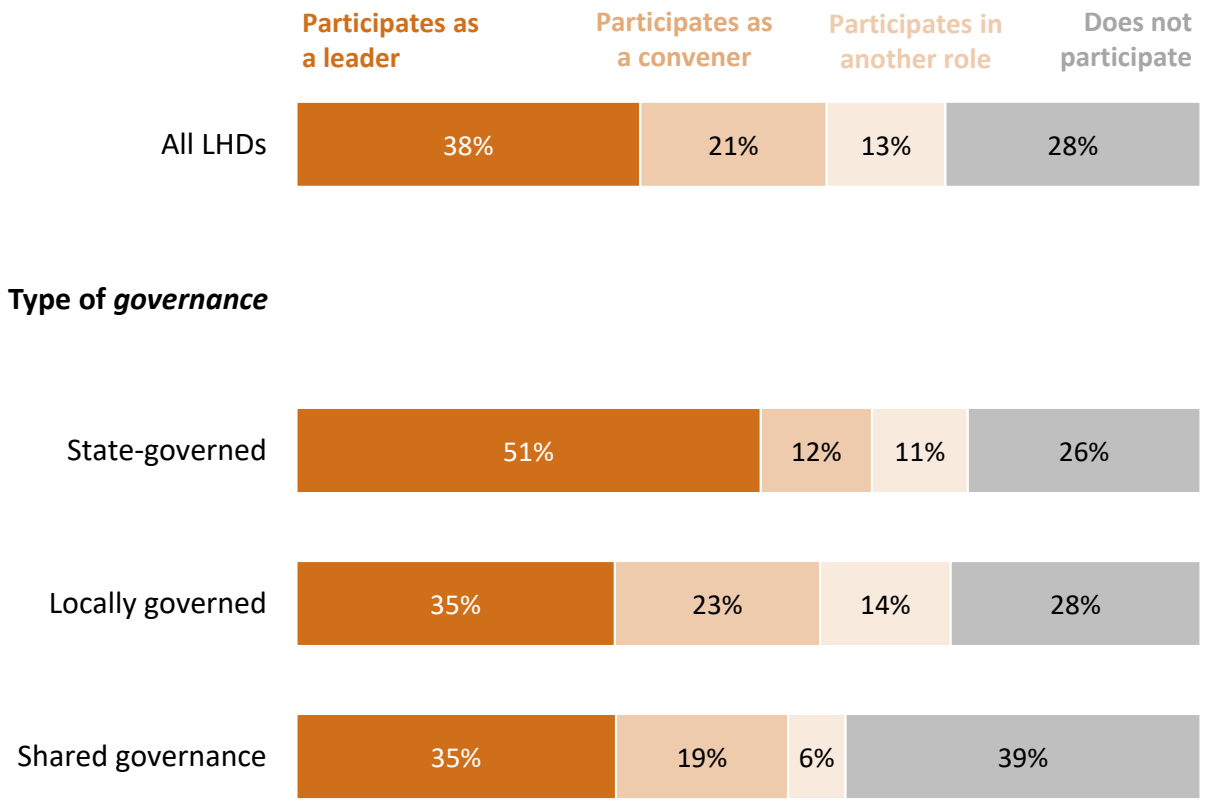
Medium LHDs who participated in immunization-focused partnerships and coalitions were predominantly acting as the leader of these partnerships and coalitions.

Additionally, one-third of small LHDs did not participate in immunization-focused partnerships and coalitions.

Half of state-governed LHDs acted as leaders in immunization-focused partnerships and coalitions.

Participation in Immunization-Focused Partnerships

Percent of respondents



n=564

State-governed LHDs appear to be driving the higher rates of LHDs acting as a leader in the immunization-focused partnerships and coalitions. This difference is significant for state compared to local and state compared to shared governance.*

Locally governed LHDs are slightly more likely to participate in the immunization-focused partnerships and coalitions in another capacity than the leader (i.e., convener or another role).

Additionally, 39% of LHDs with shared governance do not participate in an immunization-focused partnership or coalition.

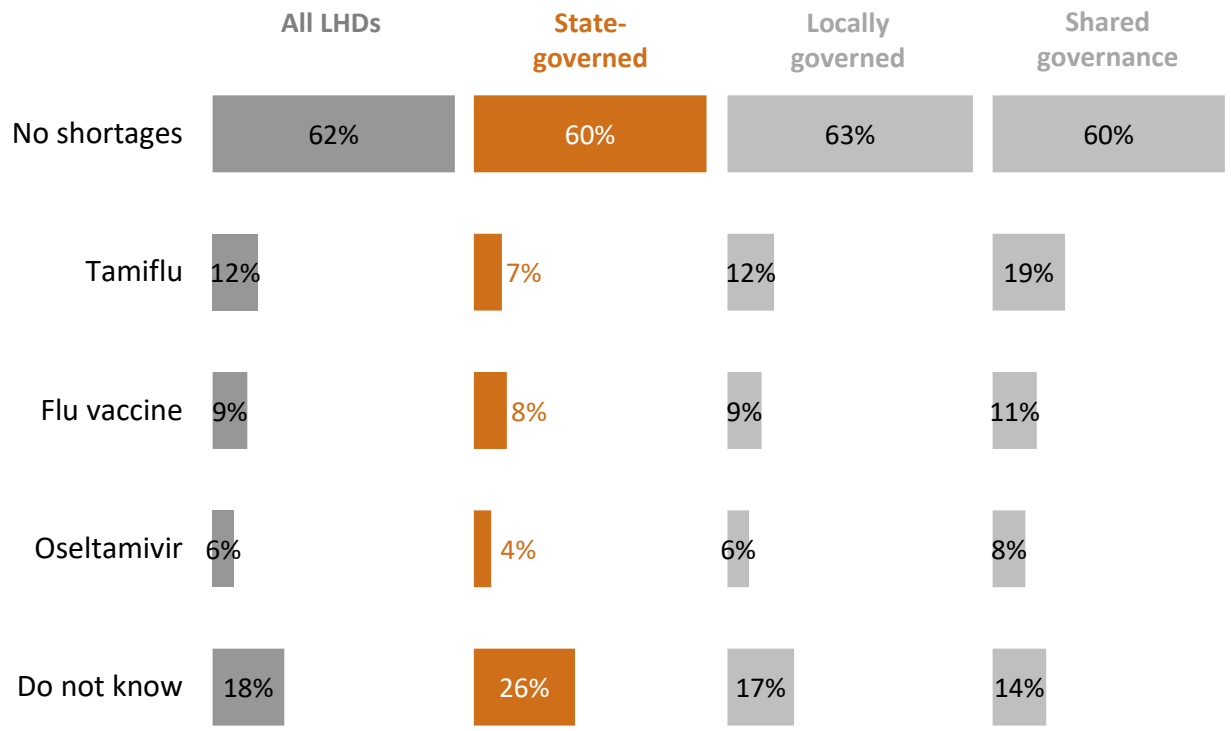
Technical Note

*Statistical significance at p<0.05 level.

Most LHDs did not see a shortage of the flu vaccine, Tamiflu, or Oseltamivir in their jurisdictions for the most recent flu season.

Shortage of Flu Vaccine/Treatments in Organizations in Jurisdiction

Percent of respondents



n=568

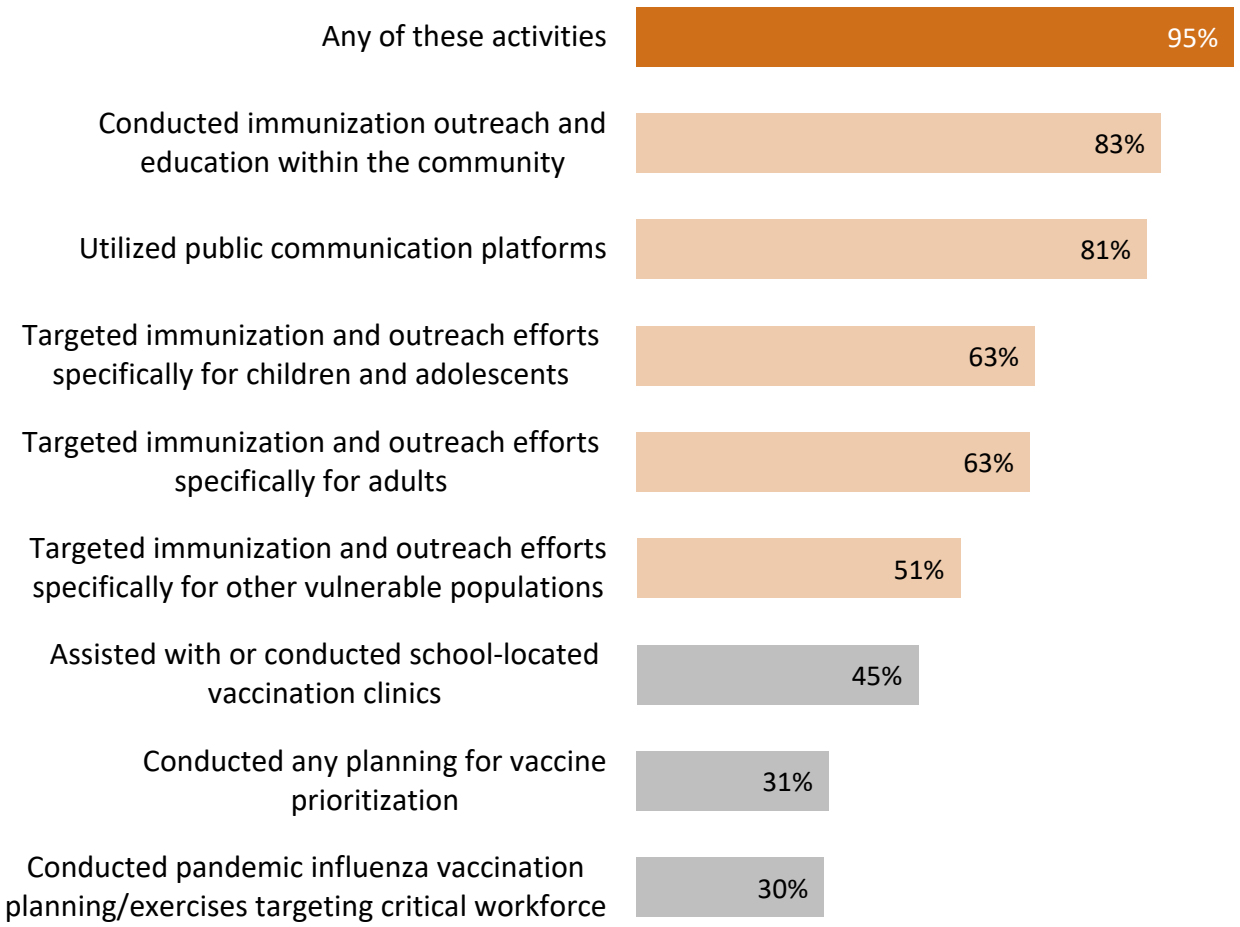
Regardless of the size of population served or governance, most LHDs reported organizations in their jurisdictions did not experience a shortage of the flu vaccine or treatments during the most recent flu season.

Among all LHDs, 18% reported they do not know about shortages in their jurisdictions of the flu vaccine, Tamiflu, or Oseltamivir. This proportion varies by governance. One-quarter of state-governed LHDs were unaware of shortages in their jurisdictions. This finding may suggest insufficient sharing of information among organizations within a jurisdiction.

Nearly all LHDs conducted some activities during the most recent flu season.

Participation in Flu-Related Activities

Percent of respondents



n=569

The most common activities for LHDs during the most recent flu season were focused on disseminating information through outreach and education within the community and utilizing public communications platforms.

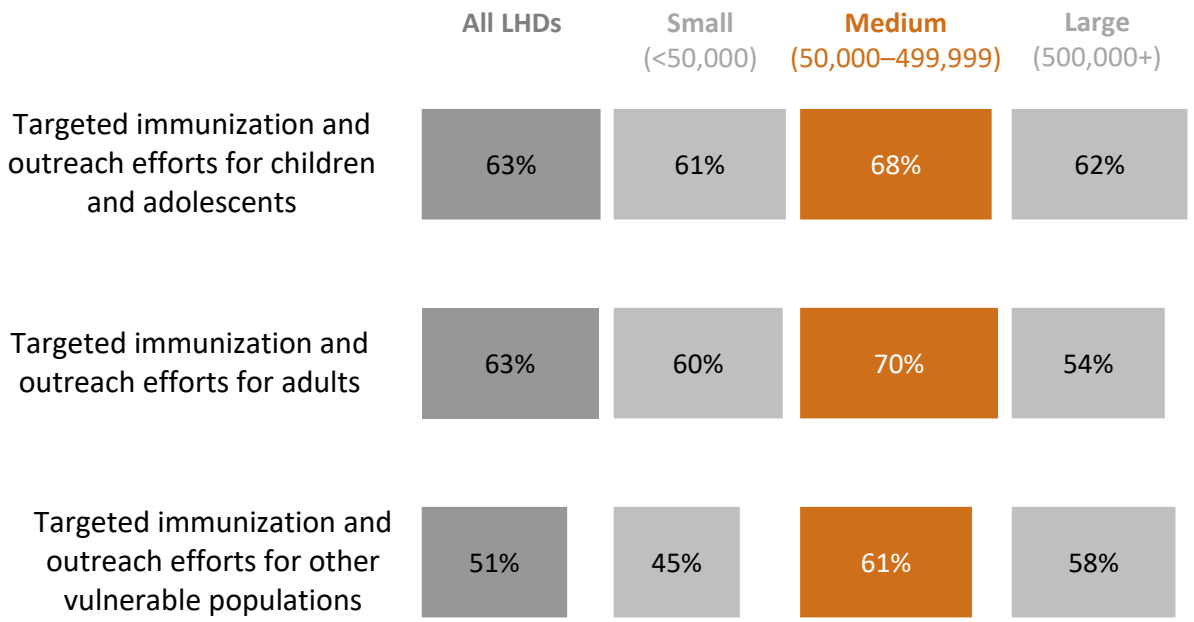
More than half of LHDs reported participating in targeted communication and outreach efforts for adults, children and adolescents, and other vulnerable populations (besides children and adolescents). Additionally, 45% of LHDs reported assisting with or conducting school-located vaccination clinics.

Only one-third of LHDs reported conducting any planning for vaccine prioritization or pandemic influenza vaccination planning or exercises targeting critical workforce.

Medium LHDs were likely to participate in targeted immunization and outreach efforts.

Participation in Targeted Immunization and Outreach Efforts

Percent of respondents



n=569

More than two-thirds of LHDs serving medium-sized jurisdictions reported participating in immunization and outreach efforts specifically for adults. Medium LHDs differed from small and large LHDs.* This finding may be influenced by other organizations within small and large communities already providing this service.

Less than half of LHDs serving small populations participated in targeted immunization and outreach efforts for vulnerable populations (besides children and adolescents). These include pregnant women and people with certain health conditions. Significant differences were seen when comparing medium to small and medium to large LHDs.**

Regardless of the size of population served, nearly two-thirds of LHDs participated in targeted immunization and outreach efforts for children and adolescents.

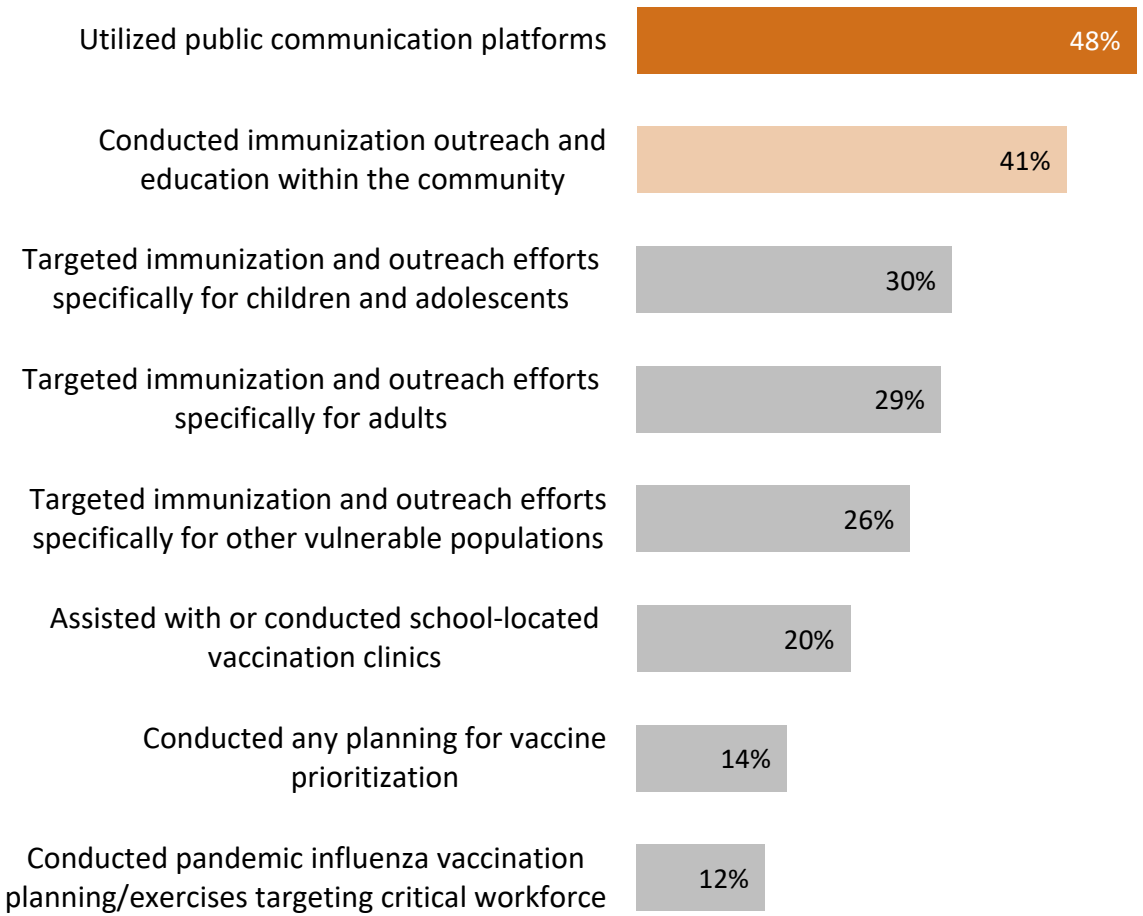
Technical Note

*Statistical significance at p<0.05 level.
**Statistical significance at p<0.01 level.

Nearly half of LHDs increased utilization of public communication platforms in the most recent flu season compared to the previous flu season.

Increases in Level of Activity from Previous to Most Recent Flu Season

Percent of respondents



n=550–563

Utilizing public communication platforms was one of the most commonly reported activities by LHDs (see page 42). This activity was also the most likely to be expanded. Likewise, 41% of LHDs reported an increase in the level of activity for immunization outreach and education within the community.

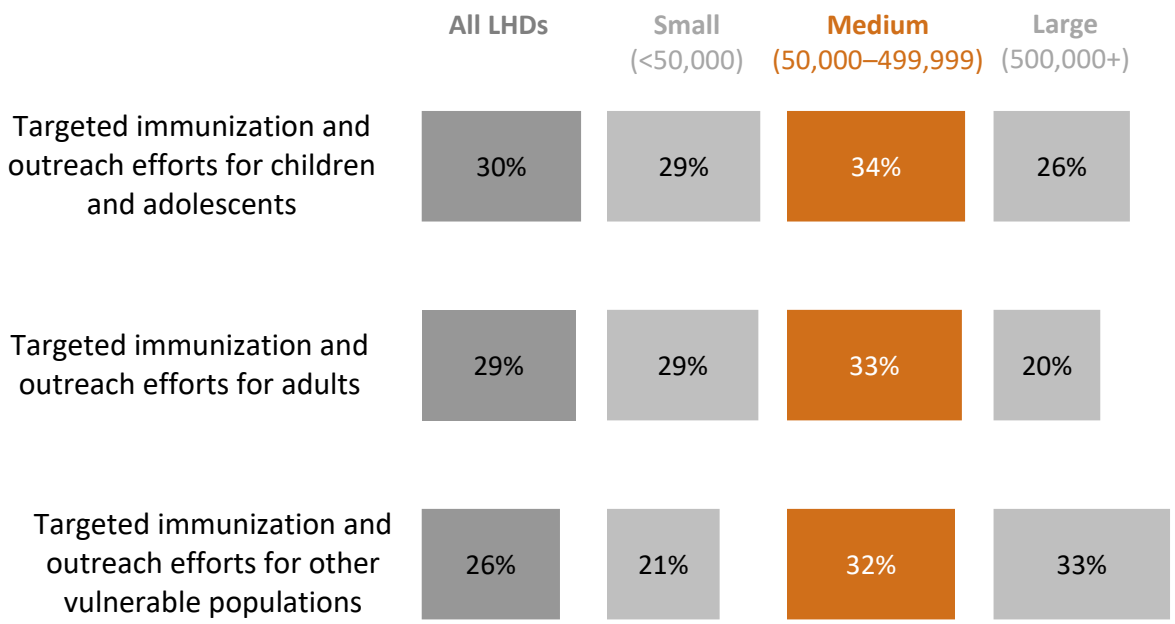
Approximately slightly more than one-quarter of LHDs reported increased activities in targeted immunization and outreach efforts for adults, children and adolescents, and other vulnerable populations.

LHDs were least likely to report conducting activities focused on planning for vaccine prioritization or pandemic influenza vaccination planning/ exercises targeting critical workforce (see page 42). Furthermore, LHDs were least likely to report increases in the level of these same activities.

More than one-quarter of LHDs increased targeted immunizations and outreach activity.

Increases in Targeted Immunization and Outreach Activity

Percent of respondents



n=550–563

Across the three targeted immunization and outreach activities, one-third of medium LHDs reported an increase in all activities.

One-third of LHDs serving large populations reported an increase in activity for targeted immunization and outreach efforts specifically for vulnerable populations (besides children and adolescents). One-fifth of small LHDs reported an increase in this activity.

Increases in activity level varied for large LHDs regarding the three targeted immunization and outreach efforts activities. However, only 20% of these agencies reported an increase in activities around targeted immunizations and outreach efforts specifically for adults.

Discussion

Influenza is a serious public health concern, particularly with strains such as H3N2 that can have severe consequences for populations with certain conditions.

In 2017, most LHDs participated in immunization-focused partnerships or coalitions in some capacity—nearly two-fifths as the leader of these partnerships and coalitions. Additionally, most LHDs did not see any shortages of the flu vaccine, Tamiflu, or Oseltamivir within their jurisdictions.

LHDs conduct a range of activities to meet the unique needs of their communities, including communicating to the public, assisting with vaccination clinics, and planning for response events.

The most common activities in which LHDs participated to address the flu were outreach, education, and communication to the public. These activities may have been prominent in honor of the centennial anniversary of the 1918 influenza pandemic, which resulted in the loss of 670,000 lives across the U.S.

LHDs must consider the context of their jurisdictions when making decisions about the investments of their limited resources. Decisions about which services to provide or cut have an impact on LHDs' capabilities to efficiently deploy preparedness and response strategies addressing novel and evolving infectious disease threats.

References

Centers for Disease Control and Prevention (CDC). (2018). Influenza (flu) including seasonal, avian, swine, pandemic, and other. Retrieved from https://www.cdc.gov/flu/index.htm

Informatics Capacity

The development, implementation, and interoperability of information systems is critical to ensuring the public's health.

Informatics and health information technology (HIT) enable communication between providers to streamline healthcare systems, improve healthcare delivery, and ensure continuity of care across the lifespan.

NACCHO uses Healthcare Information and Management Systems Society's (HIMSS) definition of interoperability, which is the extent to which systems and devices can automatically exchange data and interpret that shared data. For two systems to be interoperable, they must be able to automatically exchange data and subsequently present that data so that it can be understood by the user.

Additionally, advancing informatics includes using syndromic surveillance systems that collect, analyze, and interpret health-related data required for the planning, implementation, and evaluation of public health programs. Syndromic surveillance systems are frequently used to monitor influenza and other highly infectious diseases.

References

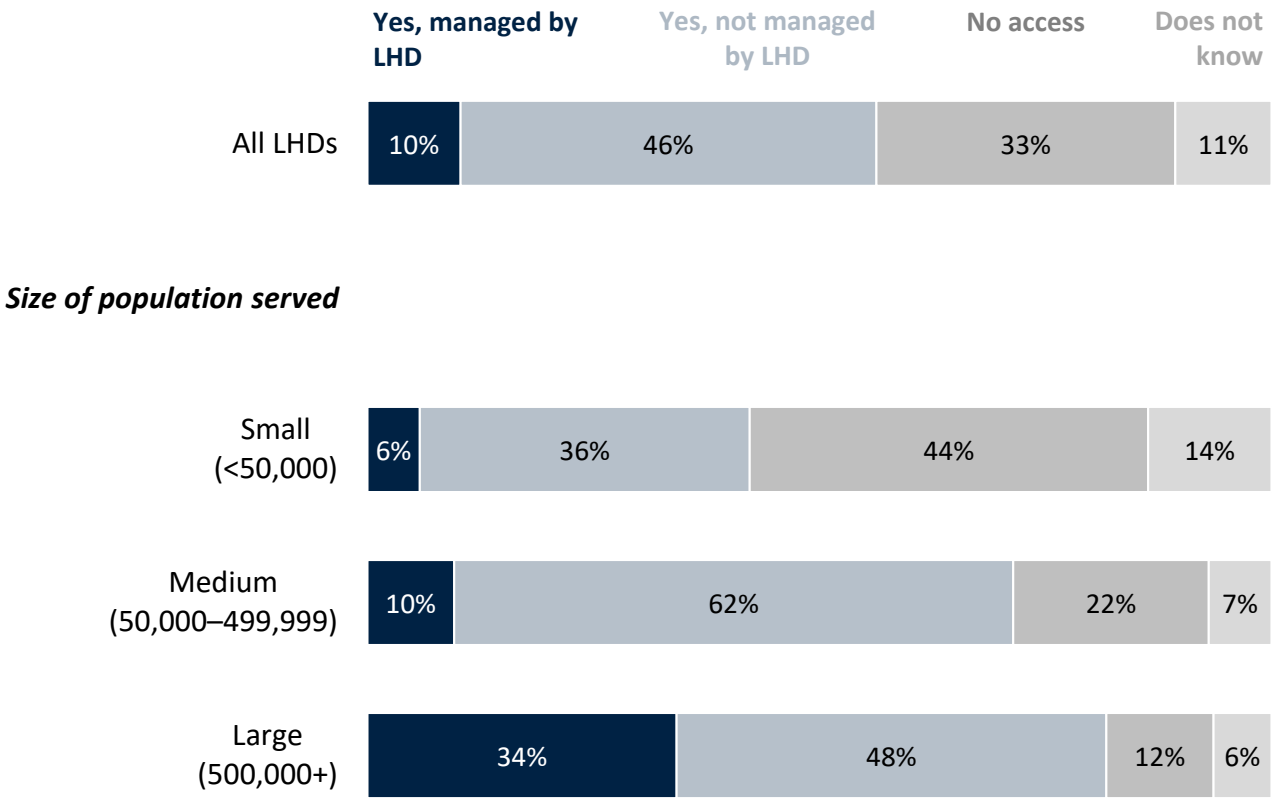
Healthcare Information and Management Systems Society (HIMSS). (2005). What is Interoperability? Retrieved from https://www.himss.org/library/interoperability-standards/what-is-interoperability

National Association of County and City Health Officials (NACCHO). (2018). Health Information Technology and Informatics. Retrieved from https://www.naccho.org/programs/public-health-infrastructure/health-it

More than half of LHDs had access to data from an electronic syndromic surveillance system that uses hospital emergency department (ED) data.

Access to Electronic Syndromic Surveillance System that Uses Hospital ED Data

Percent of respondents



n=564

Fifty-six percent of all LHDs reported having access to an electronic syndromic surveillance system that uses hospital ED data. However, only 10% of LHDs managed the system. In contrast, one-third of LHDs had no access to a system.

Most large LHDs reported having access to an electronic syndromic surveillance system, with one-third managing the system. Small and medium LHDs were less likely than those serving large populations to manage an electronic system.** Additionally, 14% of small LHDs reported they were unsure about their access.

Although not displayed, nearly one-quarter of state-governed LHDs reported they "do not know" whether they had access to an electronic syndromic surveillance system.

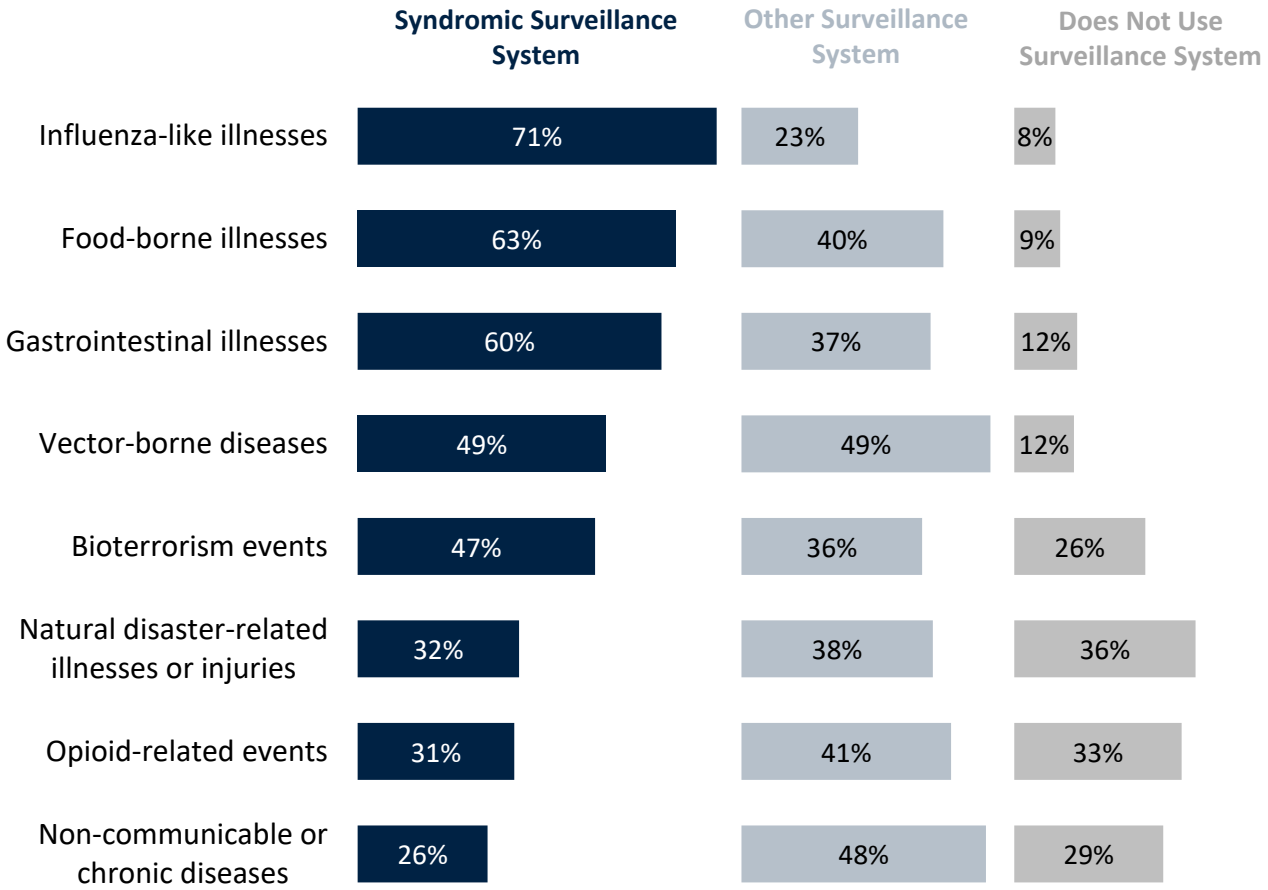
Technical Note

**Statistical significance at p<0.01 level.

Most LHDs used syndromic surveillance systems to detect influenza-like and food-borne illnesses.

Use of Surveillance System for Detection Activities

Percent of respondents (among those that had access to data from a surveillance system)



n=301–319

Most LHDs using a syndromic surveillance system reported doing so to detect influenza-like illnesses, with only 8% indicating no system is used.

Almost half of LHDs reported using either a syndromic or other surveillance system to detect vector-borne diseases.

In addition, nearly half of LHDs use a surveillance system other than syndromic to detect non-communicable or chronic diseases.

To detect opioid-related events, 31% of LHDs reported using syndromic surveillance systems, and 41% use a surveillance system other than syndromic. One-third do not use a surveillance system to detect opioid-related events.

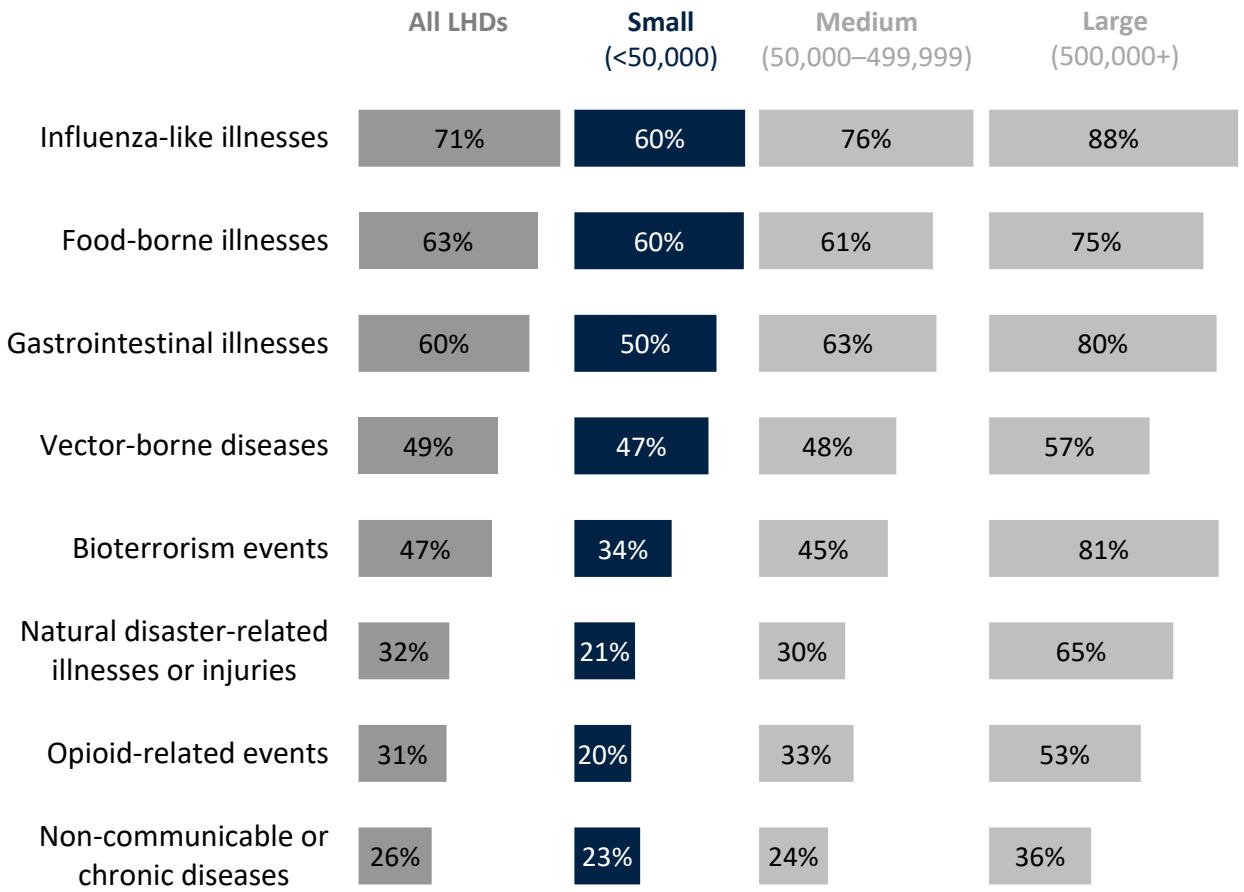
Technical Note

This page references local health departments that reported having access to data from a surveillance system that uses hospital ED data.

Small LHDs were less likely to use syndromic surveillance systems to detect illnesses.

Use of Syndromic Surveillance System for Detection Activities

Percent of respondents (among those that had access to data from a surveillance system)



n=301–319

Nearly two-thirds of small LHDs reported using syndromic surveillance systems to detect influenza-like and food-borne illnesses. Medium and large LHDs were more likely to use a syndromic surveillance system to detect these illnesses than small agencies.**

As noted on page 49, LHDs detect opioid-related events using non-syndromic surveillance systems. However, more than half of LHDs serving large populations reported using syndromic surveillance systems to detect opioid-related events.

Technical Notes

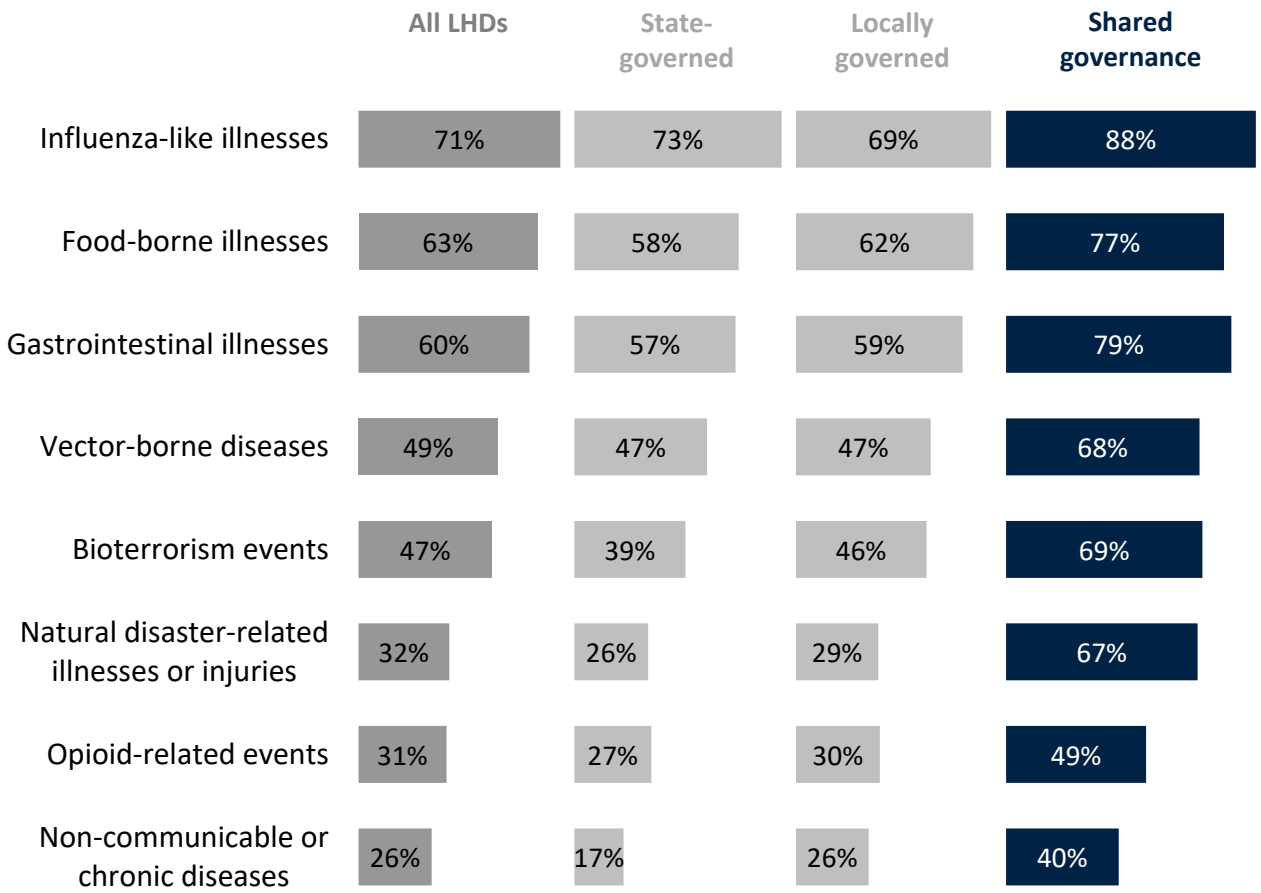
This page references local health departments that reported having access to data from a surveillance system that uses hospital ED data.

**Statistical significance at p<0.01 level.

LHDs with shared governance were likely to use syndromic surveillance systems to detect illnesses.

Use of Syndromic Surveillance System for Detection Activities

Percent of respondents (among those that had access to data from a surveillance system)



n=301–319

LHDs with shared governance were more likely to use syndromic surveillance systems across many detection activities. For example, the proportion of shared governance agencies reporting use of syndromic surveillance systems to detect natural disaster-related illnesses or injuries was more than twice the proportion of state- and locally governed LHDs.**

Technical Notes

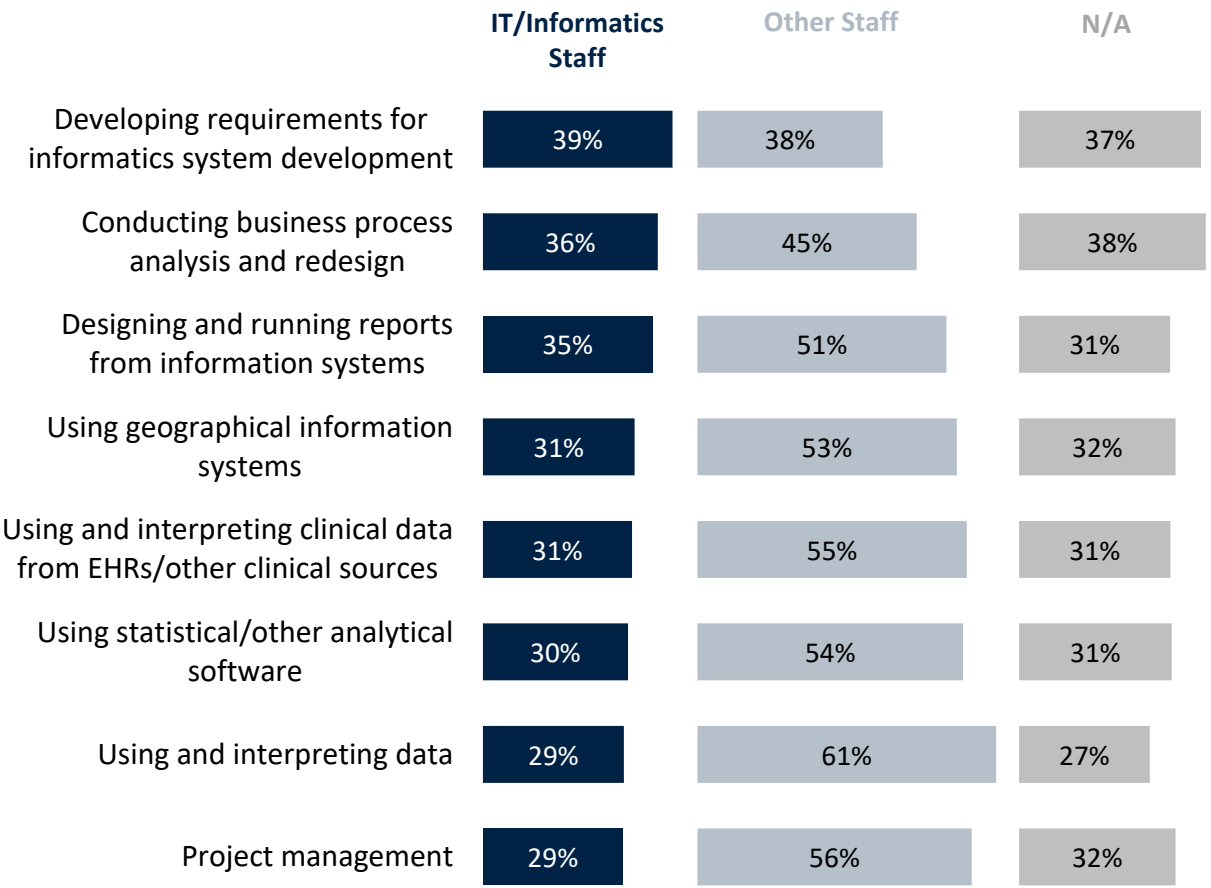
This page references local health departments that reported having access to data from a surveillance system that uses hospital ED data.

**Statistical significance at p<0.01 level.

LHDs were more like to identify non-IT/ informatics staff as in need of professional development related to information systems.

Topic Areas for Staff Development

Percent of respondents



n=499–515

When identifying areas for staff development related to information systems, approximately one-third of LHDs indicated their IT/informatics staff needed professional development across most topics.

Similarly, one-third of LHDs reported "not applicable" across staff development topic areas.

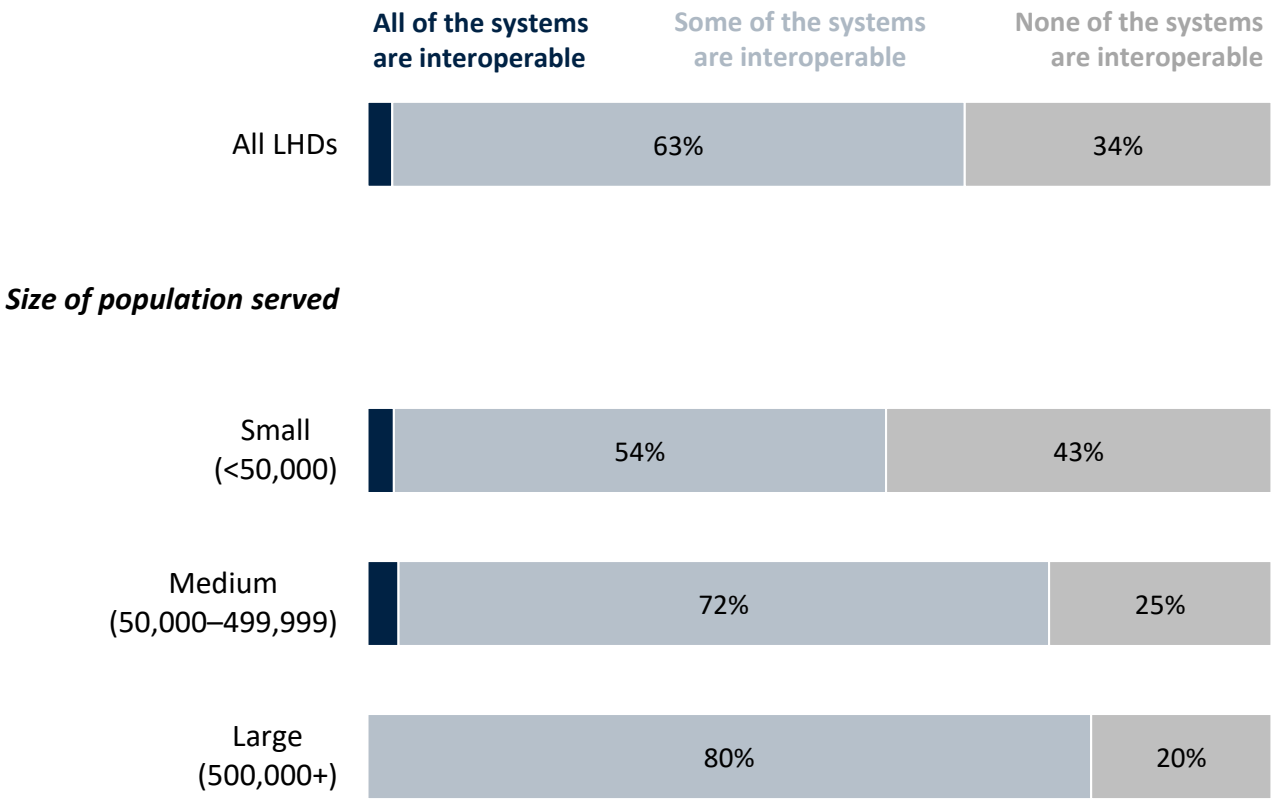
However, more than half of LHDs identified development needs among non-IT/informatics staff in many topic areas.

The only area of staff development in which LHDs reported a slightly higher need for IT/informatics staff than for other staff is developing requirements for informatics system development.

Most LHDs reported some of their information systems are interoperable.

Interoperability of Information Systems Used by LHD

Percent of respondents



n=551

Only 3% of all LHDs reported that all of their information systems are interoperable, with no large LHDs reporting full interoperability.

In addition, one-third of all LHDs reported none of their systems are interoperable, with 43% of small LHDs driving this result.

More than half of small LHDs reported some of their systems are interoperable—compared to the 72% of medium and 80% of large agencies.**

Although not shown, 8% of LHDs with shared governance reported all their systems are interoperable.

Technical Note

**Statistical significance at p<0.01 level.

Discussion

Informatics and the streamlining of health information systems ensure expanded access to effective care in communities nationwide. As such, LHDs must continue to develop and improve their systems.

Most LHDs are employing electronic syndromic surveillance systems that use hospital emergency department data. Additionally, most LHDs use these systems to detect influenza-like and food-borne illnesses.

Large LHDs are more likely to use syndromic surveillance systems to detect illnesses than small LHDs. This finding may indicate LHDs serving larger populations have better access to systems and the resources to use them.

Additionally, most LHDs have some information systems that are interoperable, but few have fully interoperable systems.

As LHDs continue to strengthen their informatics capacity, they will need to develop their staff in HIT capabilities, such as using geographical information systems and analyzing and interpreting clinical data.

Environmental Health

The interrelationships between people and their environment have significant impacts on human health and well-being, and local physical and social conditions can either increase or decrease the overall health impact.

LHDs play a vital role in fostering a safe and resilient environment.

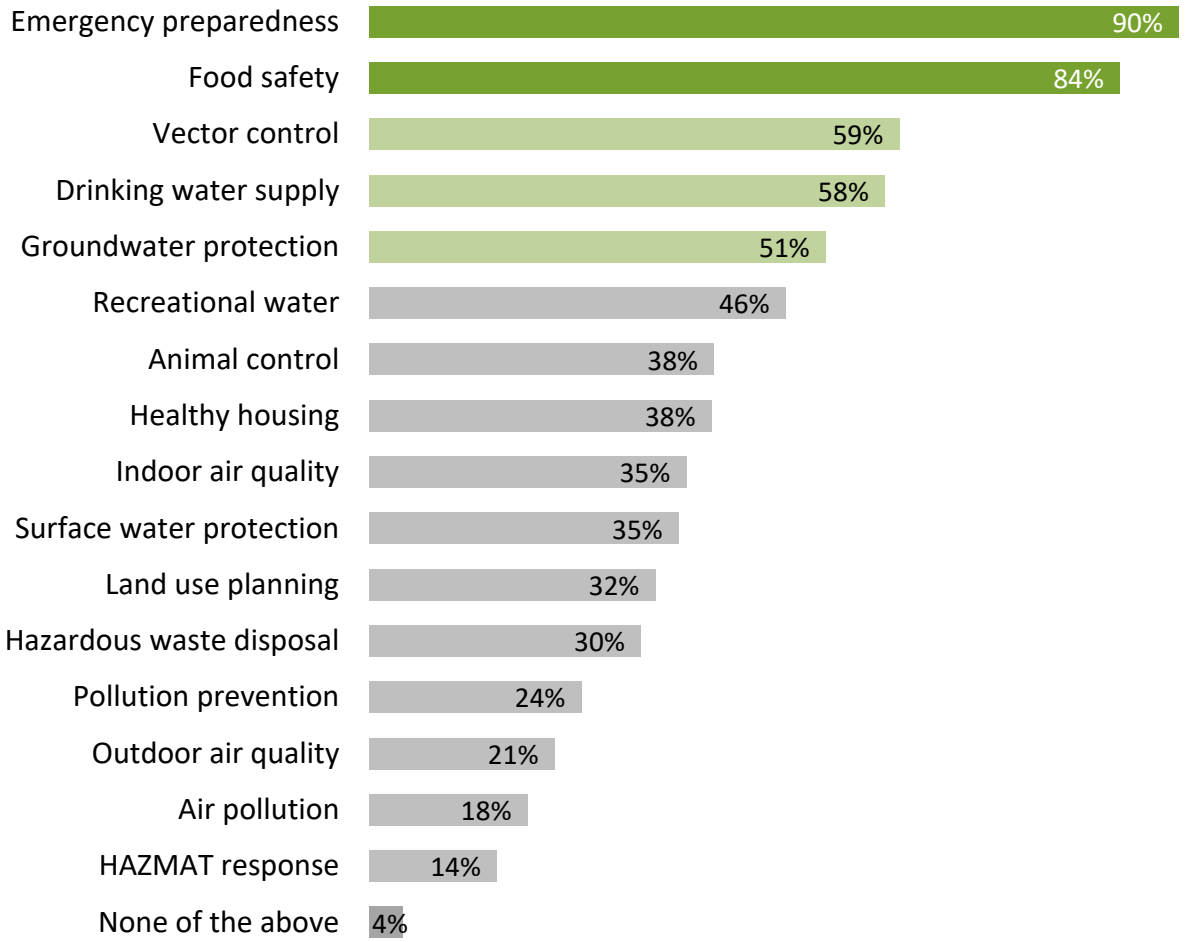
Environmental health work at the local level protects the public's health against a wide range of threats, including frequent and intense extreme weather, transmission and geographic expansion of vector-borne diseases, and compromised air, water, and food quality.

Additionally, climate change can increase the risk of these threats across communities, highlighting the urgency of environmental health efforts in LHDs nationwide.

In 2017, many LHDs provided services focused on emergency preparedness and food safety.

Provision of Environmental Health Services in 2017

Percent of respondents



n=555

The majority of LHDs reported providing services related to emergency preparedness and food safety in 2017.

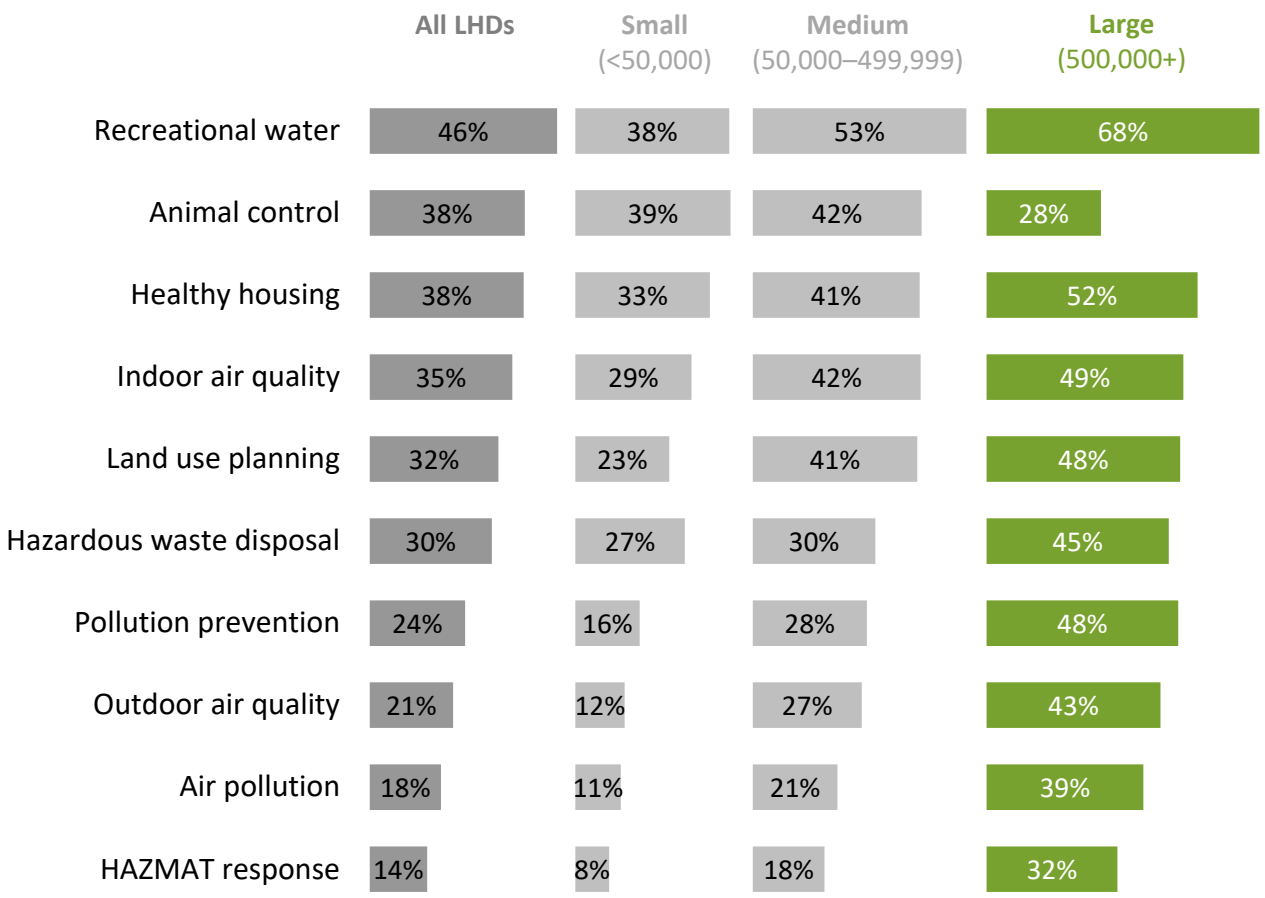
In addition, more than half of LHDs provided vector control, drinking water supply, and groundwater protection services.

In 2017, the least common environmental health services provided by LHDs was HAZMAT response and air quality protection.

Large LHDs were likely to conduct services across diverse environmental health topics in 2017.

Provision of Environmental Health Services in 2017

Percent of respondents



n=555

In 2017, more large LHDs reported providing services across environmental health topics—except animal control—than agencies serving small populations.**

Compared to medium LHDs, large agencies were more likely to address hazardous waste disposal, outdoor air quality/pollution, and HAZMAT response.*

These differences may be indicative that small and medium LHDs face competing priorities for limited resources or that other agencies provide these environmental health services in small and medium jurisdictions.

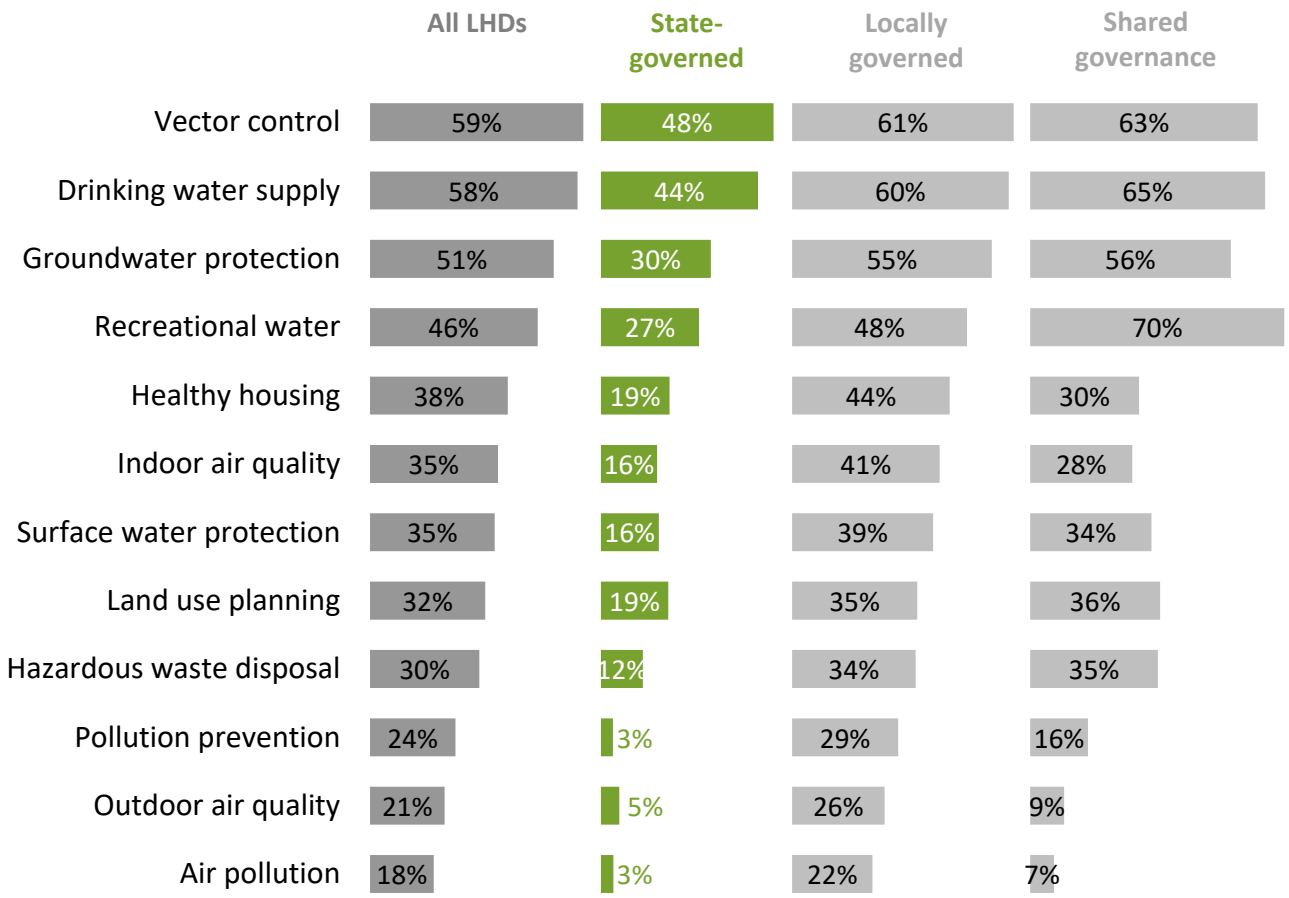
Technical Note

*Statistical significance at p<0.05 level.
**Statistical significance at p<0.01 level.

In 2017, LHDs governed by the state were less likely to provide environmental health services.

Provision of Environmental Health Services in 2017

Percent of respondents



n=555

Across many environmental health topic areas, state-governed LHDs were less likely to provide services compared to locally governed LHDs.**

Likewise, compared to LHDs with shared governance, fewer state-governed agencies reported providing most environmental health services, except for vector control, healthy housing, outdoor air quality, and air pollution.*

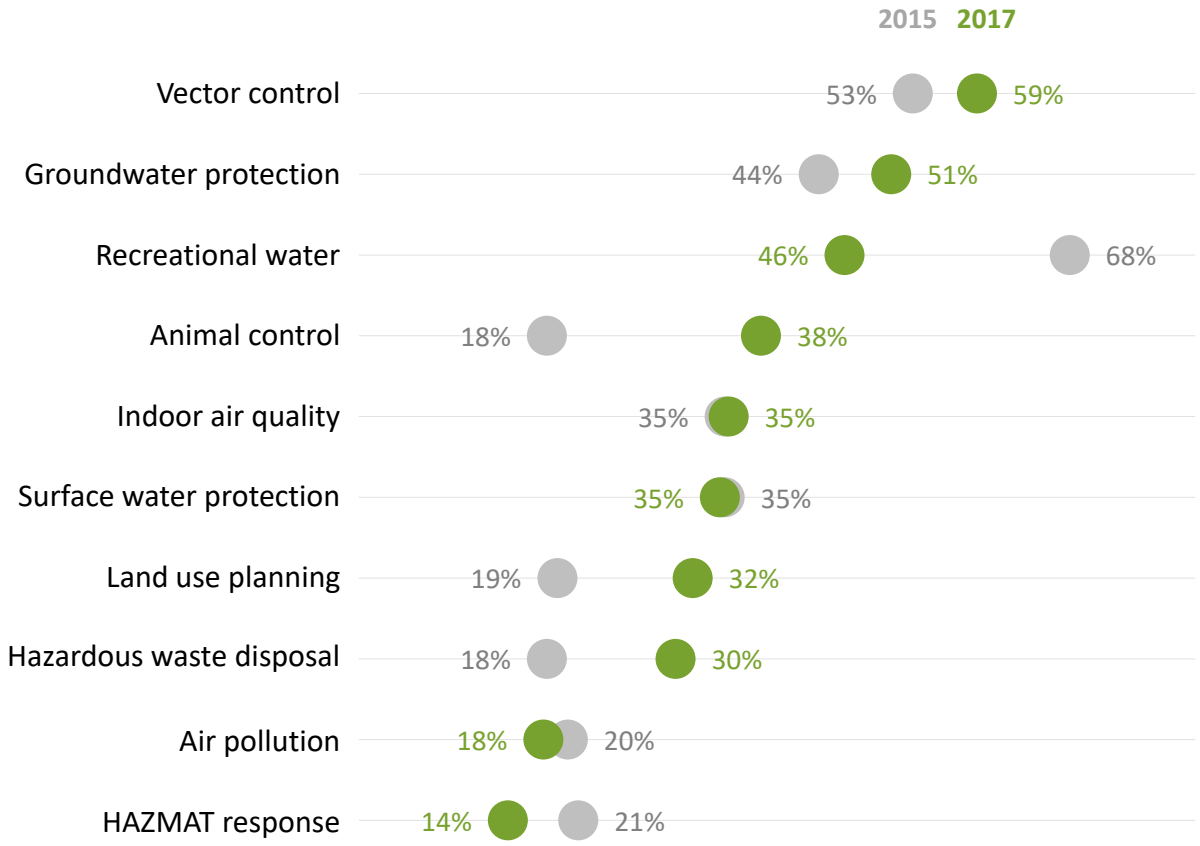
Technical Note

*Statistical significance at p<0.05 level.
**Statistical significance at p<0.01 level.

More LHDs provided animal control, land use planning, and hazardous waste disposal services in 2017 compared to 2015.

Provision of Environmental Health Services Over Time

Percent of respondents



n(2015)=1,461-1,870
n(2017)=555

Although the proportion of LHDs reporting service provision across some environmental health topic areas has remained constant compared to 2015, slightly more LHDs indicated they provide vector control and groundwater protection services in 2017. The largest changes were seen in animal control, land use planning, and hazardous waste disposal, with respective increases of 20, 13, and 12 percentage points.**

In addition, fewer agencies reported providing recreational water and HAZMAT response services in 2017 than in 2015.**

2015 Data Source

National Association of County and City Health Officials (NACCHO). (2017). 2016 National Profile of Local Health Departments. Washington, DC. http://nacchoprofilestudy.org/wp-content/uploads/2017/10/ProfileReport_Aug2017_final.pdf.

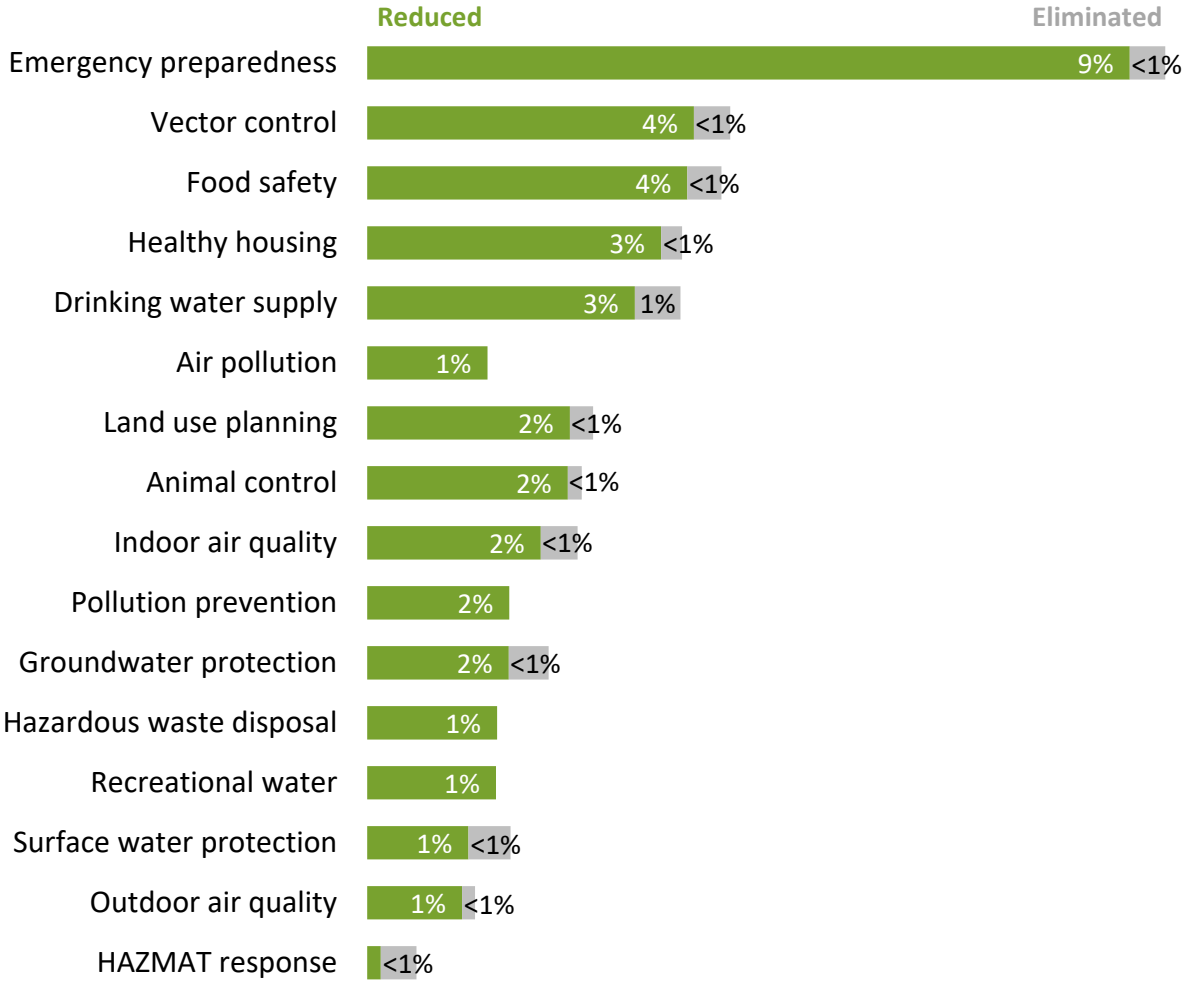
Technical Note

**Statistical significance at p<0.01 level.

Few LHDs reduced or eliminated environmental health services due to budgetary reasons in 2017.

Changes in Service Provision due to Budgetary Reasons

Percent of respondents



n=522–544

Although environmental health service provision experienced stabilization for many LHDs, the most commonly reported service reduction was in emergency preparedness. This may be reflective of the large number of agencies that provide this service compared to the other service areas.

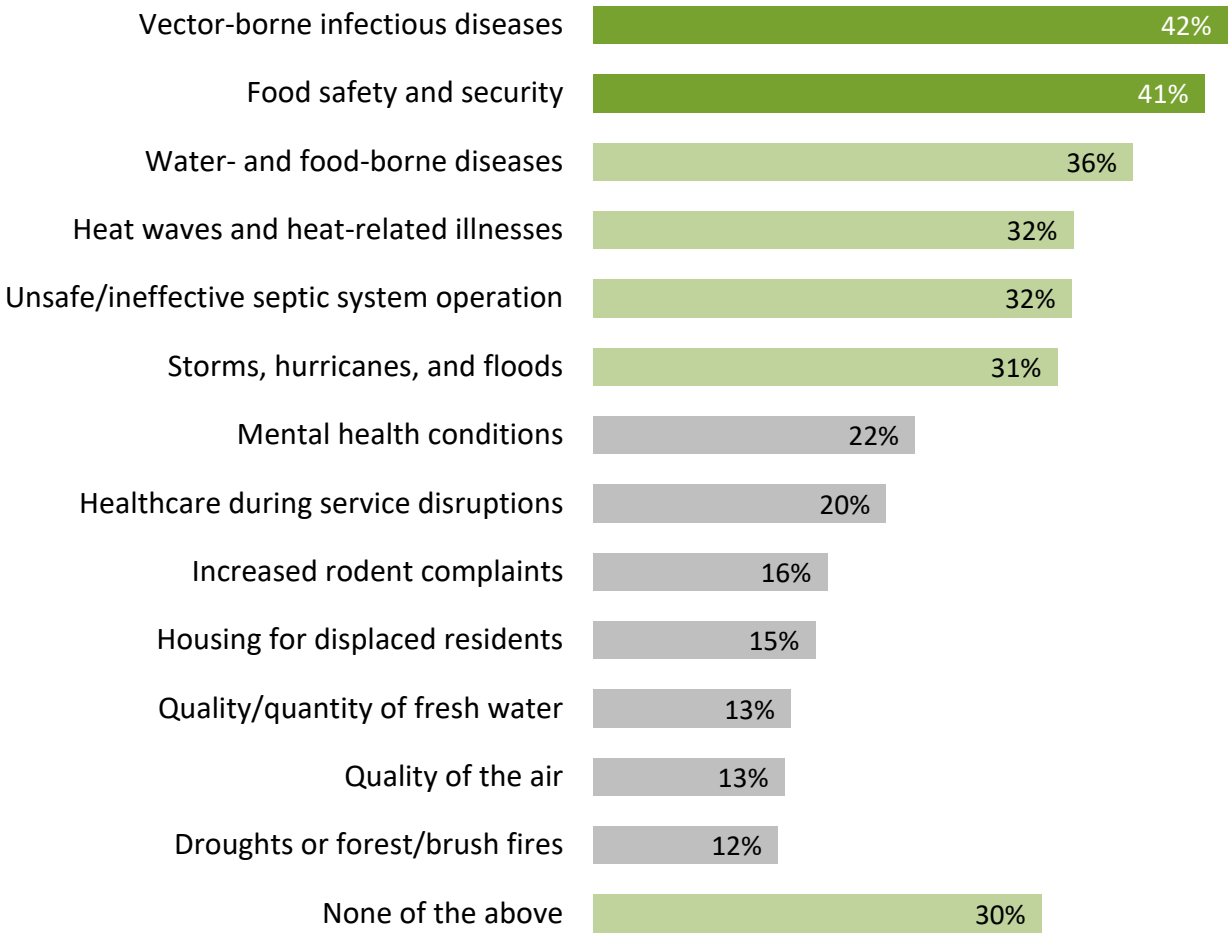
As noted on page 56, the other most commonly provided services were food safety, vector control, and drinking water supply. LHDs also experienced reductions in these services, as well as in healthy housing.

Although not shown, variation in service reductions were reported across jurisdiction sizes. Small LHDs were more likely to experience reductions in air pollution, emergency preparedness, healthy housing, and land use planning services.

LHDs addressed some public health threats related to climate change in 2017.

Climate Change-Related Threats Addressed in 2017

Percent of respondents



n=542

Less than half of LHDs reported working on public health threats related to climate change. In 2017, 42% of agencies dealt with vector-borne infectious diseases as they relate to climate change (59% provided vector control services overall). Likewise, 41% of LHDs addressed food safety and security, while 84% overall conducted food safety activities (see page 56). This could suggest that, although LHDs are doing a lot of this work, they may not be connecting it to climate change.

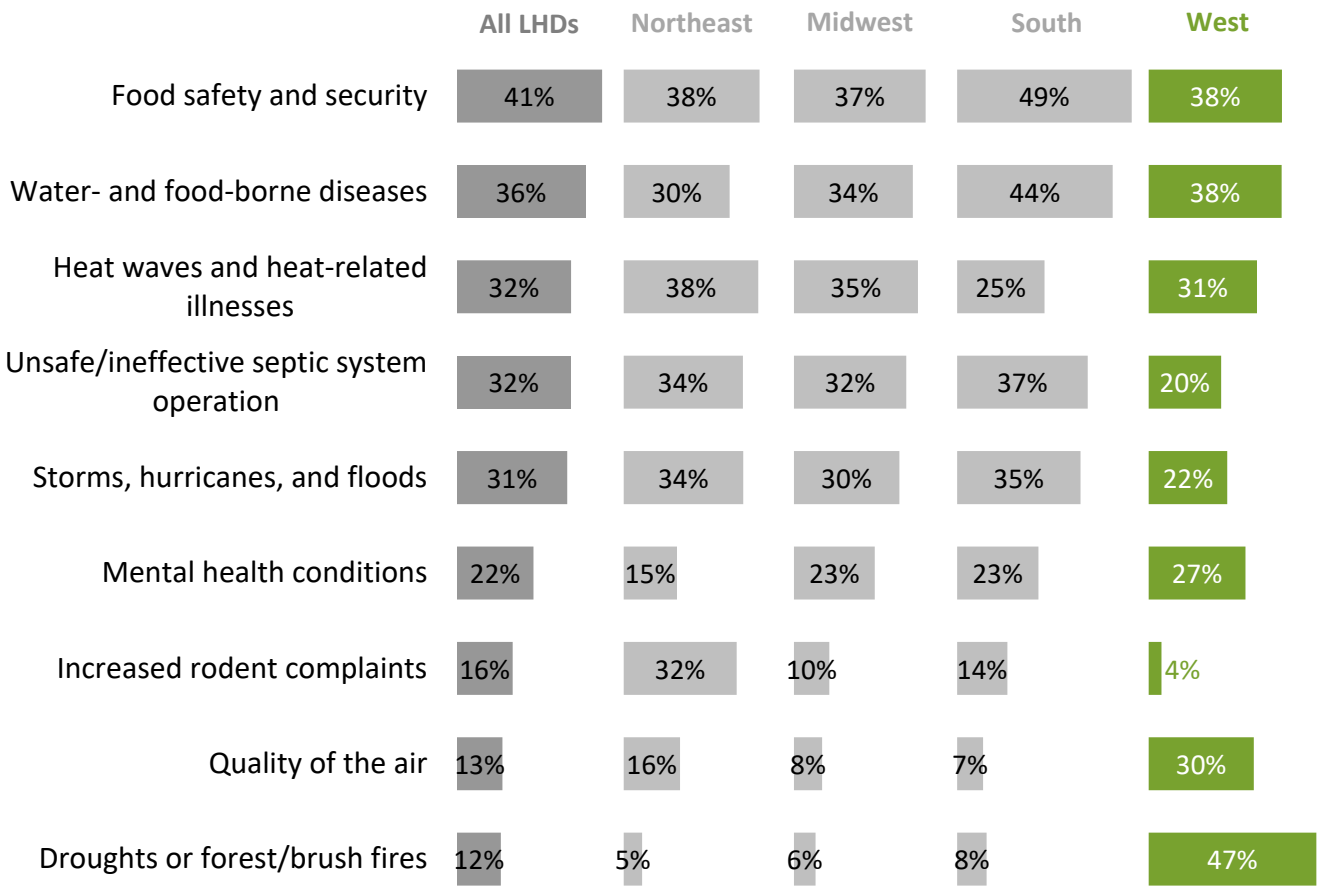
Additionally, one-third of LHDs reported addressing water- and food-borne diseases, extreme weather events, and unsafe or ineffective sewage and septic system operation to combat the health impacts of climate change in their communities.

Notably, 30% of LHDs reported they did not address any of these climate change-related threats in 2017.

LHDs in the western United States were likely to address droughts or forest/brush fires.

Climate Change-Related Threats Addressed in 2017

Percent of respondents



n=542

Although not shown, similar proportions of LHDs across U.S. regions addressed vector-borne infectious diseases, need for healthcare services for people with chronic conditions during service disruptions, housing for residents displaced by extreme weather events, and quality or quantity of fresh water available.

However, LHDs located in the western region of the U.S. were more likely than those in all other regions to address droughts, forest fires, or brush fires and quality of the air.*

During the same time, 32% of LHDs in the Northeast region reported providing services to combat increased rodent complaints in response to climate change—more than agencies in any other region.**

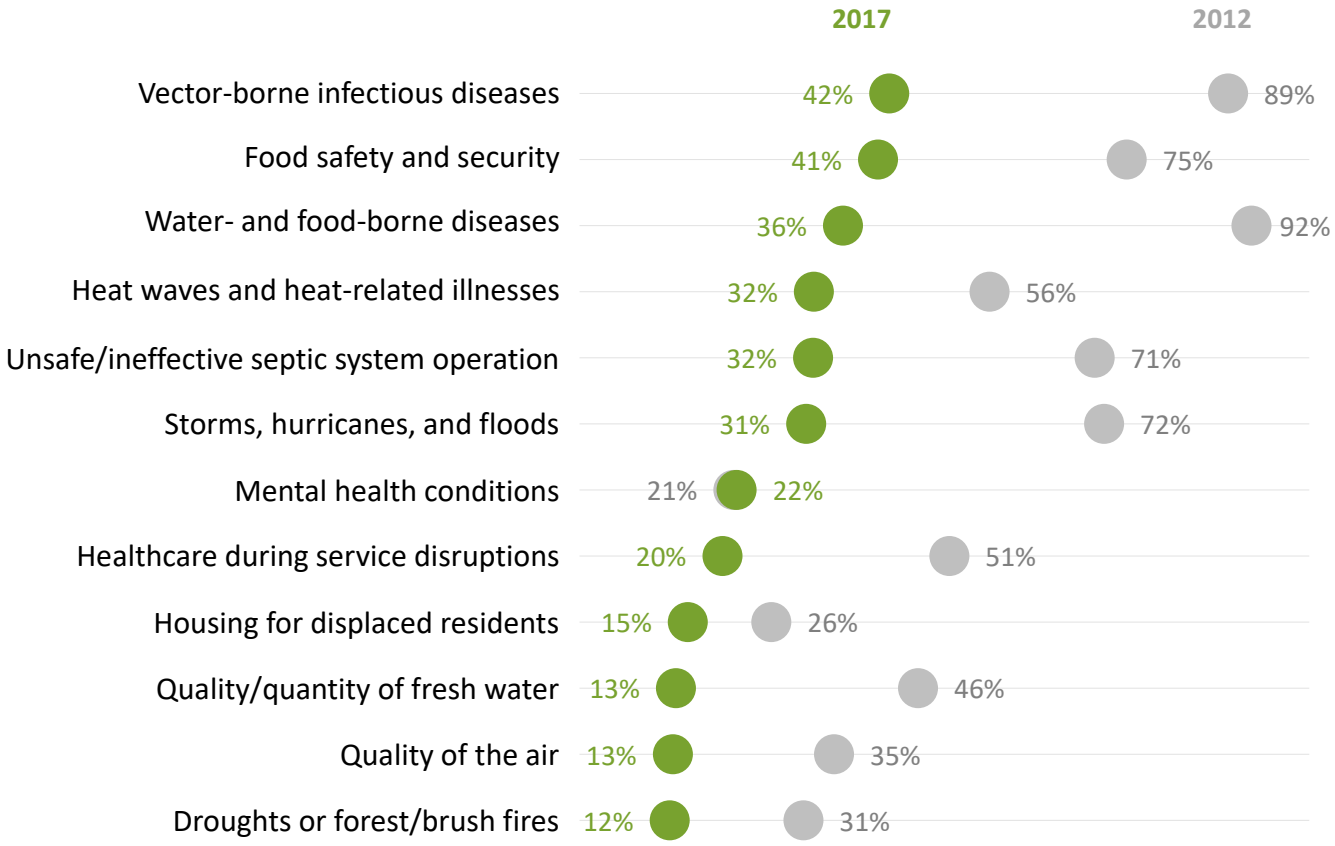
Technical Note

*Statistical significance at p<0.05 level.
**Statistical significance at p<0.01 level.

Fewer LHDs reported addressing climate change-related issues in 2017 than in 2012.

Climate Change-Related Threats Addressed Over Time

Percent of respondents



n(2012)=158
n(2017)=542

For almost all issues impacted by climate change, fewer LHDs reported addressing them in 2017 than in 2012. The largest decreases were in water-, food-, and vector-borne diseases; storms, hurricanes, and floods; and unsafe or ineffective sewage and septic system operation.

The 2012 *Are We Ready?* report suggested many LHDs were not planning to change service provision in response to climate change. Therefore, these reductions may be indicative of decreased capacity over time resulting from changes in funding or staffing resources.

Notably, the proportion of LHDs addressing anxiety, depression, or other mental health conditions has remained steady since 2012.

2012 Data Source

National Association of County and City Health Officials (NACCHO). (2012). Are We Ready? Report 2: Preparing for the Public Health Challenges of Climate Change. Washington, DC. http://toolbox.naccho.org/pages/tool-view.html?id=2772.

Technical Note

Statistical analyses were not performed due to lack of raw data for 2012.

Discussion

The provision of a wide range of environmental health services is critical to ensure the health, safety, and resilience of communities nationwide.

Nearly all LHDs provided emergency preparedness and food safety services in their jurisdictions in 2017. However, less than half of LHDs addressed concerns related to water, housing, air quality, and hazardous waste.

Although service reductions experienced by LHDs were minimal across environmental health program areas, nearly one in 10 agencies still reported cuts in emergency preparedness services due to budgetary reasons.

In particular, small agencies struggled to prioritize emergency preparedness, air pollution, healthy housing, and land use planning services—likely indicating limited resources such as funding and staff.

Less than half of LHDs reported working on public health threats related to climate change, but this is likely because agencies are not yet associating many threats with impacts of climate change.

Bolstering LHD capacity to address environmental health threats is an urgent need for the local public health system, especially as evidence for climate change increases.

Acknowledgements

Funding for this project was provided by the Centers for Disease Control and Prevention (under cooperative agreement 1U38OT000172-05) and the Robert Wood Johnson Foundation® in Princeton, New Jersey.

The contents of this document are solely the responsibility of NACCHO and do not necessarily represent the official views of the sponsors.

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The Research & Evaluation team would like to thank local health department staff, NACCHO subject matter experts, State Champions, Nicholas Williams, PhD, Debra Dekker, PhD, and Johnnetta Davis-Joyce, MA. Their support was invaluable in the success of the 2018 Forces of Change survey.

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The mission of the National Association of County and City Health Officials (NACCHO) is to improve the health of communities by strengthening and advocating for local health departments.

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