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AS FOR MANY RURAL COMMUNITIES, ONE OF
OUR GREATEST CHALLENGES IS THE RECRUIT-
MENT AND RETENTION OF A WELL-TRAINED
PUBLIC HEALTH WORKFORCE.

— A LOCAL HEALTH OFFICIAL



Message from the NACCHO President and Executive Director

On behalf of the National Association of County and City Health Officials (NACCHO), we are pleased to provide you with a copy of *Local Public Health Agency Infrastructure: A Chartbook*, NACCHO's most recent report on the characteristics of our nation's local public health agencies' infrastructure.

As the national association representing the nation's local public health agencies, NACCHO has a profound interest in assuring that these agencies have the infrastructure needed to strengthen and improve the health of the communities they serve. Information about the characteristics and capacities of local public health agencies is helpful in assessing their strengths and identifying challenges and areas for improvement in the future.

NACCHO's previous research on infrastructure is one of the few national sources of data on local public health practice. With the release of this *Chartbook*, we are building upon this prior research, and introducing new issues and methodologies. For example, this study is one of the first to gather data on the types of occupations that comprise the nation's local public health agency workforce. We are excited to provide these data, as well as additional information, to a variety of audiences in support of future planning and policy development at the local level.

NACCHO extends its gratitude to the local public health agency directors who participated in this project, and to the Robert Wood Johnson Foundation for supporting this research. Just as public health practice is a team effort, this study involved many different individuals and organizations, and it would not have been possible without their many contributions.

We hope you find this *Chartbook* a useful and engaging report on the state of the nation's local public health agency infrastructure. We look forward to your feedback and comments, which are always welcome.

Sincerely,



Thomas L. Milne
Executive Director
NACCHO



Patrick Libbey
NACCHO President (01-'02)
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NACCHO also acknowledges the many current and former NACCHO team members who contributed to this project: Janet Carr, Scott Fisher, Yvonne Glover, Areana Quiñones, and Zarnaaz Rauf.

WE DO AN EXCELLENT JOB OF
 COMMUNITY HEALTH ASSESSMENT.
 [WE] HAVE DEVELOPED EXCELLENT
 COLLABORATIVE RELATIONSHIPS WITH
 OTHER AGENCIES AND COMMUNITY
 GROUPS TO ADDRESS CERTAIN HEALTH
 PROBLEMS...

— A LOCAL HEALTH OFFICIAL



NACCHO provides local public health agencies (LPHAs) and others with valuable education, practice tools, information, research, and technical assistance that is up-to-date and reflects shifts and changes in health care and public health. NACCHO ensures that local public health issues are heard on Capitol Hill, as well as through partnerships among local, state, and federal agencies.

NACCHO stays on top of emerging public health issues and relays vital information to LPHAs. Some of our past successes and upcoming activities include:

- Conducting studies to assess health department capacity at the local level;
- Administering a national public health system development project, *Turning Point: Collaborating for a New Century in Public Health*;
- Developing strategies to help LPHAs address health disparities in their communities;
- Developing comprehensive public health assessment and planning tools, such as APEXPH and MAPP, and providing resources, training, and technical assistance for their use;
- Producing a community environmental health assessment tool, *PACE EH*, to help evaluate a community's environmental health status;
- Developing tools and resources to assist LPHAs in making strategic decisions about service provision, and in the process, leveraging resources and forming partnerships with other health care providers to increase overall access to health services and to improve quality of care;
- Providing technical assistance and training on how to foster meaningful community collaboration;
- Providing technical support for indoor air quality and pollution prevention; and
- Helping health departments educate parents on the importance of childhood immunization.

For more information, please visit NACCHO's Web site at www.naccho.org or contact NACCHO at (202) 783-5550.



The Robert Wood Johnson Foundation was established as a national philanthropy in 1972. Today it is the largest US foundation devoted to improving the health and health care of all Americans. The Foundation concentrates its grant making in three areas:

- To assure that all Americans have access to basic health care at reasonable cost;
- To improve care and support for people with chronic health conditions; and
- To promote health and prevent disease by reducing the harm caused by substance abuse — tobacco, alcohol, and illicit drugs.

The Foundation has been a key sponsor of *Turning Point: Collaborating for a New Century in Public Health*, an initiative to develop state and community public health systems across the country.

For more information on the Robert Wood Johnson Foundation, visit the Foundation's Web site at www.rwjf.org.

Intended Audiences

Primary Audience

LOCAL AND STATE PUBLIC HEALTH AGENCY DIRECTORS AND STAFF

Local and state public health agency directors and staff are the primary audiences for this *Chartbook*. The information in this book reflects a “snapshot” of local public health agencies (LPHAs) at a period of time. These data may be used by practitioners for benchmarking; they are useful in comparing an agency’s capacities to LPHAs nationwide.

In addition, state and LPHA staff may use this document to support continued program development and to rally support around new programs and initiatives. By obtaining the support of local boards of health, county commissioners, mayors, and other local and state government officials, local public health capacities and infrastructure can be strengthened.

State and LPHA staff, such as health planners and educators, may wish to use this document to identify areas for change or improvement in their jurisdictions, and set planning priorities. Recent developments in the area of performance monitoring and accreditation of LPHAs also may be informed by the data presented in this document.¹

Secondary Audiences

The secondary audiences for this *Chartbook* include those who also influence public health infrastructure and local and state public health agencies.

HEALTH SERVICES AND OTHER RESEARCHERS

Another group routinely interested in local public health infrastructure includes researchers engaged in studies of public health systems. In addition to using the data presented in this document, researchers also may be interested in replicating or improving upon the methodology presented here in their own studies of local public health infrastructure. This document includes a relatively brief description of the study’s research methodology. Researchers may contact NACCHO for additional information on study methods and analysis techniques. NACCHO also is interested in collaborative work to improve methods used to study LPHAs.

POLICY MAKERS

Policy makers at the local, state, and federal levels use data to inform their decisions about how to improve public health practice. Public health infrastructure data is important for targeting resources effectively and determining the areas of greatest need. Such data provide a more basic, crosscutting view of the capacities of LPHAs than do the more traditional data that are organized by categorical program or disease area.

GENERAL PUBLIC

LPHAs are involved in strengthening and improving the health of the communities they serve. Individuals interested in public health may want to use this *Chartbook* as a resource for identifying the many ways that LPHAs contribute to the health of our nation.

Executive Summary

A comprehensive understanding of local public health infrastructure is essential to understanding the role local public health agencies (LPHAs) play in the nation's public health system. LPHAs provide a variety of services and programs, and they have a unique role in strengthening and improving the health of the communities they serve.

With the support of the Robert Wood Johnson Foundation, the National Association of County and City Health Officials (NACCHO) developed this *Local Public Health Agency Infrastructure: A Chartbook (Chartbook)* to provide current data on our nation's local public health infrastructure, and advance our understanding of the many ways LPHAs contribute to keeping our nation's population and environment healthy. This study builds upon NACCHO's prior work on local public health infrastructure, and presents new data on LPHA capacities.

The increase of managed care, reorganization of state health and social welfare agencies, new environmental burdens and hazards, and increasing numbers of residents without health insurance are just some of the factors prompting LPHAs and others to rethink and restructure their roles and develop new capacities to best serve their jurisdictions. Given the many transformations to public health, there is a need for data on LPHAs and the resources they need to create and maintain effective local public health systems. This *Chartbook* provides baseline information on LPHA infrastructure, and helps to identify areas for future improvement. Data may be used for tracking infrastructure improvement initiatives, such as *Healthy People 2010* and others.

Using results from a survey of LPHA directors, this report provides data on a number of important indicators of our nation's local public health infrastructure. The survey, conducted in the fall of 1999 and spring of 2000, used a stratified, random sample of 1,100 LPHA directors nationwide (response rate, 63%). Main themes throughout the report emphasize the diverse nature of LPHAs. This includes the variety in LPHA size, jurisdiction types, expenditures, workforce capacities, programs and services provided to communities, partnerships developed, and the different strengths and challenges of LPHAs nationwide. Specific highlights of interest include:

OVERALL CHARACTERISTICS

- Sixty-percent (60%) of LPHAs are county-based. Sixty-nine percent (69%) of all LPHAs serve jurisdictions with less than a population of 50,000.
- Annual LPHA expenditures are extremely varied, ranging from \$0 to over \$836 million.
- The median annual LPHA expenditure in constant 1999 dollars was \$621,100.
- The largest percent of LPHA total budgets comes from local sources (county, city or town), followed by state sources. Funding streams varied by metropolitan and non-metropolitan area LPHAs, and by the size of the population served.

PROGRAMS AND SERVICES

- The most common programs and services provided by LPHAs include: adult and child immunizations, communicable disease control, community assessment, community outreach and education, environmental health services, epidemiology and surveillance, food safety, health education, restaurant inspections, and tuberculosis testing.

- The least common services provided included the provision of primary care or direct medical care services, including treatment for chronic diseases such as cardiovascular disease or diabetes, behavioral or mental health services, programs for the homeless, and veterinary public health.
- Program and service area priorities were consistent across the diverse population of LPHAs. Priorities included: communicable disease control, environmental health services, and child health programs.

WORKFORCE

- The occupations LPHAs most commonly employ are public health nurses, environmental scientists and specialists, and administrative/clerical staff.
- The average LPHA staff size in full-time equivalents (FTEs) is 67, with a median of 13 FTEs.
- Currently, the most needed public health occupations are consistent across LPHAs, and include public health nurses, environmental scientists and specialists, administrative support, health educators, and epidemiologists.
- It is projected that in the next five years the public health occupational needs will not change, compared with today's needs.

PARTNERSHIPS AND COLLABORATIONS

- State health departments, other LPHAs, and other state agencies were most commonly selected as partners by the LPHAs in this study.
- Managed care organizations/health maintenance organizations (HMOs) and federal government agencies were least commonly selected as partners by the LPHAs in this study.
- There were few differences in terms of their partnerships and collaborations based on metropolitan versus non-metropolitan area LPHAs, population of jurisdiction served, and LPHA types. Overall, larger population jurisdictions reported a wider variety of partnerships versus smaller population LPHAs.

COMMUNITY HEALTH ASSESSMENT

- Fifty-five percent (55%) of LPHAs have conducted a community health assessment (CHA) in the past three years. Of the 45% that have not, almost half plan to complete a CHA within the next three years.
- Over half of the nation's LPHAs have developed or participated in the development of a community health improvement plan. The majority indicated that the plan was developed using the results of a community health assessment, and over half indicated the plan was linked to their state's health improvement plan.
- About half of LPHAs that conducted a community health assessment used an established tool or model, such as APEXPH, PATCH, *Healthy Communities 2000: Model Standards*, or a state-specific tool, for completing the assessment.

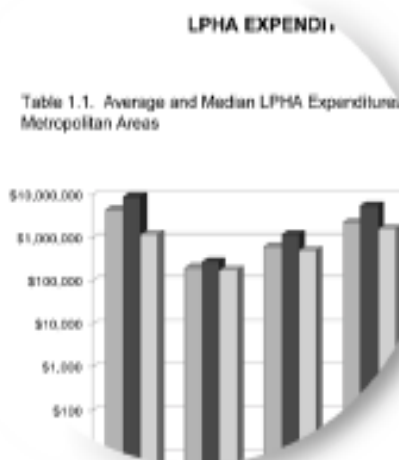
STRENGTHS AND CHALLENGES

- Local public health officials consistently indicated their workforce as one of their greatest strengths. Partnerships with the community were also seen as strengths.
- Overall, LPHAs cited funding issues as one of the biggest challenges facing their agency. Program-specific challenges and workforce issues also were listed as major challenges.

This *Chartbook* provides a fresh, comprehensive look at LPHA infrastructure issues. Data on the strengths and challenges of LPHAs provide many specific examples of the ways that the local public health infrastructure works, and where there are challenges to overcome. This information can be used to celebrate what LPHAs have done well, and to help chart a course for the future.

Introduction

A comprehensive, accurate description of the activities, capacities, and needs of local public health agencies (LPHAs) is essential to understanding the role these agencies play in the nation's public health system. LPHAs provide a variety of services and programs, and they have a unique role in assessing and assuring the health of the communities they serve. Given the importance of LPHAs in strengthening and improving the health of communities across the country, there are surprisingly few national-level studies of local public health infrastructure.



With the support of the Robert Wood Johnson Foundation, the National Association of County and City Health Officials (NACCHO) carried out a study to advance our understanding of the current infrastructure and future needs of LPHAs and better understand the many ways these agencies contribute to keeping our nation's population and environment healthy.

The rapidity and magnitude of changes occurring in the nation's healthcare and public health systems call for current data to help understand LPHA capacities, and inform planning and policy development. The increase of managed care, reorganization of state health and social welfare agencies, new environmental burdens and hazards, and increasing numbers of residents without health insurance are just some of the factors prompting LPHAs and others to rethink and restructure their roles and develop new capacities to best serve their jurisdictions.

Given the changes and transformations to public health, there is a need for baseline and tracking information on LPHAs and the resources they need to create and maintain effective local public health systems. This *Chartbook* provides baseline data on local public health infrastructure, and helps to identify areas for improvement in local public health systems. Some of these data may contribute to national discussions of how to monitor the public health infrastructure, for example *Healthy People 2010* objectives on the public health infrastructure.²

Many public health officials have decried the lack of individual residents' understandings of what LPHAs do in the communities they serve. A 1999 study of public opinion about public health demonstrated there is confusion about what the term "public health" means. Less than half of those surveyed correctly identified public health as either "protecting the population from disease" or "policies and programs that promote healthy living conditions for everyone."³ This *Chartbook* is a resource that illustrates how LPHAs contribute to the health of their communities, and can be used to heighten public awareness about the important functions of local public health systems across the country.

Over the past decade, public health leaders have called on local health officials to make internal changes and reorient their activities to address a more clearly defined set of functions and partnerships in their communities. This call was articulated in the 1988 Institute of Medicine report *The Future of Public Health*, and continues over a decade later.⁴ The data presented in this *Chartbook* speak to the opportunities and challenges LPHAs face as they define these functions and relationships. By emphasizing the current features of the local public health landscape, this *Chartbook* will be used to celebrate the gains made by LPHAs in recent years, and to identify gaps and necessary enhancements to these systems in the future.

Public Health Infrastructure: A Review of the Literature

NACCHO's review of the literature on public health infrastructure generated two important findings. First, there has been little empirical study of public health infrastructure at the local level, although many have established the need for such research. Second, the term "public health infrastructure" has been interpreted in many different ways, confounding its definition and measurement. This definitional disarray has led to a fragmented body of literature and complicated attempts to synthesize and build consensus around public health infrastructure priorities. This *Chartbook* will assist in clarifying what "public health infrastructure" means relative to LPHAs, and add to the body of empirical work on public health agency capacities at the local level.

The lack of a common understanding of public health infrastructure has been recently addressed in a 1997 report prepared for the U.S. Department of Health and Human Services by the Lewin Group.⁵ The Lewin Group report broadly defines public health infrastructure as "the systems, competencies, relationships, and resources that enable the performance of the ten essential services of public health for every community."⁶ Though general in scope, this definition touches upon four central features of public health infrastructure that have been addressed in prior research: 1) partnerships or relationship building; 2) workforce training and education issues; 3) information management, surveillance, and research; and 4) finances and expenditures.

Studies of public health infrastructure have touched upon these four features despite the lack of agreement on how to best characterize or define infrastructure. For example, Turnock (1997) forwards a public health systems approach to infrastructure, focusing on the human, information, financial, and organizational resources that make the provision of public health services possible in a community.⁷

Like the research cited above, other investigators have defined infrastructure as the core LPHA capacities that make the provision of public health services possible,

including partnerships and collaborations, workforce and training resources, and financial resources.

In this sense, infrastructure is defined as the foundation of public health activities. For example, Hanlon and Pickett (1984) view infrastructure as "... the core of the [local health] agency, its nerve system, its presence."⁸ Roper, Baker, Dyal, and Nicola (1992) describe infrastructure as the capacity of principal components in the public health systems to support the core functions of public health.⁹ Gebbie (1993) defines infrastructure as a coordinated system of services, the sum total of which makes public health a reality in a community.¹⁰ Current interest in public health infrastructure at the national level was emphasized with two recent initiatives—the release of *Healthy People 2010*,¹¹ which includes 17 new objectives in an entire chapter on public health infrastructure and The Public Health Threats and Emergency Act of 2000—passed by Congress to improve public health capacity.¹²

In this *Chartbook*, public health infrastructure is defined similarly to the research cited above. Using the "Essential Service Framework" (see Text Box 1), public health infrastructure is understood to be the capacities and resources that make the provision of the essential public health services possible within a community.^{13, 14} This includes service provision, workforce needs, community involvement, partnerships, and other facets of contemporary public health practice.

Public health capacities vary widely within and between states. For example, several states have geographic areas without a local public health infrastructure, and few resources to provide local public health services to residents. In other states, every county and municipality is served by an LPHA. Sometimes LPHAs are part of large health and human service "super-agencies" where local public health services are provided alongside other social services for community members.

One aim of this *Chartbook* is to present this variation at the national level, and paint a picture of today's local public health infrastructure that can be used as a sounding board for new ideas and improvements to local

public health practice. As mentioned above, there are few sources of data on local public health infrastructure at the national level. One of the most useful sources of infrastructure data is NACCHO's *National Profile of Local Health Departments* series.^{15, 16, 17} NACCHO's *Profile* series provides information on LPHA characteristics such as staff size, budget, and services provided. These studies were used in the development of the current research project. To promote consistency with prior NACCHO *Profile* work, the research areas and survey questions used in this project were designed to be comparable to NACCHO *Profile* topics and survey questions whenever possible. Features of the public health infrastructure that are examined in this research include:

- Funding sources that support LPHAs
- Programs and services provided by LPHAs
- LPHA workforce and training needs
- Partnerships and collaborations developed by LPHAs
- LPHA community health assessment activities

The data presented in this *Chartbook* provide a snapshot of the current LPHA landscape that is consistent with prior NACCHO work, and also takes that work a step further. For example, the data collected on the public health workforce at the LPHA level used developmental *Standard Occupational Classifications (SOC)* for public health workers that have not been used in prior research on LPHAs.¹⁸ For the first time, an analysis of priorities, challenges and strengths is presented for a representative sample of all LPHAs nationwide. Thus this *Chartbook* provides information that adds to the existing literature on local public health infrastructure, and employs new research methods and techniques to advance our understanding of the country's local public health system.

Text Box 1. PUBLIC HEALTH IN AMERICA

Vision

Healthy People in Healthy Communities

Mission

Promote Physical and Mental Health and Prevent Disease, Injury and Disability

Public Health

- Prevents epidemics and the spread of disease
- Protects against environmental hazards
- Prevents injuries
- Promotes and encourages healthy behaviors
- Responds to disasters and assists communities in recovery
- Assures the quality and accessibility of health services

10 Essential Public Health Services

- Monitor health status to identify community health problems.
- Diagnose and investigate health problems and health hazards in the community.
- Inform, educate, and empower people about health issues.
- Mobilize community partnerships to identify and solve health problems.
- Develop policies and plans that support individual and community health efforts.
- Enforce laws and regulations that protect health and ensure safety.
- Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
- Assure a competent public health and personal health care workforce.
- Evaluate effectiveness, accessibility, and quality of personal and population-based services.
- Research for new insights and innovative solutions to health problems.

Source: Reprinted from *Public Health Functions Steering Committees, Public Health in America*. July 1995

Study Methodology and Analysis Techniques

Because of the detailed nature of the research topic, and the need for specific data on many different aspects of local public health infrastructure, a mail-back survey was seen as the most appropriate and efficient data collection strategy for this project. In the spring of 1998, NACCHO convened an expert panel (see Appendix A) to inform the development of the project and generate ideas for the survey questionnaire.

DATA COLLECTION AND SAMPLING STRATEGIES
NACCHO maintains a database of the nation's known LPHAs, and this database was used to form the study's sampling frame. For the purposes of this and other NACCHO studies, local public health agency was defined as "an administrative or service unit of local or state government concerned with health, and carrying some responsibility for the health of a jurisdiction smaller than the state." At the time of sample selection, NACCHO's database was used to identify 2,912 LPHAs. The survey used stratified, probability sampling, without replacement, to sample LPHAs. The sampling frame was stratified using eight strata defined by the population size of the jurisdiction served by the LPHA, a strategy that has traditionally been used by NACCHO. The sampling technique also was designed to select at least one LPHA from each of the 49 states with LPHAs.¹⁹

Mathematica Policy Research, Inc., the project contractor, selected a sample of 1,100 LPHAs to receive a survey questionnaire.²⁰ In consultation with the project contractor, a survey questionnaire was pre-tested with 23 health directors in August 1999. Fifteen questionnaires were returned and analyzed. Responses were used to improve the survey instrument prior to the full-scale study.

The final 26-page survey questionnaire (see Appendix B) was mailed by Mathematica Policy Research, Inc., to the health officers/directors in the LPHAs selected in the sample, with the request that they or a designee familiar with all aspects of the LPHA complete the survey. An incentive to complete the survey was included with the

mailing: responding LPHAs were entered into a drawing to receive an expense-paid trip to the NACCHO Annual Meeting in Los Angeles.

Mathematica Policy Research, Inc., also conducted data entry and cleaning activities, prepared the final dataset, and prepared the response rate analysis. Follow-up data suggest that in almost all cases, the LPHA director completed the survey.

Unlike the *Profile* studies conducted by NACCHO in previous years, the current study relies upon a sample of LPHAs to make generalizations and inferences about all LPHAs. Please note that the population of LPHAs across the country is not "normally distributed" in the statistical sense of the term. Over 50% of all LPHAs serve small populations (0 to 24,999 residents), while 3% serve populations of a million or more.

RESPONSE RATES AND NON-RESPONSE ADJUSTMENT

The data presented in this *Chartbook* were collected between November 1999 and April 2000. After reminder letters, telephone calls and emails to non-responding cases and a second mailing of the survey questionnaire, the project contractor closed data collection with an overall response rate of 63% (n=694). Responses were received from LPHAs in 48 states. Four percent (4%) of the survey sample notified the project contractor that they refused to participate. Most of these cases cited the time burden imposed by the questionnaire as their reason. The sample sizes, response and refusal rates are presented in Table 1 (p.9).

As shown in Table 1, response rates varied from a high of 73.3% in the 500,000 to 999,999 stratum to a low of 56.1% in the 0 to 24,999 stratum. The lower response rate in this stratum is most likely related to the comparatively small size of these LPHAs. With fewer staff, services, and expenditures to report, these LPHAs may have had less incentive to complete the questionnaire. Similar non-response patterns among smaller LPHAs have been reported in prior NACCHO *Profile* work. Overall, the analysis of the survey response pattern does

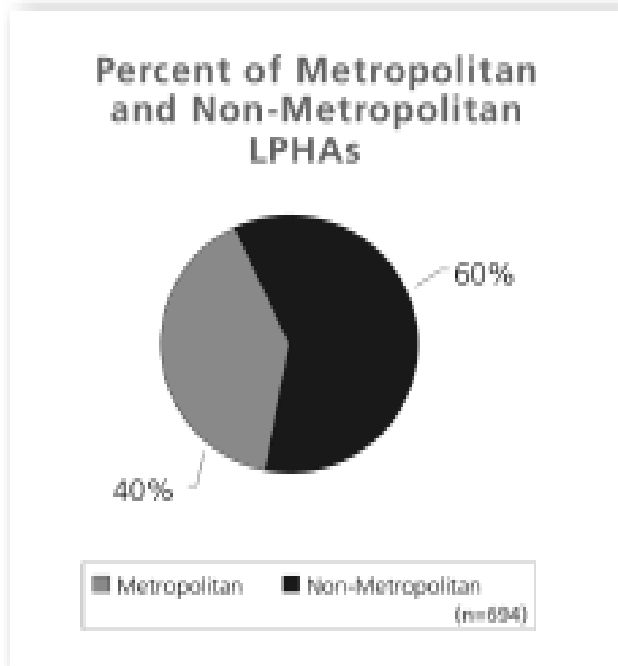
not suggest any significant non-response bias within the study sample. The data presented in this *Chartbook* are adjusted for non-response and weighted to produce population estimates for LPHAs nationwide, not individual states or regions of the country.²¹

ANALYSIS TECHNIQUES

The analysis of the data presented in this *Chartbook* was designed to be easily interpreted by readers of various backgrounds and statistical expertise. Readers will find overall frequency distributions and two-way tables for most of the major variables of interest. Sample weights were used when analyzing the data; therefore weighted data are presented in this *Chartbook*. Data were analyzed by NACCHO staff using the statistical software package *STATA* Version 6 and 7.²² Data are presented by population size of the jurisdiction served, metropolitan versus non-metropolitan area, and LPHA type (county, city, combined city-county, township, or multiple county-district-regional LPHA). Readers should note that tests of statistical significance are not reported in the charts and tables presented. These data, however, are available from NACCHO for interested readers.²³ Readers also should note that totals presented in some figures do not add to 100% due to rounding.

POPULATION SIZE

The population size of the jurisdiction served category is derived from NACCHO's database of LPHAs. Population size is annually reported by member LPHAs to NACCHO. Non-member LPHA population sizes are from Bureau of the Census population estimates for each jurisdiction. Five population categories are used in the analysis for consistency with prior NACCHO *Profile* studies. These are: 0 to 24,999; 25,000 to 49,999; 50,000 to 99,999; 100,000 to 499,999; and 500,000 or more. As NACCHO's prior research has shown, a jurisdiction's population size often influences the types of services provided and resources available to the LPHA; this variable is included in most of the charts and figures presented in this document.



METROPOLITAN AND NON-METROPOLITAN AREA LPHAs

There is interest in and discussion about differences between LPHAs that serve rural versus urban areas of the United States. There are two commonly used definitions of “rural” available to researchers and policy makers. The one used in this *Chartbook* was established by the Office of Management and Budget (OMB) and defines counties as metropolitan or non-metropolitan. This county-based designation is based on population size and integration with large cities.²⁴ The OMB's listing of metropolitan/non-metropolitan counties was obtained from the Health Resources and Services Administration's 1999 Area Resource File.²⁵

It is important to consider the methodological caveat to this definition of metropolitan versus non-metropolitan counties. Because these data are only available at the county level, health departments that serve sub-county jurisdictions, such as cities or townships, were coded according to the county in which they were located. In states where the majority of LPHAs are not county-based, for example, Connecticut, Massachusetts, New Jersey, and New Hampshire, this definition does not effectively describe the nature of the jurisdictions served.

Furthermore, for LPHAs that serve both rural and urban areas in one county, the true nature of the county is not effectively captured. This methodology is not ideal for these areas, but it represents the best technique available to the project team at the time of analysis. Recently, a new methodology using census tracts has been released.²⁶ The research team plans to incorporate the new methodology in future rural-urban research. The percent of metropolitan and non-metropolitan LPHAs in this study is shown in the figure on page 7.

LOCAL PUBLIC HEALTH AGENCY TYPE

NACCHO has identified five major categories used to describe the variation in LPHA type: county, city, city-county, township, and multi-county/district/regional. County LPHAs are the most common type of LPHA, and serve individual counties throughout the country. County LPHAs range in size from small rural counties to large metropolitan counties such as Los Angeles County. County LPHAs may or may not serve all geographic areas within the county, for example a city within a county may be served by a municipal LPHA. City public health agencies are municipal public health departments that serve the geographic boundaries of their cities. These may be small cities, as well as large urban areas such as Kansas City, MO, or New York City. City-county public health agencies represent jurisdictions where a city and its surrounding county are joined together to form a LPHA, for example Wichita-Sedgwick Health Department, KS, or Seattle-King County Health Department, WA. City-county public health agencies often have a dual reporting structure, where the LPHA director is accountable to both a city council and a county commissioner/county executive.

Township health departments serve townships across the U.S., and are usually located in states with strong “home-rule” or “town-meeting” political systems such as Connecticut, Massachusetts and New Jersey.

“Multi-county” health departments are LPHAs serving more than one county, and often span large geographic areas in the western United States. For example, Northeast Colorado Health District serves six counties in the

northeastern part of Colorado. The geographic area of this LPHA is roughly equivalent in square miles to the state of Vermont. The multiple county LPHA category also includes regional or district LPHAs. These are health departments that serve multiple counties, and health directors may be responsible to multiple county boards of health, or a combined board of health representative of all the counties in the district. The multiple county category also includes regional offices of the state health department that act as the LPHAs in their areas. Examples of this type of LPHA are found in several states including Alabama, Arkansas, Mississippi, New Mexico, Tennessee, and Vermont.²⁷

LIMITATIONS

Recognizing the limitations of the data presented in this *Chartbook* will assist the reader with interpretation and explanation of findings. All data presented in this document, with the exception of some population data and the metropolitan/non-metropolitan designation, are self-reported by survey respondents. These data were not formally tested for reliability, although considerable care was taken to validate the dataset by contacting LPHAs for missing data and to confirm survey responses. Other self-reported local public health research has demonstrated a high degree of reliability, and there is no reason to believe that these data are an exception.^{28, 29, 30}

It is extremely difficult to derive an exact case definition for all LPHAs across the country. Studies using other definitions of a LPHA will generate a different sample frame of LPHAs and result in findings that differ from the numbers presented herein. Changes over time and new information collected by NACCHO cause the number of LPHAs in the nation to vary over time. The sample frame of 2,912 in this study is close to prior studies of LPHAs, but does differ from the 2,888 reported in NACCHO’s *1992-1993 Profile* and the 2,834 in NACCHO’s *1997 Profile*.

The population surveyed in this study is not identical to prior NACCHO work, and this study relies upon a stratified, randomly selected sample. Comparisons of the results, including longitudinal analyses, of this survey

with prior work on LPHAs, such as NACCHO's *Profile* studies, should be conducted cautiously as the population in this survey differs from other surveys. Comparisons also should take into account changes in question wording and format. With these cautions in mind,

however, the data presented in this study contribute to a comprehensive picture of local public health infrastructure. Data from the *1992-1993 Profile* and the *1997 Profile* are presented in various places throughout this document for illustration and explanation purposes.

Table 1. RESPONSE RATES

Sampling Strata	Frame Count (N)	Sample Count (n)	Response Rate (%)
0 to 24,999	1,464	326	56.1
25,000 to 49,999	565	180	63.9
50,000 to 74,999	234	127	66.9
75,000 to 99,999	141	111	65.8
100,000 to 249,999	293	141	61.7
250,000 to 499,999	110	110	70.9
500,000 to 999,999	75	75	73.3
1 million +	30	30	60.0
Total	2,912	1,100	63.1

Overall Characteristics

This section presents some of the basic characteristics of LPHAs nationwide. From the outset, readers will observe that LPHAs are extremely diverse organizations. The themes of diversity and variation carry into subsequent sections of the report.

POPULATION SERVED

NACCHO data on the population size of LPHA jurisdictions show that over two-thirds (69%) of LPHAs serve jurisdictions with less than 50,000 people. By contrast, 4% of LPHAs serve jurisdictions with 500,000 persons or more. Efforts to improve public health

infrastructure should consider this variation, in that a single, uniform improvement program cannot be applied equally to all LPHAs.

LPHA TYPES

Survey data demonstrate that 60% of LPHAs are county-based. The remaining are city/municipal (10%), city-county (7%), town/township (15%), and multi-county/district/regional (8%). These percents are similar to data collected in NACCHO's *1992-1993 Profile* studies, suggesting that there have been few changes over the past eight years in the types of jurisdictions LPHAs serve.

REPORTING RELATIONSHIPS

When asked what “best describes the organization or office to which your local health department reports directly,” 56% of LPHA directors selected local boards of health. Many local boards of health commonly have oversight over the LPHA’s activities, and set LPHA policy. In some cases, however, local boards of health are purely advisory boards, and the LPHA reports directly to other parts of local or state government. State health directors accounted for 13%, followed by county commissioners or county executives (12%), city or county councils (9%), and city or town managers (6%). Of the remaining four (4%) percent, 3% reported a dual-reporting structure, while 1% reported directly to a hospital board or other organization not mentioned above.

LPHA EXPENDITURES

LPHA expenditures are an important part of research on the public health infrastructure. Annual agency expenditures were collected in this survey, and adjusted for inflation to constant 1999 dollars using Consumer Price Index rates and calculations recommended by the Bureau of Labor Statistics.³¹ It should be noted that arithmetic means or “averages” are affected by extremely large or extremely small values, and there are several extreme values in the expenditure data. Therefore, both median and average values are presented so the readers can better interpret expenditure data. Because the data on population size are categorical, per capita expenditures for LPHAs in the study were not calculated.

Annual LPHA expenditures are extremely varied, ranging from \$0 to over \$836 million. The \$0 expenditure data were verified and reflect volunteer health officials in very small population jurisdictions, who may conduct a few inspections per year. The median annual LPHA expenditure was \$621,100 in constant 1999 dollars. The average annual LPHA expenditure was \$4,505,096 in constant 1999 dollars.

Variation in local public health expenditures is illustrated by presenting expenditure data for metropolitan and non-metropolitan area LPHAs, and by the population of the jurisdiction served. These figures demonstrate that metropolitan areas have much larger annual expenditures

(average of \$8,930,091) than non-metropolitan areas (average of \$1,195,632), a finding that is echoed in the analysis of expenditures by the population of the jurisdiction served.

When examining the expenditure data, it is important to remember that these expenditures provide varied services, programs, and LPHA facilities. For example, in some areas LPHAs run county hospitals and their expenditure data include these healthcare facilities. In others, the LPHA is only responsible for septic system and restaurant inspections. While both are counted as LPHAs in the analysis, their scope of work, and budgets, are vastly different.

LPHA FUNDING STREAMS

Funding for local public health activities comes from several different sources, including local, state, and federal government programs, grants from foundations, reimbursements from insurance companies, and patient and regulatory fees. On average, funding for LPHAs came predominately from local sources (44%), and state sources (30%), which included federal pass through dollars. Three percent (3%) of funding came directly from federal sources. On average, 19% came from service reimbursement, which included fees, Medicaid, Medicare, and insurance reimbursements.

Analysis of the funding stream data by metropolitan versus non-metropolitan areas revealed different funding profiles. Metropolitan areas receive more funding from local sources (58%) than non-metropolitan areas, which received equal percents of funding from state (35%) and local sources (34%).

The overview of LPHA characteristics presented demonstrates the variety and diversity within the population of LPHAs nationwide. Attempts to define an “average” LPHA are difficult given their heterogeneity. Thus, throughout this report, data are presented for different groupings of LPHAs, for example metropolitan versus non-metropolitan area LPHAs, so that the reader can observe the characteristics of specific kinds of LPHAs, and compare those to LPHAs with different characteristics.

Figure 1. PERCENT OF LPHAs:
Population Size and LPHA Type

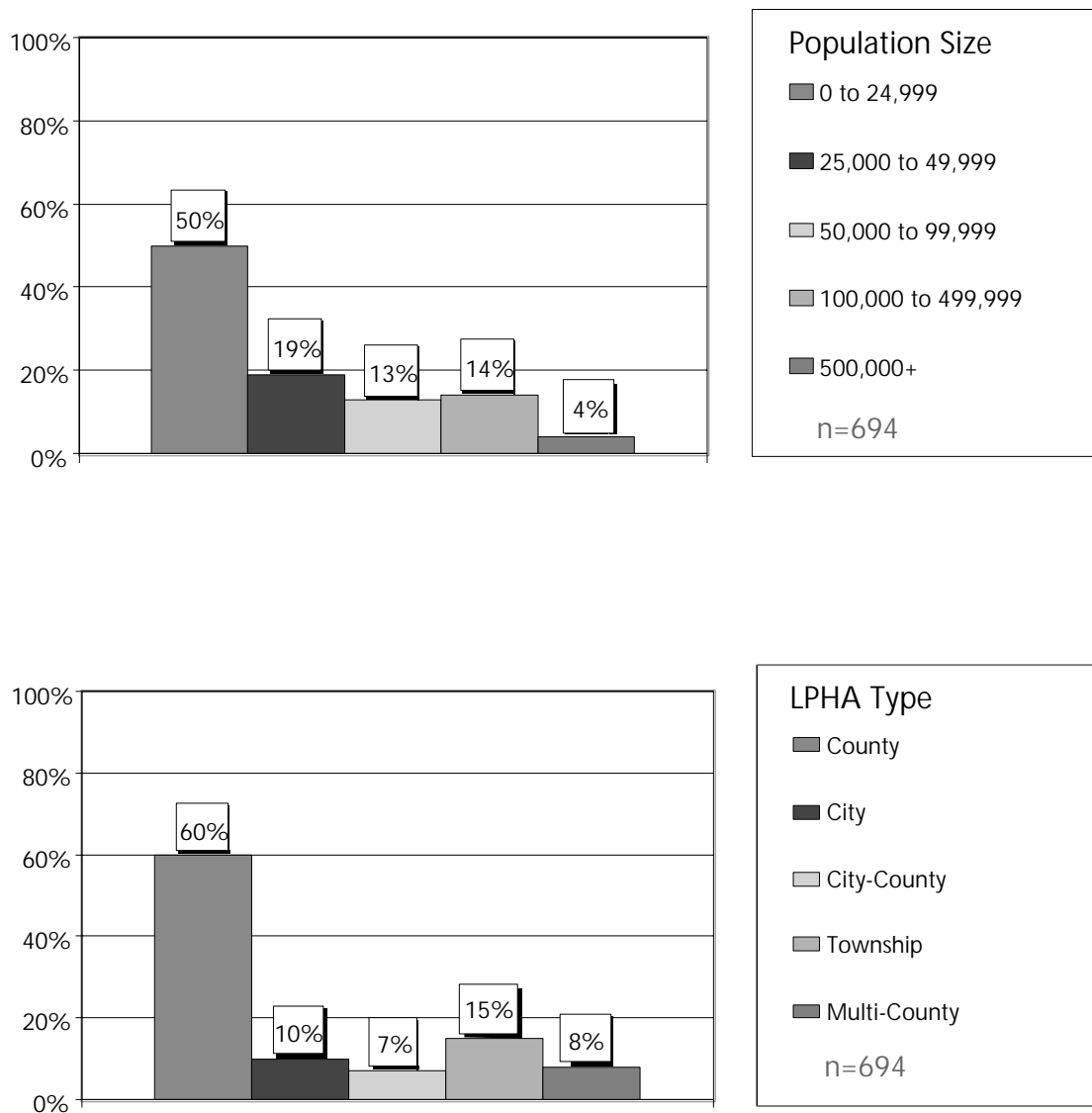


Figure 2. REPORTING RELATIONSHIPS: LPHA Type

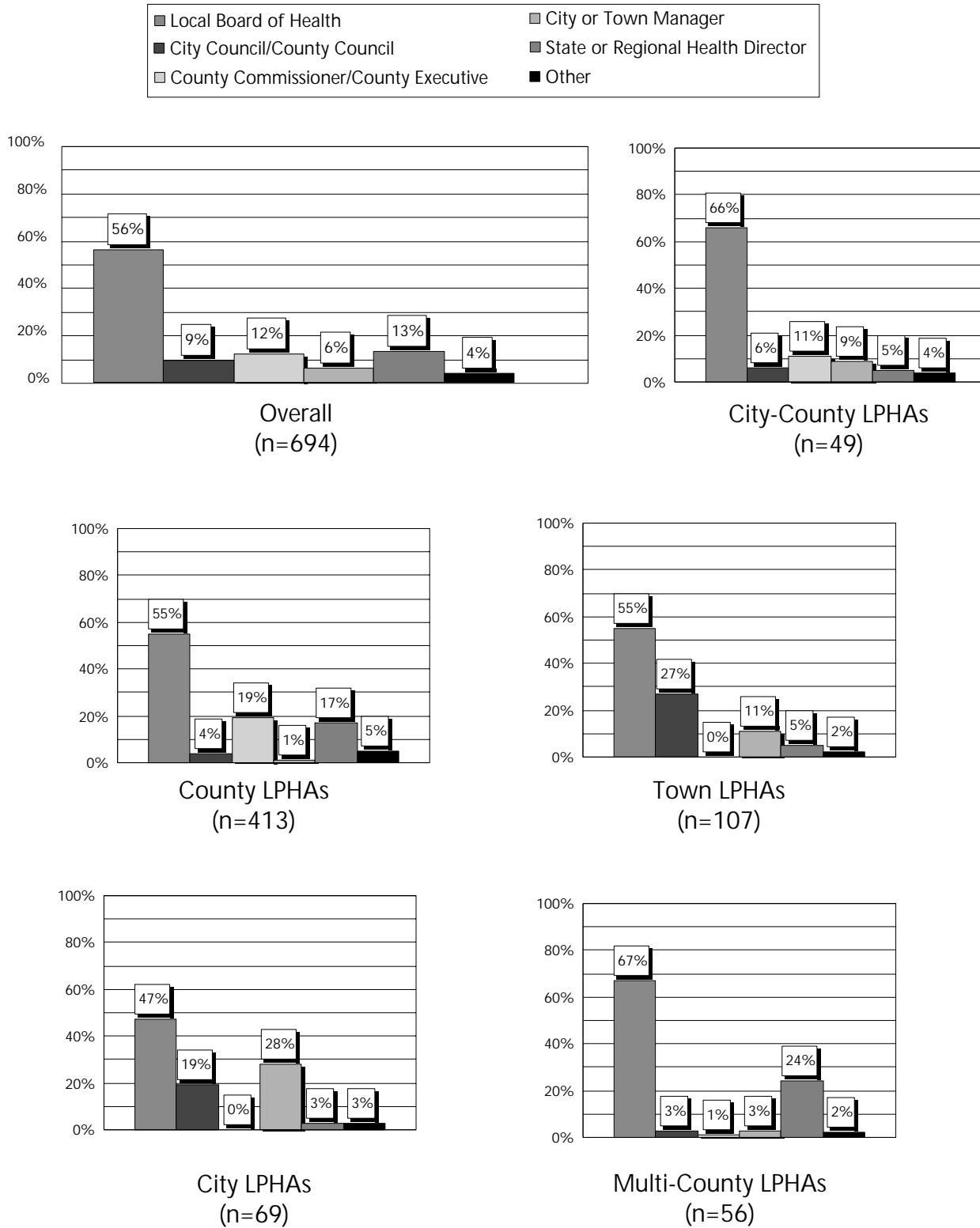
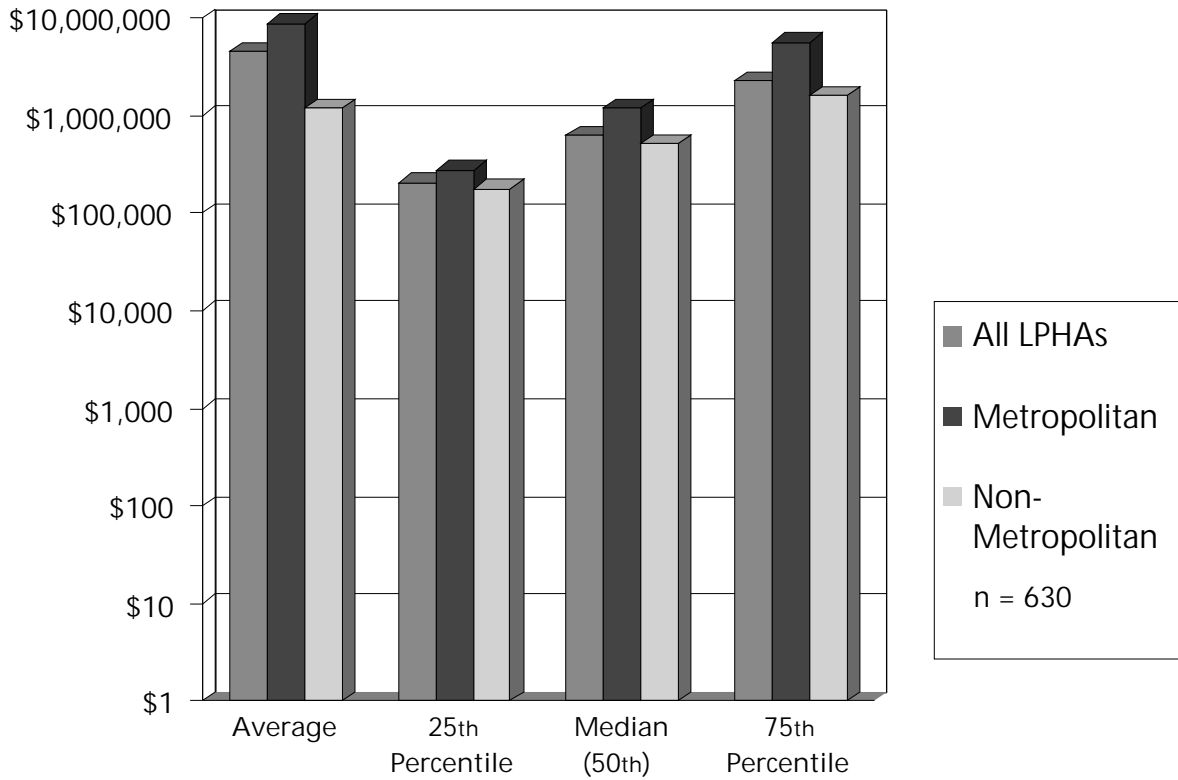


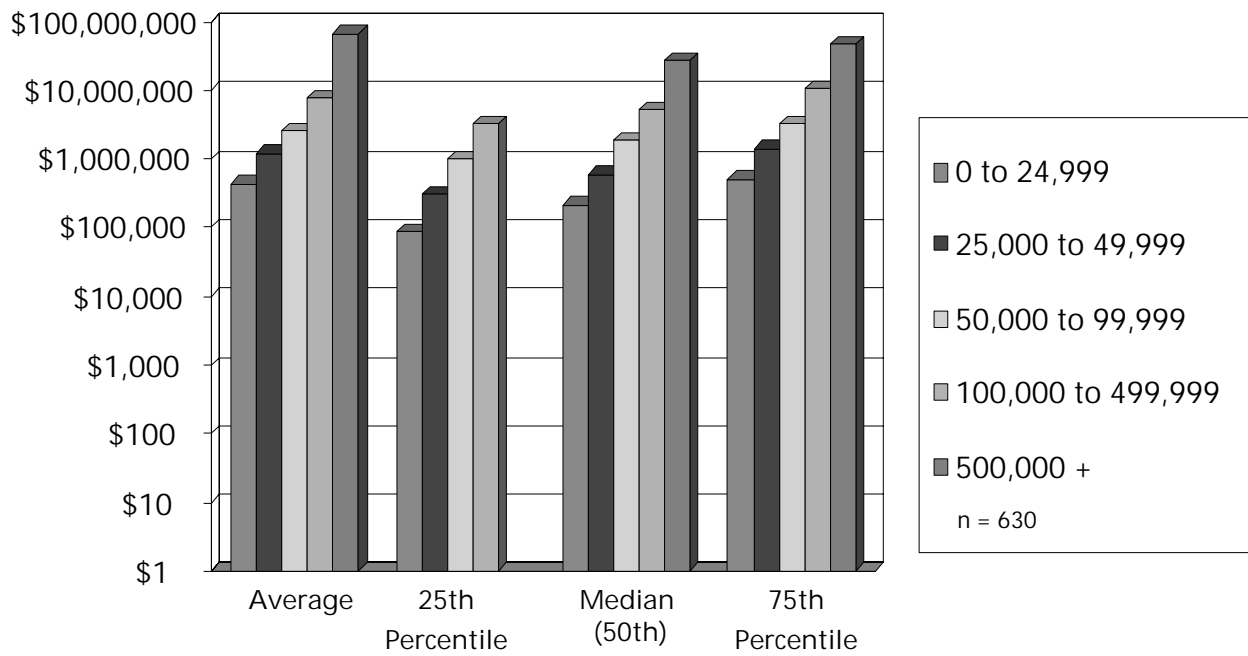
Figure 3. AVERAGE AND MEDIAN ANNUAL LPHA EXPENDITURES:
All LPHAs, Metropolitan and Non-Metropolitan LPHAs



	Average Annual Expenditures	25th Percentile	50th Percentile (Median)	75th Percentile
All LPHAs	\$4,505,096	\$203,905	\$621,100	\$2,250,000
Metropolitan	\$8,930,091	\$280,000	\$1,185,433	\$5,560,876
Non-Metropolitan	\$1,195,632	\$177,130	\$509,540	\$1,614,228

Figure 4. AVERAGE AND MEDIAN ANNUAL LPHA EXPENDITURES

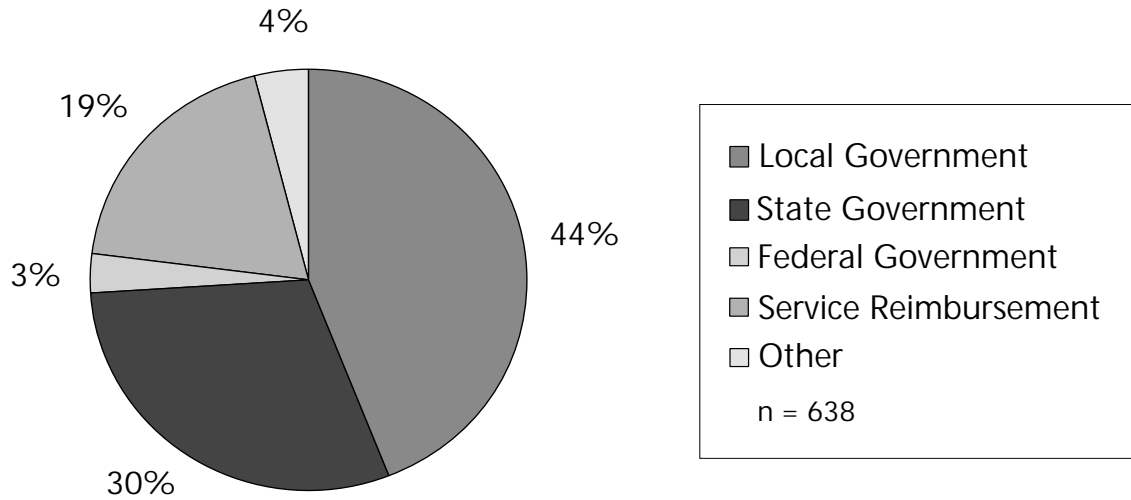
Population Size



Population Served	Average Annual Expenditures	25th Percentile	50th Percentile (Median)	75th Percentile
0 to 24,999	\$437,637	\$86,500	\$214,658	\$507,283
25,000 to 49,999	\$1,227,538	\$302,000	\$600,000	\$1,400,000
50,000 to 99,999	\$2,552,669	\$1,011,221	\$1,827,526	\$3,250,000
100,000 to 499,999	\$7,671,500	\$3,167,936	\$5,100,000	\$10,500,000
500,000 or more	\$66,200,000	\$16,500,000	\$27,000,000	\$46,800,000

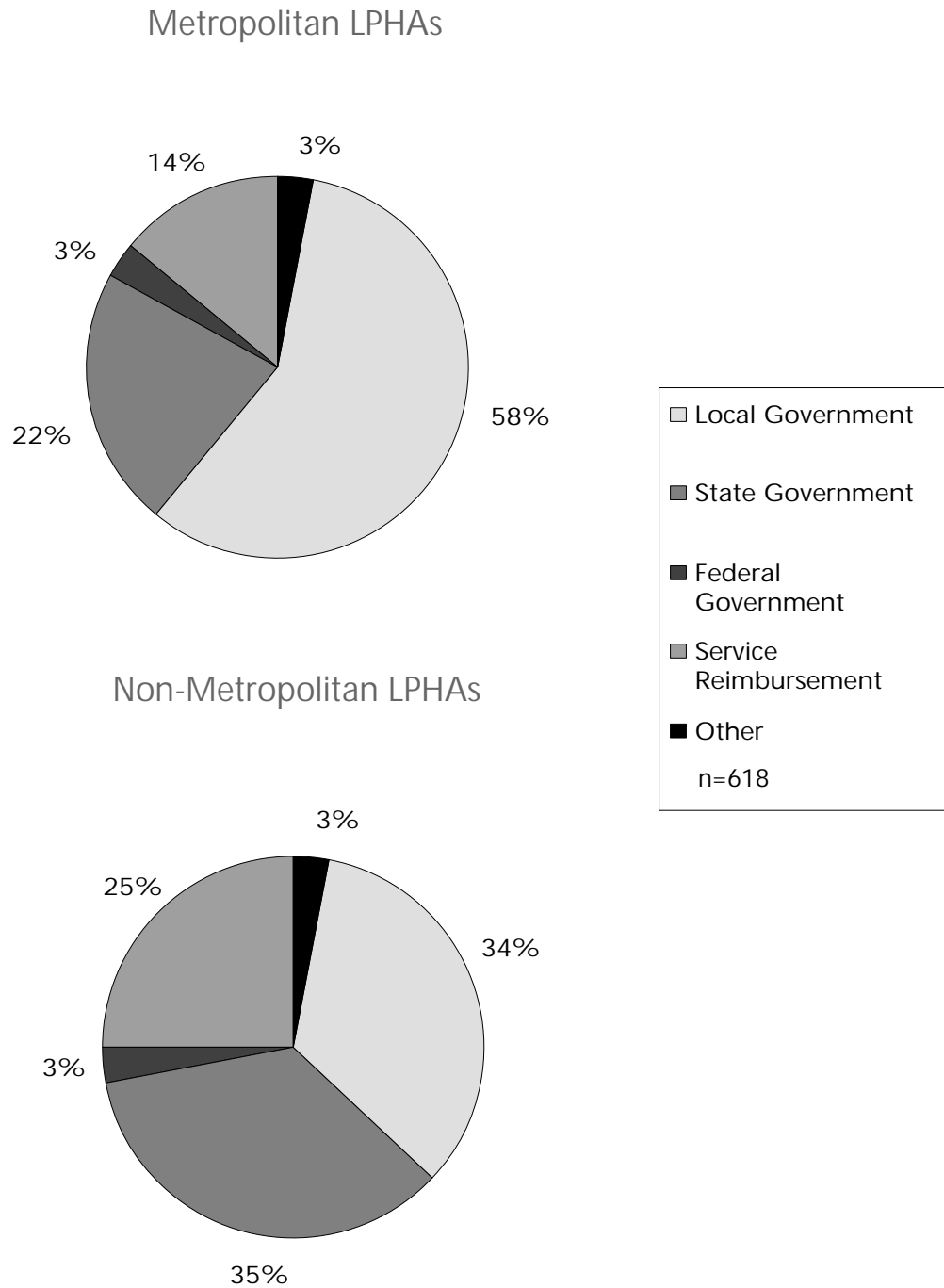
Notes: Expenditures in constant 1999 dollars.

Figure 5. AVERAGE PERCENT OF LPHA BUDGET BY FUNDING SOURCE: All LPHAs



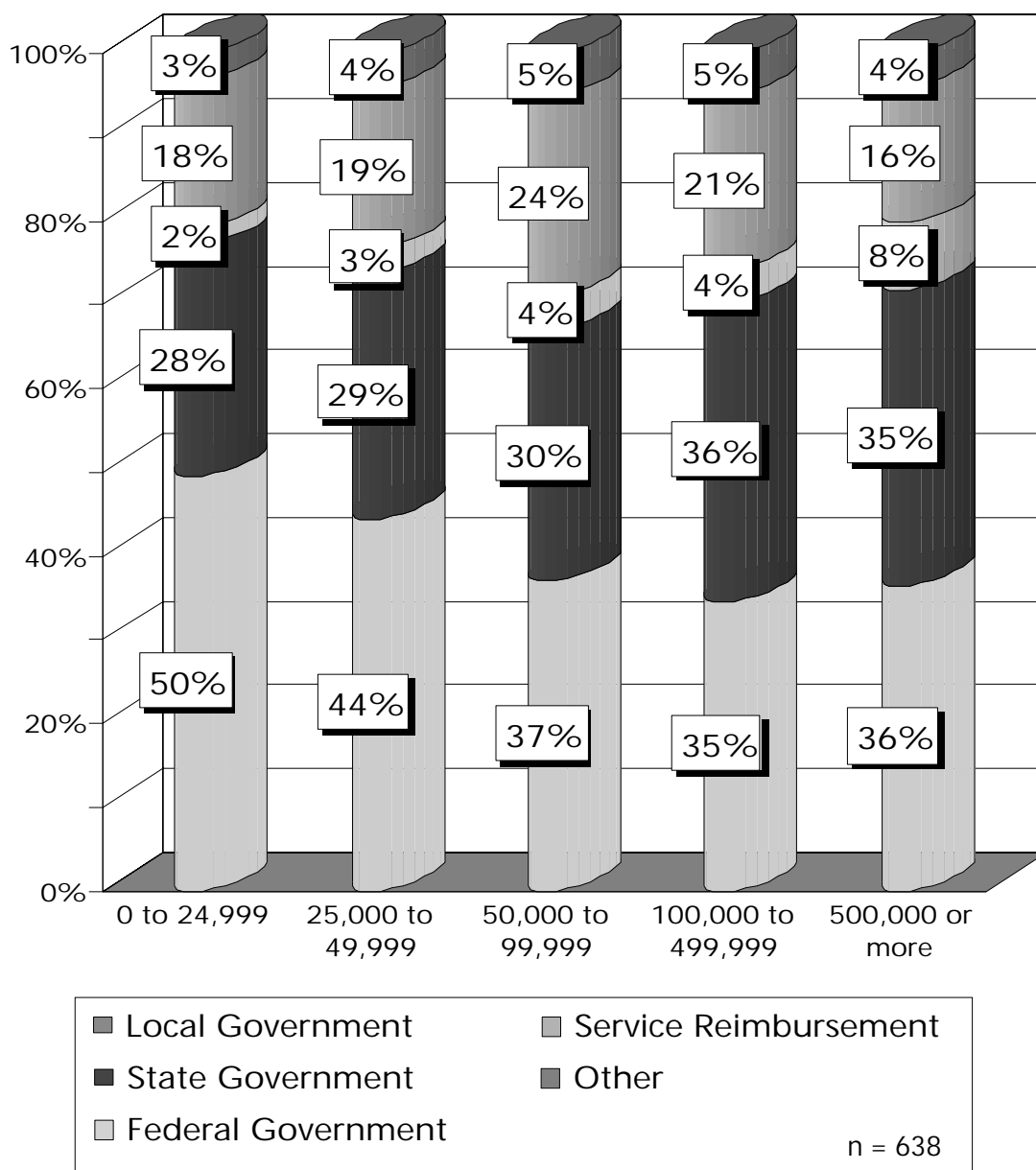
Note: In this figure, "Local Government" includes city/town and county sources. "State Government" includes federal pass-throughs. "Federal Government" includes direct grants to locals (not state pass-throughs). "Service Reimbursement" includes Medicaid, Medicare, patient and regulatory fees, and private health insurance reimbursements. "Other" includes private foundations and other sources.

Figure 6 AVERAGE PERCENT OF LPHA BUDGET BY FUNDING SOURCE



Note: In this figure, "Local Government" includes city/town and county sources. "State Government" includes federal pass-throughs. "Federal Government" includes direct grants to locals (not state pass-throughs). "Service Reimbursement" includes Medicaid, Medicare, patient and regulatory fees, and private health insurance reimbursements. "Other" includes private foundations and other sources.

Figure 7. AVERAGE PERCENT OF LPHA BUDGET BY FUNDING SOURCE: Population Size



Note: In this figure, "Local Government" includes city/town and county sources. "State Government" includes federal pass-throughs. "Federal Government" includes direct grants to locals (not state pass-throughs). "Service Reimbursement" includes Medicaid, Medicare, patient and regulatory fees, and private health insurance reimbursements. "Other" includes private foundations and other sources.

Enumeration of the public health workforce is a topic of great interest among public health researchers and policy makers.^{34, 35, 36} In this study, the number of full-time equivalent (FTE) LPHA staff and the occupational classifications of these staff were collected from survey respondents. Using the Standard Occupational Classification (SOC) system for public health, respondents were asked to enumerate the FTEs for various occupations in their agency (see Appendix C).³⁷ This is the first time that national-level data on the LPHA workforce have been collected directly from respondents by SOC categories.

We recommend that the data presented by workforce category be treated as exploratory. The occupational classification data presented in this report represent a first-time effort to standardize the enumeration of public health workers through self-response at the LPHA level. Because this methodology was new, many respondents were not familiar with how to classify workers of various types, or how to split one FTE among several classifications if a worker had more than one occupation at the LPHA. This resulted in missing data for many LPHAs in the dataset. Current research is attempting to validate the SOC categories for future use, and this study provides important data for that effort.³⁸ Future work also is required to validate, refine, and enhance the enumeration of the LPHA workforce based on the results presented in this study.

The LPHA workforce data in this study present a picture of the number and types of workers helping to provide public health services in their communities. There was variation in the range of occupations and overall numbers of FTEs across LPHAs; therefore, both the average (mean) and the median (50th percentile) values are presented in most of the figures and tables that follow.

WORKFORCE SIZE AND COMPOSITION

Respondents were asked to provide the number of FTEs of directly employed staff, contractors to the LPHA, volunteers, interns, visiting scholars, and student workers. Using these categories, the majority of the LPHA workforce is composed of direct employees, with few contractors, volunteers or others.

Staff sizes ranged widely among LPHAs in this study. On average, respondents reported directly employing 67 FTE staff in their agency, with a median of 13 FTEs. These numbers are similar to prior LPHA staff size figures. For example, NACCHO reported similar figures using data from the *1997 Profile* (average 72 FTEs, median of 16). In 1992-1993, NACCHO reported that 42% of all LPHAs have fewer than ten full-time staff members.

The occupations LPHAs most commonly employ are administrative or clerical staff, environmental scientists and specialists, and public health nurses. (Please note the above results were determined using *only* those questions which received greater than 500 responses.) Other research confirms that these occupations are indeed frequent: a NACCHO-ASPH study conducted by the Center for Health Policy Studies at the University of Texas School of Public Health found nurses and environmental scientists/specialists were the largest occupation classifications in the five state health departments with centralized LPHAs included in the analysis.³⁹ While a specific category for “home health aides” was not included on the SOC listing, this was a common occupation listed by LPHAs in the “other” classification section of the questionnaire.

When analyzed by metropolitan versus non-metropolitan areas, LPHAs in metropolitan counties have larger workforces in number and greater diversity among occupations than LPHAs in non-metropolitan counties. For example, mental health occupations are much more frequent in metropolitan area LPHAs than non-metropolitan LPHAs. In addition, the larger the population served by the LPHA, the larger and more diverse the workforce.

When analyzed by LPHA type, we also see differences in the size and composition of the public health workforce. For example, township LPHAs on average had the smallest workforce, while multi-county/district LPHAs and city-county LPHAs had the largest workforces.

CURRENT AND FUTURE OCCUPATION NEEDS

Respondents were asked to list the five occupational classifications they currently needed most, and the five

occupational classifications they predict they will need most in the next five years. Overall, public health nurses, environmental scientists or specialists, health educators, epidemiologists and administrative staff were listed as current top occupational priorities.

Non-metropolitan area LPHAs more frequently listed public health nurses as a top need than metropolitan area LPHAs. Environmental scientists or specialists were listed as a top need by both metropolitan area and non-metropolitan area LPHAs. Administrative/clerical staff were listed as a top need by 10% of non-metropolitan area LPHAs, and 5% of metropolitan area LPHAs.

Respondents also provided the reasons these staff were needed but not hired. Overall, 68% said they needed staff but could not hire them due to budget restrictions. Budget restrictions were more frequently listed as a problem for LPHAs serving small jurisdictions. LPHAs serving smaller populations and in non-metropolitan areas also more frequently reported not having hired staff because of difficulties attracting candidates to their location, and because of a lack of qualified candidates in their areas. Overall, 19% of LPHAs said that additional staff were needed because LPHA programs and services were being expanded.

Responses on predicted occupational classifications needed in the next five years yielded similar results to the analysis of the current workforce needs. For example, public health nurses and environmental scientists and specialists were cited as priority occupation needs for the future. Reasons for needing these classifications included local demand for new programs, changing community demographics, changes in the physical environment (suburban sprawl, environmental clean-up, wastewater facilities placement, global warming, etc.) and a reevaluation of the LPHA's mission. Future occupation needs varied little between metropolitan and non-metropolitan area LPHAs. Health information specialists were more frequently listed as a need by LPHAs serving large population jurisdictions. Epidemiologists were more frequently listed as a future need among multi-county and district LPHAs than other LPHA types.

WORKFORCE TRAINING

Respondents were asked if their LPHA budget included a line item for continuing education or other training programs for staff, and what percent of that line item was for clinical and non-clinical staff training. Seventy four percent (74%) of the respondents indicated they had a budget line for staff training (80% LPHAs serving metropolitan areas, and 70% LPHAs serving non-metropolitan areas). On average, 41% of LPHA's continuing education budget was for clinical staff training and 35% for non-clinical.

Respondents also were asked to list the top three workforce training needs of their LPHA. Sixty-one percent (61%) of all responding LPHAs listed job-specific training, such as continuing education programs to keep nursing or medical credentials current. Ten percent (10%) listed information technology training, such as computer or software program training. The remaining 29% indicated various other topics, such as customer service training, basic public health training (a basic curriculum or "Public Health 101" course), community involvement trainings, and administrative trainings, such as LPHA business processes and procedures. There was little difference in training needs between metropolitan and non-metropolitan area LPHAs.

In regards to information technology training, one should note that this survey was conducted prior to the emergence of national efforts to increase preparedness for bioterrorism, and the attendant interest in a national electronic disease surveillance system. Future research in this area is needed to understand better information technology training needs in today's environment.

This survey also asked questions regarding LPHA strengths and challenges. (See page 79 to 84 for a further discussion of LPHA workforce.) The agency workforce consistently was noted as one of the greatest strengths of many LPHAs, as well as one of the biggest challenges.

Table 15. OVERALL FULL-TIME EQUIVALENT STAFF:
All LPHAs

	Mean FTEs	Median FTEs	n*
Direct Employees	67.18	13	676
Contract Employees	6.32	1	694
Volunteers	5.56	0	554
Others	3.49	0	556

**Total observations n=694, however, number of observations may be smaller due to missing observations and responses of "0" which were not included in the analysis.*

Table 16. MEAN AND MEDIAN DIRECT AND CONTRACTED FTEs BY OCCUPATIONAL CLASSIFICATIONS: All LPHAs

Occupational Classification	Mean FTEs (average)	Median FTEs (50th percentile)	FTE Range (smallest & largest values)	n*
All Direct and Contract FTEs	62.4	17	0 - 5600	593
Administrative or Clerical Staff	16.6	4	0 - 1233	582
Alcohol and Substance Abuse Counselors	10.3	3	0 - 250	69
Allied Health Professionals, not specified	6.0	1	0 - 194	168
Biostatistician	1.5	1	0.1 - 11.2	49
Environmental Engineer	2.0	1	0 - 30	113
Environmental Scientist and Specialist	6.4	2	0 - 535	528
Environmental Science Technician and Technologist	3.7	1	0 - 130	157
Epidemiologist	2.2	1	0.1 - 85	190
Health Educator with CHES certification	2.5	1	0 - 100	181
Health Educator without CHES certification	2.8	1	0 - 101	295
Health Service Managers, Administrators, Health Director	2.1	1	0 - 109	585
Health Information Systems Specialists	3.7	1	0 - 219	215
Mental Health Counselor	11.5	.8	0 - 175	34
Mental Health and Substance Abuse Social Worker	5.8	1	0 - 61.2	71
Public Health Attorney or Hearing Official	1.3	.5	0 - 50	71
Public Health Dentist	1.7	1	0.1 - 19	122
Public Health Dental Worker	2.3	1	0 - 34.3	170
Public Health Laboratory Scientist	6.8	2	0 - 235	93
Public Health Laboratory Technician or Technologist	3.0	2	0 - 105	185
Public Health Nurse	14.8	4.8	0 - 999	629
Public Health Nutritionist	3.0	1	0 - 56	383
Public Health Physician	2.8	.6	0 - 440	315
Public Health Policy Analyst	3.8	1	0.1 - 194	116
Public Health Social Worker	8.1	2	0 - 991	321
Psychologist, Mental Health Provider	5.6	1.5	0 - 223	43
Occupational Safety and Health Specialist	4.9	1	0.2 - 69	40
Occupational Safety and Health Technician or Technologist	1.3	1	0.2 - 10	13

*Total observations n=694, however, number of observations may be smaller due to missing observations and responses of "0" which were not included in the analysis.

Table 17. MEAN AND MEDIAN DIRECT AND CONTRACTED FTEs
BY OCCUPATIONAL CLASSIFICATIONS:
Metropolitan and Non-Metropolitan LPHAs

Occupational Classification	Metropolitan LPHAs		Non-Metropolitan LPHAs	
	Mean, Median FTEs	FTEs Range and n	Mean, Median FTEs	FTEs Range and n
All Direct and Contract FTEs	107.9, 28	0 to 5600 n=326	31.2 13	0 to 394 n=267
Administrative or Clerical Staff	29.5, 5.5	0 to 1233 n=332	7.2 4	0.3 to 121 n=250
Alcohol and Substance Abuse Counselors	13.4, 4	0 to 250 n=56	4.3 1	0 to 25.2 n=13
Allied Health Professionals, not specified	9.4, 2	0 to 194 n=106	3.0 1	0 to 72 n=62
Biostatistician	1.4, 1	0.5 to 11.2 n=42	1.8 1	0.1 to 4 n=7
Environmental Engineer	2.9, 2	0.2 to 30 n=79	1.0 1	0 to 4 n=34
Environmental Scientist and Specialist	10.2, 4	0 to 535 n=323	2.8 1	0.1 to 32 n=205
Environmental Science Technician and Technologist	4.8, 2	0 to 130 n=118	1.7 1	0.3 to 13 n=39
Epidemiologist	3.1, 1	0.1 to 85 n=144	1.0 1	0.1 to 7 n=46
Health Educator with CHES certification	3.2, 1	0 to 100 n=136	1.2 1	0.2 to 5 n=45
Health Educator without CHES certification	4.1, 2	0 to 101 n=183	1.7 1	0.2 to 17 n=112
Health Service Managers, Administrators, Health Director	3.2, 1	0 to 109 n=339	1.2 1	0 to 15 n=246
Health Information Systems Specialists	4.9, 2	0 to 219 n=160	1.4 1	0 to 5 n=55
Mental Health Counselor	18, 1	0 to 175 n=29	0.3 0.2	0.1 to 1 n=5
Mental Health and Substance Abuse Social Worker	9.1, 3	0 to 61.2 n=51	2.9 0.5	0.1 to 24.2 n=20
Public Health Attorney or Hearing Official	1.4, 1	0 to 50 n=56	0.9 0.2	0 to 5 n=15
Public Health Dentist	2, 1	0.1 to 19 n=99	0.8 0.8	0.2 to 6 n=23
Public Health Dental Worker	3.3, 2	0 to 34.3 n=126	0.9 0.5	0 to 7 n=44
Public Health Laboratory Scientist	7.6, 2.1	0 to 235 n=82	2.0 1	0.3 to 6 n=11
Public Health Laboratory Technician or Technologist	3.6, 2	0 to 105 n=147	1.6 1	0 to 8 n=38
Public Health Nurse	25.6, 8.5	0 to 999 n=345	7.8 4	0 to 152 n=284
Public Health Nutritionist	5.3, 3	0 to 56 n=209	1.7 1	0 to 20.6 n=174
Public Health Physician	4.4, 1	0.1 to 440 n=219	0.8 0.5	0 to 6 n=96
Public Health Policy Analyst	5.8, 1	0.2 to 194 n=90	1.2 1	0.1 to 6 n=26
Public Health Social Worker	14.1, 4	0 to 991 n=202	2.6 1	0 to 51.3 n=119
Psychologist, Mental Health Provider	9.5, 2	0 to 223 n=31	1.9 1	0.2 to 6 n=12
Occupational Safety and Health Specialist	5.2, 1	0.2 to 69 n=39	1 1	1 to 1 n=1
Occupational Safety and Health Technician or Technologist	1.6, 1	0.5 to 10 n=11	0.2 0.2	0.2 to 0.2 n=2

*Total observations n=694, however, number of observations may be smaller due to missing observations and responses of "0" which were not included in the analysis.

Table 18. MEAN AND MEDIAN DIRECT AND CONTRACTED FTEs BY SELECTED OCCUPATIONAL CLASSIFICATIONS: Population Size

Occupational Classification	Mean, Median FTEs and n				
	0 to 24,999	25,000 to 49,999	50,000 to 99,999	100,000 to 499,999	500,000 +
All Direct and Contract FTEs	13.9, 8.5 n=160	31.3, 18 n=100	57.8, 41 n=129	150.9, 110 n=144	612, 437 n=60
Administrative or Clerical Staff	3.2, 2 n=125	5.4, 4 n=105	11.6, 8.3 n=140	31.7, 21 n=149	183, 100 n=63
Alcohol and Substance Abuse Counselors	3.4, 0.5 n=7	2.3, 1 n=7	12.3, 1 n=11	11.4, 5.5 n=23	28.4, 18.5 n=21
Environmental Scientist and Specialist	1.3, 1 n=96	2.5, 2 n=96	4.9, 4 n=129	12.4, 10.5 n=145	50.5, 32.5 n=62
Epidemiologist	0.9, 0.7 n=17	1.5, 1 n=13	1.2, 1 n=26	1.5, 1 n=71	6.5, 2 n=63
Health Educator with CHES certification	0.7, 0.5 n=13	1.1, 0.5 n=15	1.2, 1 n=45	2.9, 2 n=70	9.5, 5 n=38
Health Educator without CHES certification	0.9, 1 n=22	1.1, 1 n=45	1.8, 1 n=69	3.8, 2 n=105	10.7, 6 n=54
Health Service Managers, Administrators, Health Director	0.9, 1 n=120	1.2, 1 n=99	1.5, 1 n=142	3.6, 2 n=154	13.6, 7 n=70
Health Information Systems Specialist	0.8, 1 n=6	1.5, 1 n=13	1.3, 1 n=38	2.3, 2 n=95	12.5, 4 n=63
Public Health Dentist	0.5, 0.5 n=6	0.9, 0.8 n=13	0.9, 1 n=20	1.4, 1 n=45	4.7, 3 n=38
Public Health Nurse	4.3, 2.22 n=150	6.4, 4.8 n=106	14.2, 10.5 n=149	30.2, 22.7 n=158	132.1, 83.8 n=66
Public Health Nutritionist	1.0, 0.6 n=48	1.3, 1 n=55	2.0, 1 n=96	4.6, 3 n=126	14.4, 11 n=58
Public Health Physician	0.7, 0.3 n=27	0.9, 0.3 n=37	0.9, 0.5 n=78	2.0, 1 n=113	18.5, 4 n=60
Public Health Social Worker	2.1, 1 n=30	2.4, 1 n=42	2.7, 1.8 n=80	6.3, 4.5 n=114	60.2, 16.8 n=55

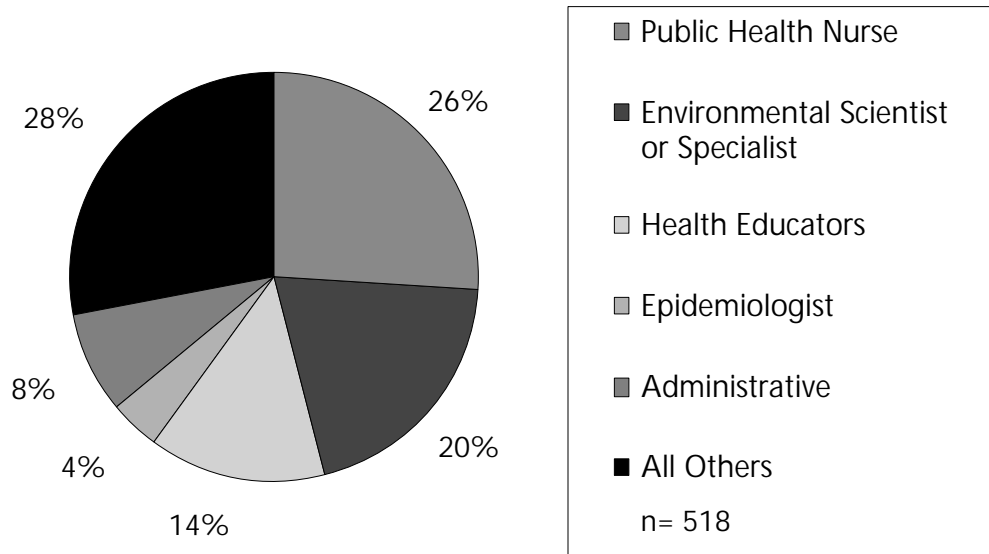
*Total observations n=694, however, number of observations may be smaller due to missing observations and responses of "0" which were not included in the analysis.

Table 19. MEAN AND MEDIAN DIRECT AND CONTRACTED FTES BY
SELECTED OCCUPATIONAL CLASSIFICATIONS:
LPHA Type

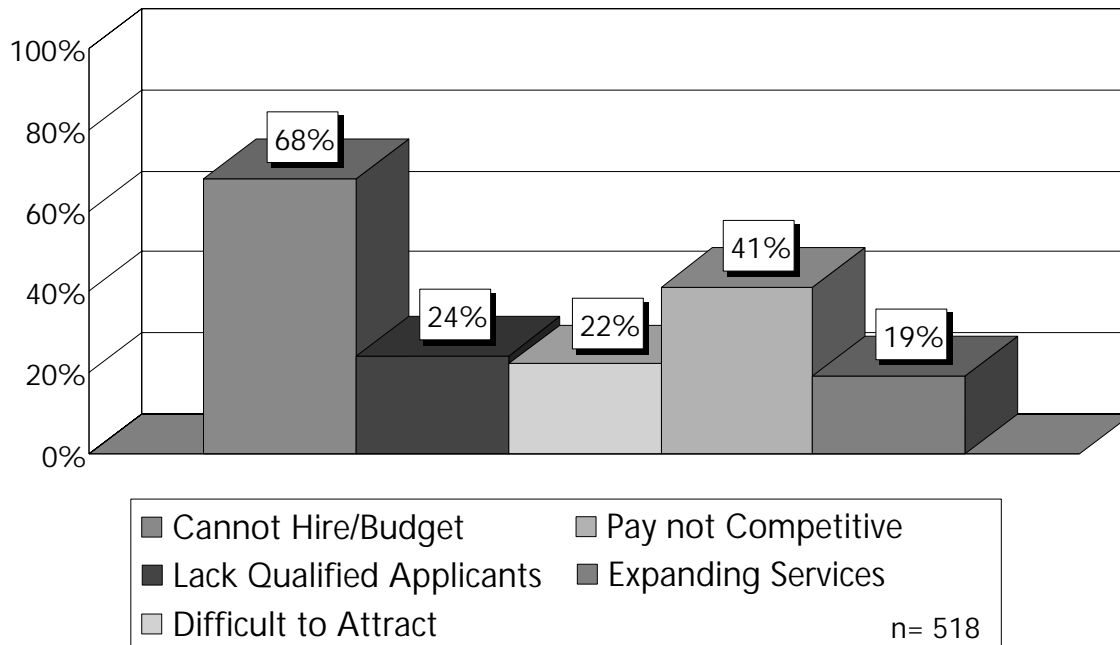
Occupational Classification	Mean, Median FTES and n				
	County	City	City-County	Township	District/ Multi-County
All Direct and Contract FTES	65.2, 18 n=358	66.1, 15 n=62	97.9, 33 n=57	7.0, 4 n=51	100.3, 69 n=65
Administrative or Clerical Staff	14.3, 5 n=350	27.8, 3 n=67	31.4, 9 n=60	1.7, 1 n=32	21.2, 13 n=73
Alcohol and Substance Abuse Counselors	13, 6.48 n=34	12.8, 2 n=15	5.1, 2 n=9	4.2, 1 n=4	3.8, 3 n=7
Environmental Scientist and Specialist	6.3, 2 n=312	6.0, 2 n=66	9.5, 4.5 n=54	1.4, 1 n=29	9.0, 6.5 n=67
Epidemiologist	1.8, 1 n=109	4.6, 1 n=25	2.5, 1 n=28	1.0, 1 n=2	1.6, 1 n=26
Health Educator with CHES certification	2.4, 1 n=105	3.7, 1 n=27	4.0, 3 n=15	0.6, 0.5 n=7	2.0, 1 n=27
Health Educator without CHES certification	2.7, 1 n=185	3.9, 1.39 n=26	3.6, 1 n=38	0.3, 0.3 n=3	2.4, 1 n=43
Health Service Managers, Administrators, Health Director	1.9, 1 n=350	3.4, 1 n=66	3.6, 1 n=60	0.8, 1 n=33	2.2, 1 n=76
Health Information Systems Specialist	3.6, 1 n=121	5.0, 1 n=24	5.6, 1 n=25	2.0, 2 n=2	2.2, 1 n=43
Public Health Dentist	1.6, 1 n=65	1.5, 0.8 n=19	2.6, 1 n=20	0.6, 0.5 n=4	1.7, 1 n=14
Public Health Nurse	13.4, 5 n=387	19.0, 3 n=69	23.7, 6 n=66	2.7, 1 n=36	25.9, 17 n=71
Public Health Nutritionist	2.6, 1 n=244	6.4, 2 n=29	3.4, 1.8 n=44	1.1, 0.7 n=4	3.6, 2 n=62
Public Health Physician	1.9, 1 n=183	4.6, 0.5 n=38	7.6, 0.5 n=41	0.6, 0.3 n=7	1.3, 1 n=46
Public Health Social Worker	5.7, 2 n=195	24.0, 3 n=37	12.9, 3 n=36	1.4, 1 n=6	5.6, 4 n=47

*Total observations n=694, however, number of observations may be smaller due to missing observations and responses of "0" which were not included in the analysis.

Figure 22. OCCUPATIONS MOST CURRENTLY NEEDED :
All LPHAs

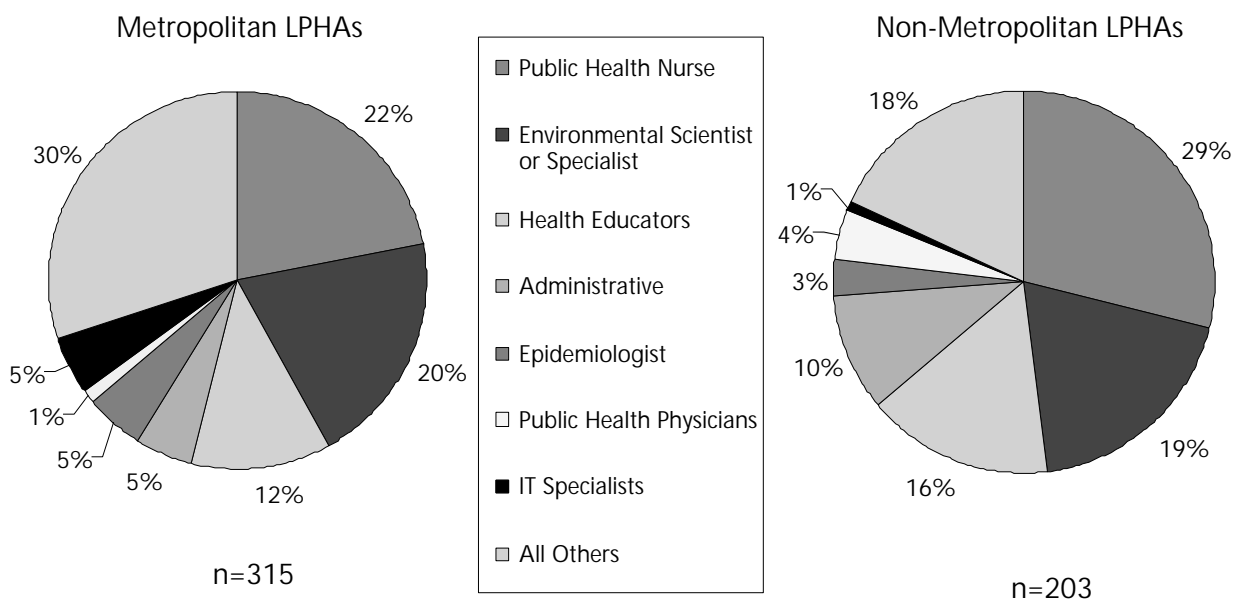


Reasons why occupation is needed...

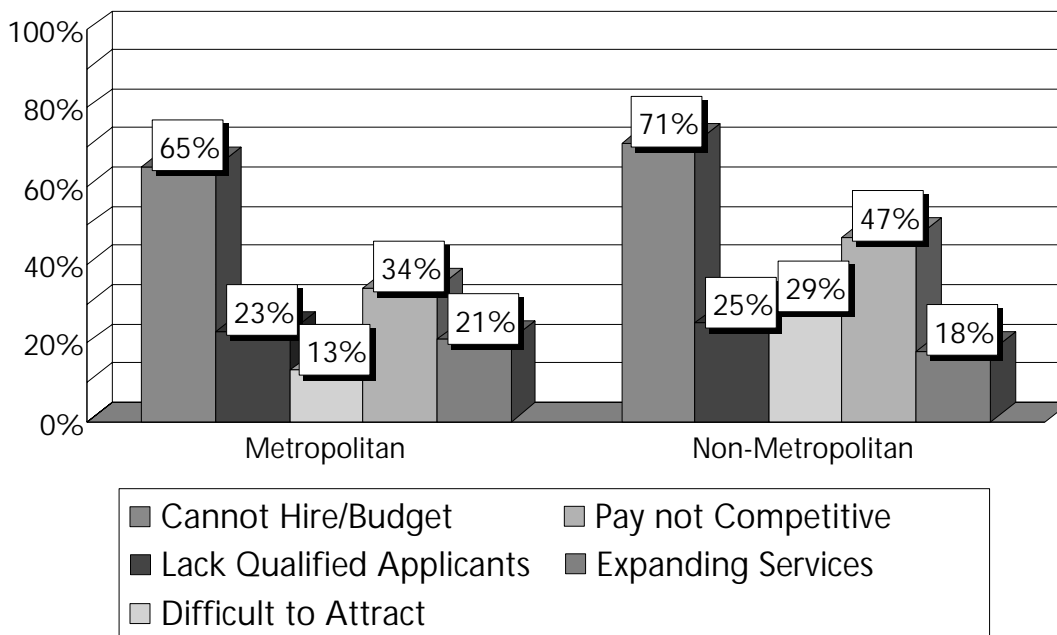


Note: Percentages add to greater than 100% because respondents could choose more than one reason.

Figure 23. OCCUPATION MOST CURRENTLY NEEDED:
Metropolitan and Non-Metropolitan LPHAs

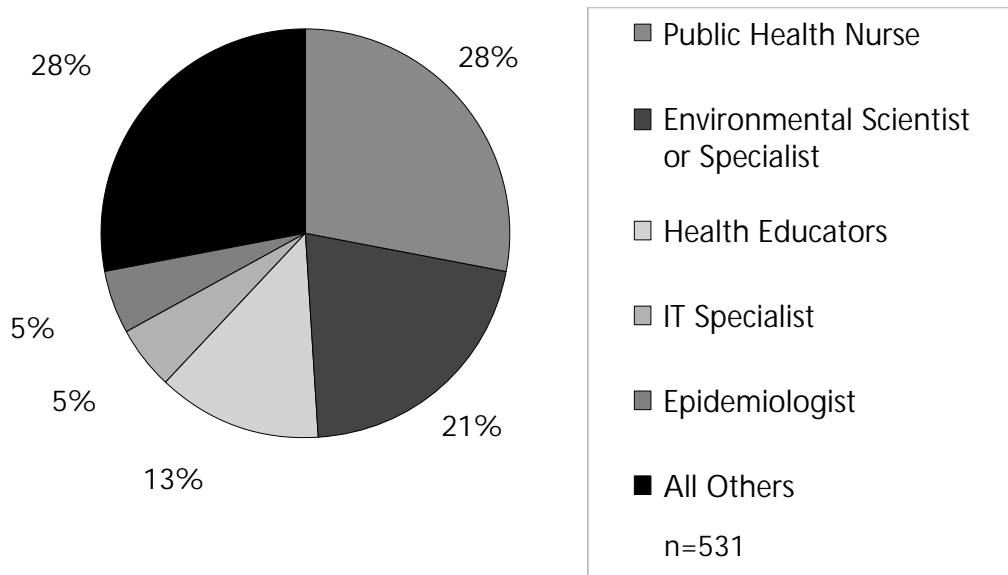


Reasons why occupation is needed...



Note: Percentages add to greater than 100% because respondents could choose more than one reason.

Figure 24. OCCUPATIONS MOST NEEDED IN FIVE YEARS:
All LPHAs



Top reason why occupation will be needed...

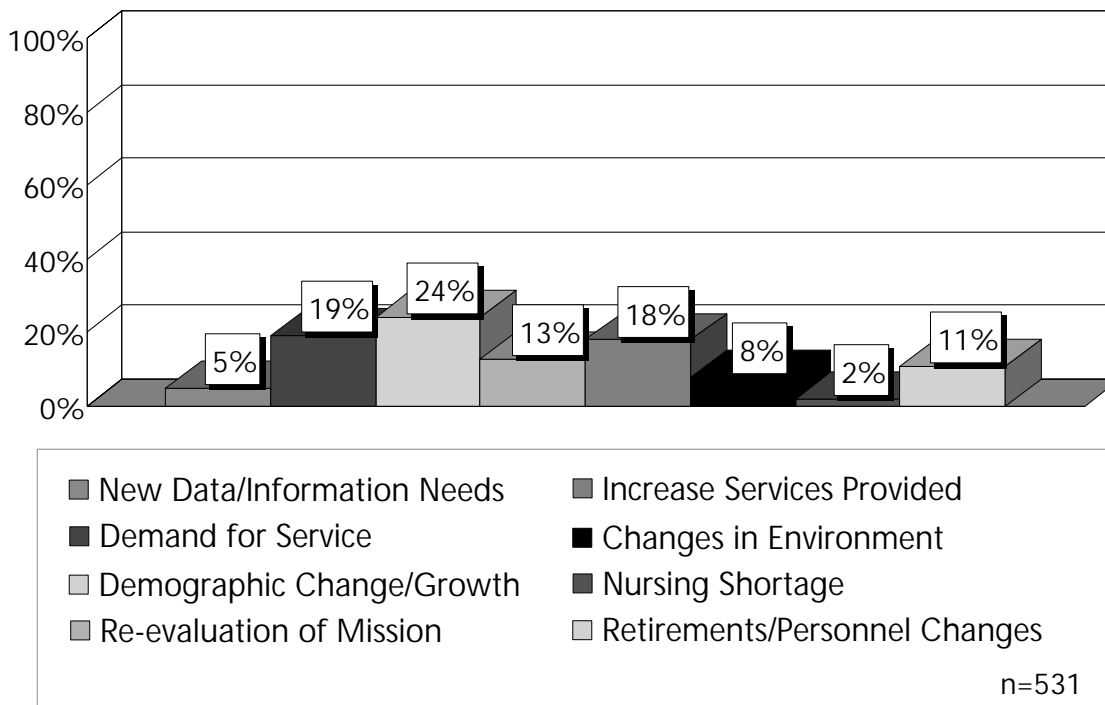
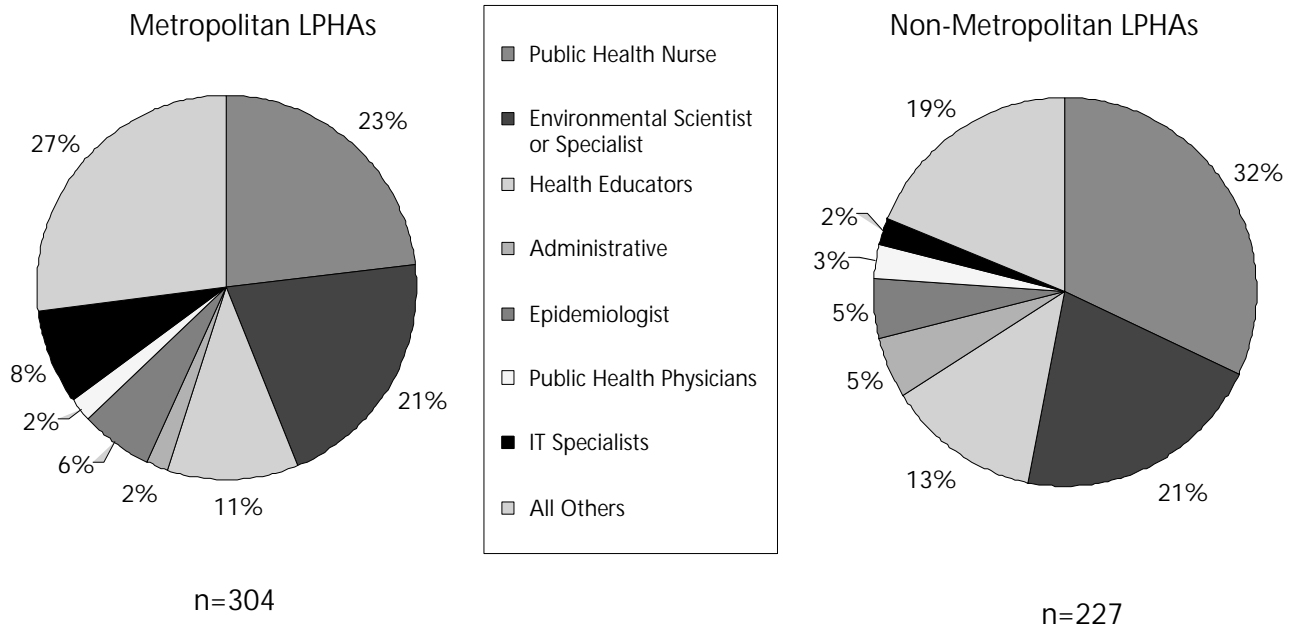
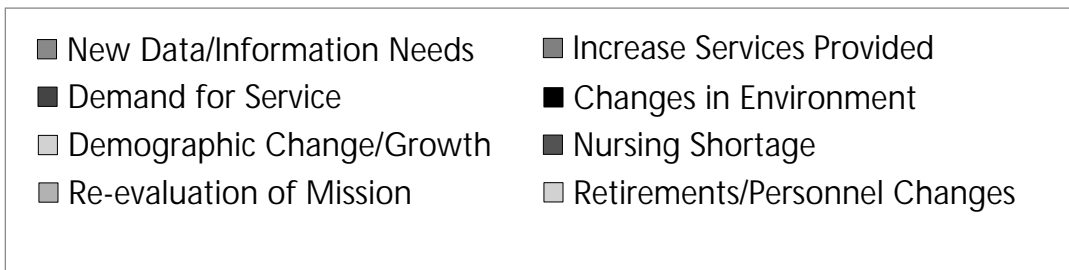
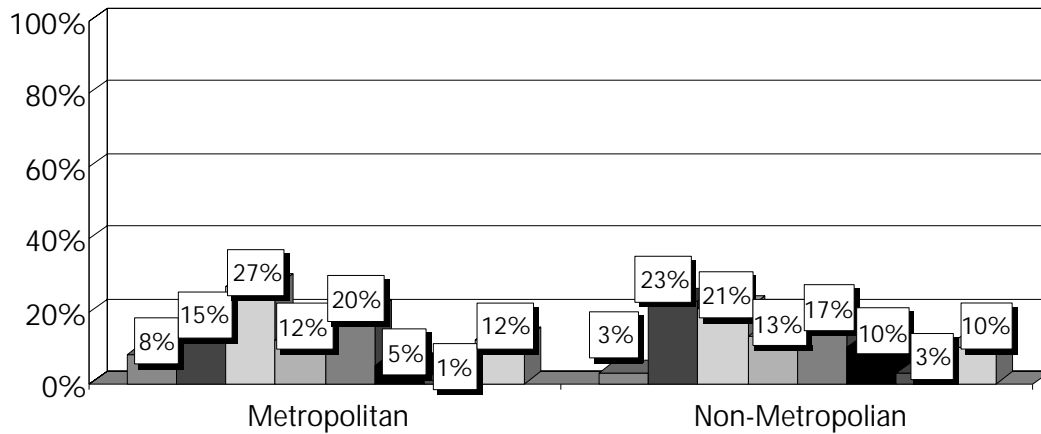


Figure 25. OCCUPATIONS MOST NEEDED
IN FIVE YEARS:
Metropolitan And Non-Metropolitan LPHAs



Top reason why occupation will be needed...



Programs and Services

Data on LPHA programs and service areas were collected two ways in this study. First, respondents were asked to identify their top five priorities from a list of 40 public health program areas. (See Appendix B for a link to survey instrument, which includes a comprehensive list of services.) Second, respondents were asked to indicate which public health services were provided in their jurisdiction using the following choices: services are directly provided by the LPHA; the service was provided by the LPHA through contracts; both direct service provision and contracts; the service was provided by others in the jurisdiction but not the LPHA; and the service was not provided at all in the jurisdiction. Respondents were asked to indicate only one provision type for each service.

SERVICE AND PROGRAM PRIORITY AREAS

In general, communicable disease control, environmental health, and child health were consistently chosen as top priority areas by LPHAs regardless of population of jurisdiction served, metropolitan versus non-metropolitan, and type of LPHA.

Some differences among metropolitan and non-metropolitan LPHAs did exist. Inspections were listed more frequently as a priority for metropolitan area LPHAs, while family planning and home health care services were listed more frequently as a priority for non-metropolitan area LPHAs.

One interesting finding reveals that a direct relationship exists between population size and percent of LPHAs reporting communicable disease control as a top priority—a higher percent of large jurisdictions rank communicable disease control as a high priority, compared with smaller jurisdictions. As for LPHA type, inspections/licensing and family planning were top priorities for city/county, city, and township LPHAs.

SERVICES AND PROGRAMS PROVIDED

LPHAs provide numerous services to the residents of their jurisdictions. Among the most common services provided by LPHAs in this study were the “core” public health programs associated with traditional local public health:

- adult and childhood immunizations
- communicable disease control
- community assessment
- community outreach & education
- environmental health services
- epidemiology & surveillance programs
- food safety
- health education
- restaurant inspections
- tuberculosis testing

Less common were those programs related to primary care services and chronic disease:

- cardiovascular disease, diabetes, and glaucoma treatment
- behavioral and mental health services
- programs for the homeless
- substance abuse services
- veterinary public health

Recent policy discussions at the national level have begun to address the variation in the type of services provided by LPHAs.³² Some of these discussions have pointed to the fact that multi-county, district, and regional LPHAs provide a more comprehensive set of services than other types of LPHAs, such as townships or small city LPHAs. Policy makers and others interested in public health infrastructure should closely examine the differences in LPHA service provision by LPHA type and use these data to continue to discuss the costs and benefits of consolidating or regionalizing local public health services in an area.

Furthermore, in light of the ever-changing health services environment, LPHAs are reassessing and redefining their roles within the health care delivery system. This has resulted in LPHAs transitioning their direct delivery services to other providers, and refocusing resources on more population-based services. Despite the fact that many LPHAs are still heavily involved in the provision of certain clinical services, such as immunizations, there is an increasing amount of data to support that many LPHAs are decreasing their direct service provision.

Data on services not provided within local jurisdictions need to be interpreted cautiously in the charts that follow. For example, services may be provided in a community and the LPHA director may not be aware or able to quantify them in a survey response. This is the first time such data have been collected from LPHAs using several of these categories, and thus, there are no baseline data to compare gaps in service provision across the country. If these data prove to be reliable estimates of gaps in service provision, there are some areas across the country that lack basic public health services such as immunizations, communicable disease control, or

environmental health services. Further examination of the lack of certain services provided in local areas will help set an agenda for improving the availability of public health services nationwide.

The charts and tables provided in the following section summarize data on LPHA program and service areas.³³ In the comparisons by LPHA jurisdiction population and LPHA type, a “yes” indicates that the service was directly provided, contracted, or both directly provided and contracted by the LPHA.

Table 2. SERVICES AND PROGRAMS PRIORITY AREAS:
All LPHAs

	Program Areas (% selected)
First Priority (n=668)	Communicable Disease Control (23%) Child Health (18%) Environmental Health (16%) Inspections and Licensing (6%) Family Planning (5%) Home Health Care (5%)
Second Priority (n=667)	Environmental Health (23%) Child Health (12%) Communicable Disease Control (10%) Family Planning (8%) Inspections and Licensing (8%)
Third Priority (n=661)	Environmental Health (13%) Child Health (10%) Communicable Disease Control (9%) Family Planning (8%)
Fourth Priority (n=660)	Environmental Health (11%) Communicable Disease Control (10%) Mental Health Programs (7%) Child Health (6%)
Fifth Priority (n=649)	Community Outreach and Education (9%) Communicable Disease Control (7%) Environmental Health (7%) Health Education/Risk Reduction (6%)

Table 3. SERVICES AND PROGRAMS PRIORITY AREAS:
Metropolitan and Non-Metropolitan LPHAs

Metropolitan LPHAs		
First Priority (n=274)	Second Priority (n=272)	Third Priority (n=270)
Communicable Disease Control (25%)	Environmental Health (27%)	Environmental Health (15%)
Environmental Health (25%)	Inspections (13%)	Communicable Disease Control (12%)
Child Health (13%)	Communicable Disease Control (12%)	Child Health (10%)
Inspections (8%)	Child Health (9%)	Inspections (7%)

Non-Metropolitan LPHAs		
First Priority (n=394)	Second Priority (n=394)	Third Priority (n=391)
Communicable Disease Control (22%)	Environmental Health (20%)	Environmental Health (11%)
Child Health (22%)	Child Health (14%)	Family Planning (10%)
Environmental Health (10%)	Family Planning (11%)	Child Health (9%)
Home Health (8%)	Communicable Disease Control (9%)	Behavioral and Mental Health (8%)

Table 4. SERVICES AND PROGRAMS PRIORITY AREAS:
LPHA Type

Population of Jurisdiction Served	Top Priority Area
County (n=399)	Communicable Disease Control (27%) Child Health (22%) Environmental Health (8%)
City (n=68)	Environmental Health (29%) Communicable Disease Control (21%) Inspections/Licensing (19%)
City-County (n=49)	Communicable Disease Control (24%) Child Health (16%) Family Planning (12%) Environmental Health (12%)
Township (n=98)	Environmental Health (41%) Inspections/Licensing (21%) Child Health (7%) Communicable Disease Control (7%)
Multi-County (n=54)	Communicable Disease Control (31%) Child Health (19%) Environmental Health (19%) Home Health Care (8%)

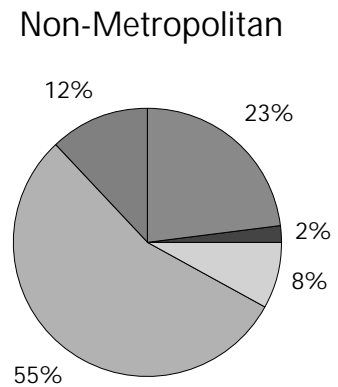
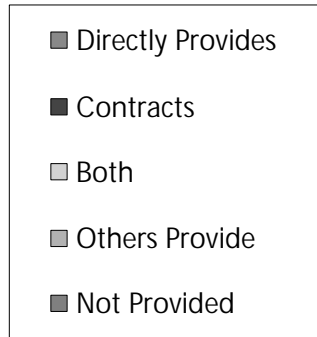
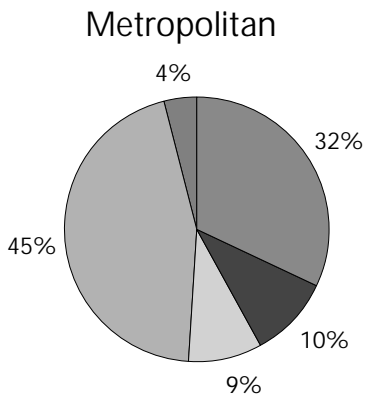
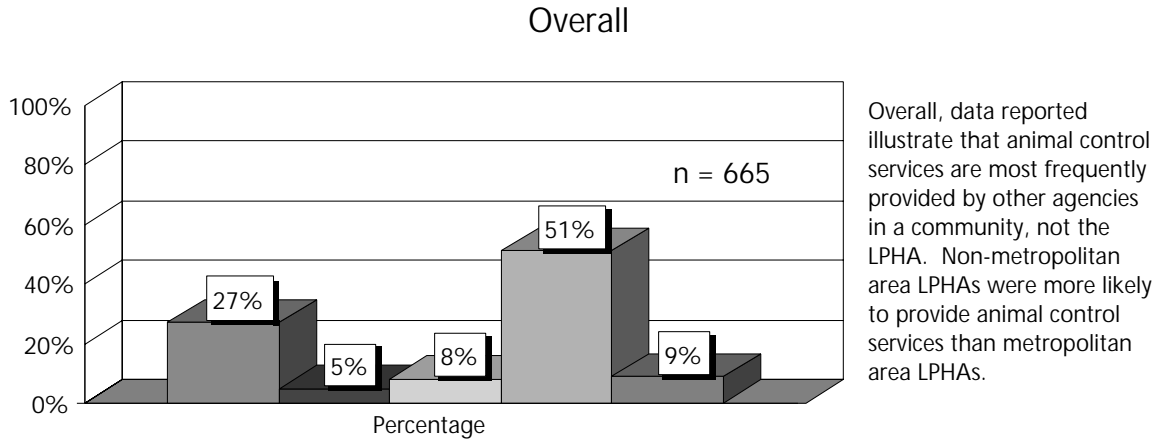
Table 5. SERVICES AND PROGRAMS PRIORITY AREAS:
Population Size

Population of Jurisdiction Served	Priority Areas
0 to 24,999 (n=333)	Environmental Health (19%) Child Health (18%) Communicable Disease Control (17%)
25,000 to 49,999 (n=130)	Child Health (23%) Communicable Disease Control (21%) Environmental Health (17%)
50,000 to 99,999 (n=88)	Communicable Disease Control (31%) Child Health (17%) Environmental Health (15%)
100,000 to 499,999 (n=92)	Communicable Disease Control (37%) Child Health (15%) Environmental Health (9%)
500,000 + (n=25)	Communicable Disease Control (45%) Child Health (14%) Community Outreach (7%)

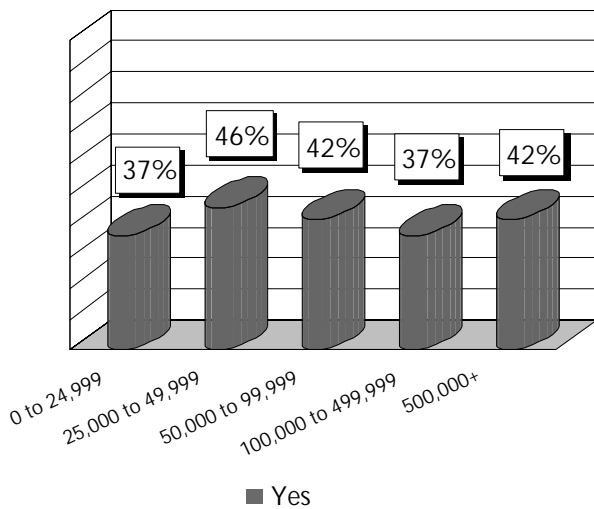
Table 6. LPHA PROGRAMS AND SERVICES:
 Adult Immunization – Influenza, Pneumoccal Disease, Hepatitis B, Tetanus, Diphtheria
 Percent of Services Provided
 Overall, Metropolitan – Non-Metropolitan, Population Size and LPHA Type

Overall					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Influenza (n=656)	78	5	8	7	3
Pneumoccal Disease (n=650)	63	5	7	20	5
Hepatitis B (n=658)	72	5	9	10	3
Tetanus (n=653)	75	4	7	9	5
Diphtheria (n=648)	73	4	7	11	6
Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Influenza	74	7	11	6	2
Pneumoccal Disease	65	8	11	13	3
Hepatitis B	68	7	11	9	5
Tetanus	65	7	9	12	7
Diphtheria	62	6	9	14	9
Non-Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Influenza	81	3	5	7	4
Pneumoccal Disease	61	3	5	25	6
Hepatitis B	75	4	8	11	2
Tetanus	81	2	6	8	3
Diphtheria	81	3	5	8	3
Population Size (percent providing service, contracting or both)					
	0-24,999	25,000-49,999	50,000-99,999	100,000-499,999	500,000+
Influenza	85	95	97	93	93
Pneumoccal Disease	67	73	89	89	91
Hepatitis B	81	89	92	94	91
Tetanus	83	85	92	91	90
Diphtheria	80	82	89	91	90
LPHA Type (percent providing service, contracting or both)					
	County	City	City-County	Township	Multi-County
Influenza	93	94	98	68	96
Pneumoccal Disease	74	85	85	64	83
Hepatitis B	90	89	98	60	90
Tetanus	94	81	97	46	87
Diphtheria	92	76	97	42	87

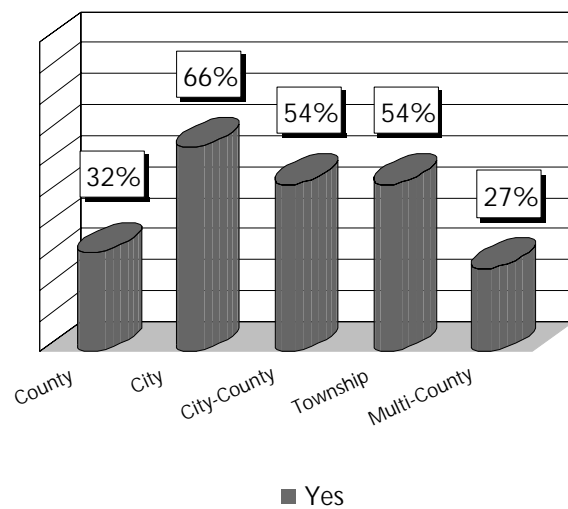
Figure 8. LPHA PROGRAMS AND SERVICES:
Animal Control



Service Provided by Population Size



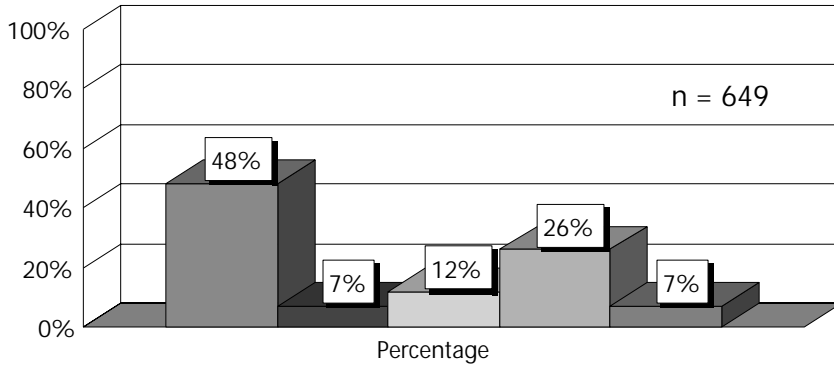
Service Provided by LPHA Type



"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

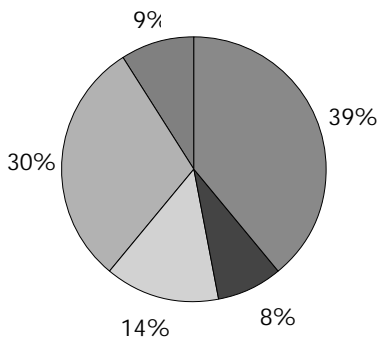
Figure 9. LPHA PROGRAMS AND SERVICES:
Case Management

Overall

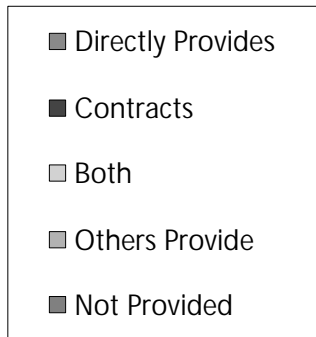
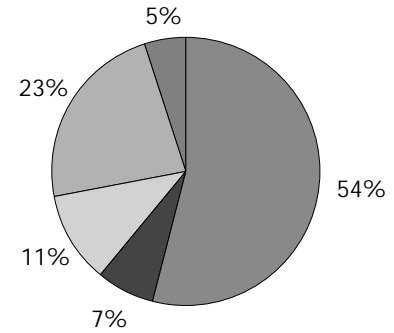


Case management services are directly provided by almost half of all LPHAs. Non-metropolitan area LPHAs more frequently directly provided case management services than metropolitan area LPHAs. Provision of this service varied by LPHA type.

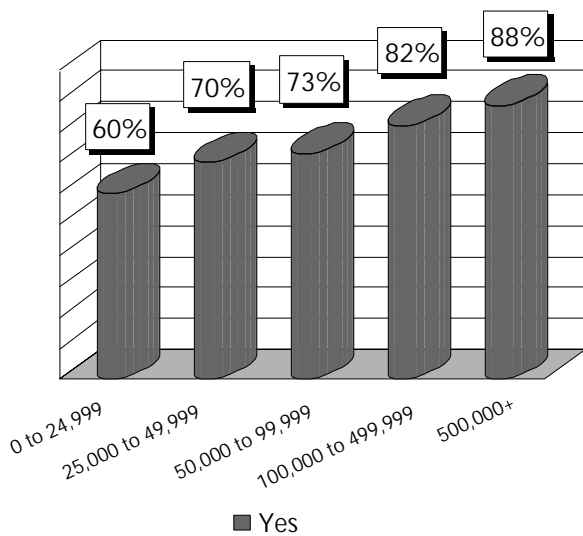
Metropolitan



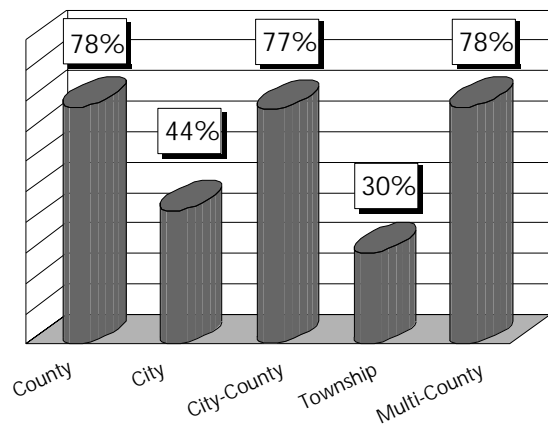
Non-Metropolitan



Service Provided by Population Size



Service Provided by LPHA Type



"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

Table 7. LPHA PROGRAMS AND SERVICES:
Child Health Services--Immunizations, EPSDT, WIC

Percent of Services Provided
Overall, Metropolitan – Non-Metropolitan, Population Size and LPHA Type

Overall					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Childhood Immunizations (n=664)	74	5	10	8	3
EPSDT (n=638)	47	5	7	33	8
WIC (n=667)	56	8	3	28	5
Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Childhood Immunizations	64	7	15	11	3
EPSDT	35	8	8	38	11
WIC	43	9	3	37	8
Non-Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Childhood Immunizations	81	4	7	5	3
EPSDT	55	4	6	29	6
WIC	65	7	3	23	2
Population Size (percent providing service, contracting or both)					
	0-24,999	25,000-49,999	50,000-99,999	100,000-499,999	500,000+
Childhood Immunizations	81	96	98	98	99
EPSDT	53	60	66	69	76
WIC	61	66	74	79	83
LPHA Type (percent providing service, contracting or both)					
	County	City	City-County	Township	Multi-County
Childhood Immunizations	98	88	99	45	93
EPSDT	67	46	64	19	70
WIC	77	49	74	23	78

Table 8. **LPHA PROGRAMS AND SERVICES:**
Chronic Disease Control Screening--Cancer, Cardiovascular Disease, Diabetes,
High Blood Pressure

Percent of Services Provided
Overall, Metropolitan – Non-Metropolitan, Population Size and LPHA Type

Overall					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Cancer (n=654)	36	8	14	33	9
Cardiovascular (n=666)	36	4	10	40	10
Diabetes (n=666)	44	4	9	34	9
High Blood Pressure (n=662)	66	5	10	16	3
Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Cancer	28	6	18	36	12
Cardiovascular	31	6	13	37	13
Diabetes	35	7	10	36	12
High Blood Pressure	55	9	13	20	3
Non-Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Cancer	41	10	11	31	7
Cardiovascular	39	3	8	43	7
Diabetes	51	2	8	33	6
High Blood Pressure	73	2	8	14	3
Population Size (percent providing service, contracting or both)					
	0-24,999	25,000-49,999	50,000-99,999	100,000-499,999	500,000+
Cancer	55	58	61	62	79
Cardiovascular	46	56	47	53	72
Diabetes	60	60	46	54	54
High Blood Pressure	80	88	80	74	80
LPHA Type (percent providing service, contracting or both)					
	County	City	City-County	TownShip	Multi-County
Cancer	65	41	69	22	74
Cardiovascular	53	53	39	28	68
Diabetes	63	44	59	33	66
High Blood Pressure	86	82	85	55	81

Table 9. LPHA PROGRAMS AND SERVICES:
Community Assessment, Community Outreach & Education

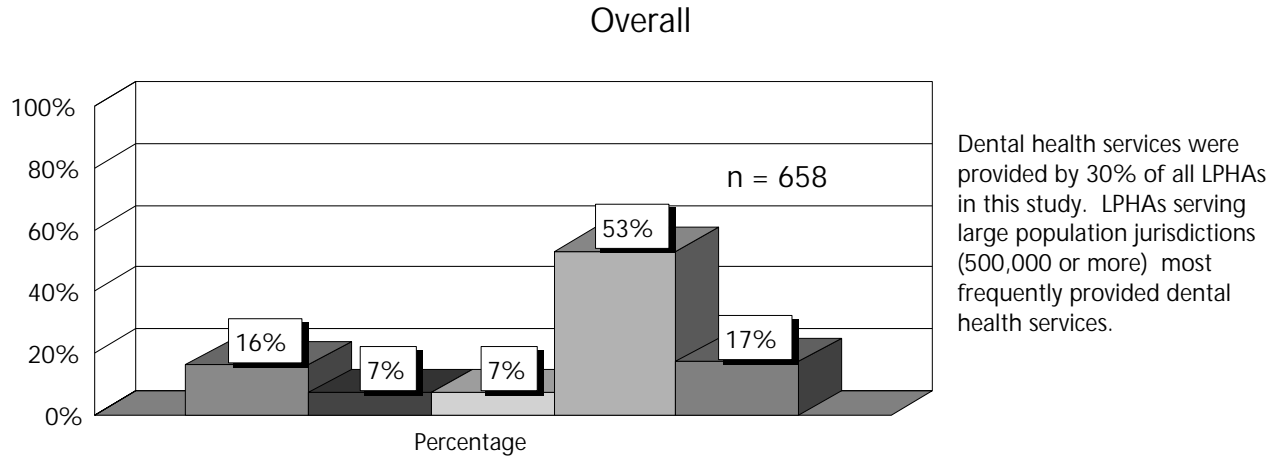
Percent of Services Provided
Overall, Metropolitan – Non-Metropolitan, Population Size and LPHA Type

Overall					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Community Assessment (n=652)	61	3	16	10	10
Community Outreach & Education (n=658)	70	2	18	6	5
Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Community Assessment	54	3	20	13	10
Community Outreach & Education	62	3	25	4	6
Non-Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Community Assessment	66	3	13	8	10
Community Outreach & Education	75	1	13	7	4
Population Size (percent providing service, contracting or both)					
	0-24,999	25,000-49,999	50,000-99,999	100,000-499,999	500,000+
Community Assessment	75	80	91	85	91
Community Outreach & Education	83	95	95	96	100
LPHA Type (percent providing service, contracting or both)					
	County	City	City-County	Township	Multi-County
Community Assessment	86	75	85	52	87
Community Outreach & Education	94	89	95	62	95

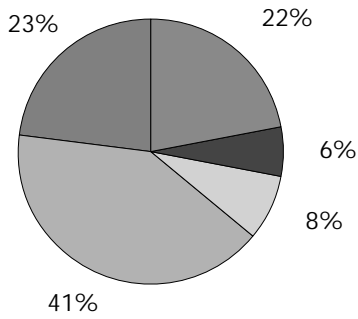
Table 10. LPHA PROGRAMS AND SERVICES:
 Communicable Disease Control, Epidemiology & Surveillance
 Percent of Services Provided
 Overall, Metropolitan – Non-Metropolitan, Population Size and LPHA Type

Overall					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Communicable Disease Control (n=671)	80	4	10	3	3
Epidemiology & Surveillance (n=663)	70	3	11	11	6
Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Communicable Disease Control	77	5	11	3	4
Epidemiology & Surveillance	72	2	13	5	8
Non-Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Communicable Disease Control	83	2	9	4	2
Epidemiology & Surveillance	68	3	9	15	5
Population Size (percent providing service, contracting or both)					
	0-24,999	25,000-49,999	50,000-99,999	100,000-499,999	500,000+
Communicable Disease Control	89	97	100	99	97
Epidemiology & Surveillance	74	90	92	92	98
LPHA Type (percent providing service, contracting or both)					
	County	City	City-County	Township	Multi-County
Communicable Disease Control	99	89	98	68	100
Epidemiology & Surveillance	88	80	85	56	92

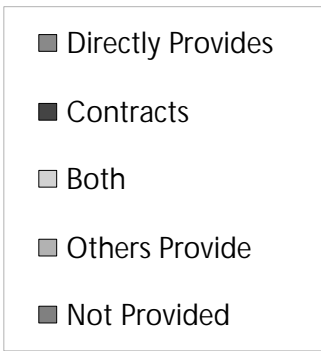
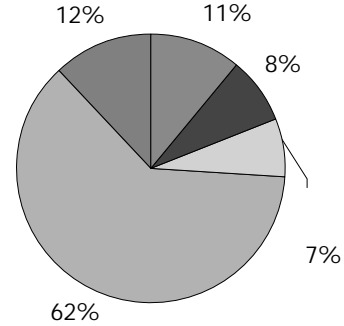
Figure 10. LPHA PROGRAMS AND SERVICES:
Dental Health



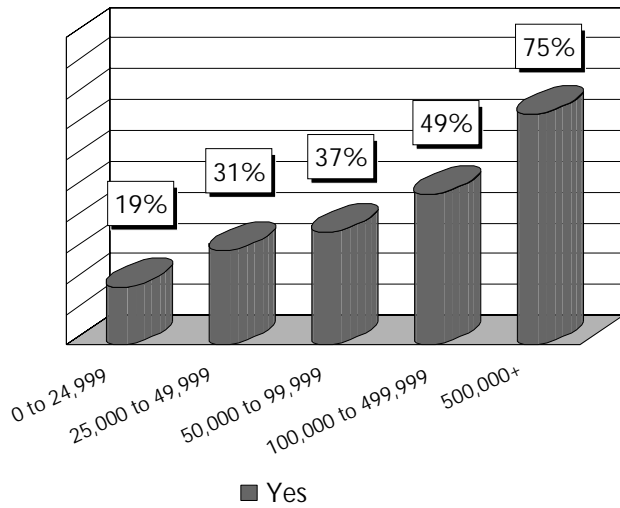
Metropolitan



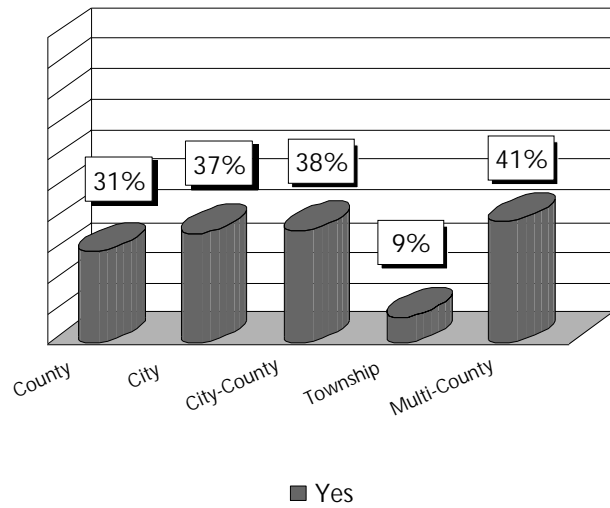
Non-Metropolitan



Service Provided by Population Size



Service Provided by LPHA Type



"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

Table 11. LPHA PROGRAMS AND SERVICES:
Environmental Health Services

Percent of Services Provided
Overall, Metropolitan - Non-Metropolitan, Population Size and LPHA Type

Overall					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Indoor Air Quality (n=644)	33	5	6	33	22
Emergency Response (n=653)	44	4	13	35	4
Food Safety (n=674)	78	3	4	12	2
Lead Screening & Abatement (n=649)	57	5	12	19	6
Sewage Disposal (n=662)	66	3	5	23	3
Vectors (n=639)	50	3	8	29	10
Surface Water Pollution (n=650)	31	4	8	49	8
Private Drinking Water (n=660)	63	4	5	23	5
Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Indoor Air Quality	44	7	9	26	14
Emergency Response	46	5	13	33	3
Food Safety	89	0	3	6	2
Lead Screening & Abatement	58	4	15	18	5
Sewage Disposal	71	1	5	19	4
Vectors	61	4	10	18	7
Surface Water Pollution	31	5	8	43	13
Private Drinking Water	63	4	4	20	9
Non-Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Indoor Air Quality	26	4	4	38	28
Emergency Response	43	3	13	36	5
Food Safety	70	5	5	17	3
Lead Screening & Abatement	58	6	10	20	6
Sewage Disposal	62	5	5	26	2
Vectors	43	3	7	36	11
Surface Water Pollution	31	4	8	52	5
Private Drinking Water	62	4	6	26	2

Table 11. (cont.)

Population Size (percent providing service, contracting or both)					
	0-24,999	25,000-49,999	50,000-99,999	100,000-499,999	500,000+
Indoor Air Quality	37	51	51	52	62
Emergency Response	56	67	64	65	72
Food Safety	80	89	88	92	93
Lead Screening & Abatement	70	78	83	79	85
Sewage Disposal	71	77	78	79	69
Vectors	54	66	72	68	76
Surface Water Pollution	45	41	37	43	43
Private Drinking Water	70	70	74	82	63
LPHA Type (percent providing service, contracting or both)					
	County	City	City-County	Township	Multi-County
Indoor Air Quality	41	61	54	47	41
Emergency Response	63	68	63	44	63
Food Safety	84	93	84	82	91
Lead Screening & Abatement	79	76	80	51	87
Sewage Disposal	76	66	75	70	78
Vectors	58	84	68	61	60
Surface Water Pollution	44	36	45	47	36
Private Drinking Water	76	50	77	66	72

Table 12. LPHA PROGRAMS AND SERVICES:
Family Planning, Maternal Health, Prenatal Care

Percent of Services Provided
Overall, Metropolitan – Non-Metropolitan, Population Size and LPHA Type

Overall					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Family Planning (n=668)	44	6	8	33	8
Maternal Health (n=659)	50	7	13	23	7
Prenatal Care (n=664)	22	8	11	49	9
Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Family Planning	31	6	9	40	14
Maternal Health	40	7	16	26	11
Prenatal Care	22	9	11	46	12
Non-Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Family Planning	52	7	8	28	5
Maternal Health	56	7	11	21	5
Prenatal Care	22	8	12	50	8
Population Size (percent providing service, contracting or both)					
	0-24,999	25,000-49,999	50,000-99,999	100,000-499,999	500,000+
Family Planning	52	57	66	68	82
Maternal Health	60	70	82	85	94
Prenatal Care	34	39	51	57	66
LPHA Type (percent providing service, contracting or both)					
	County	City	City-County	Township	Multi-County
Family Planning	72	36	56	9	70
Maternal Health	80	60	71	24	88
Prenatal Care	45	34	54	18	59

Table 13. LPHA PROGRAMS AND SERVICES:
HIV/AIDS, Sexually Transmitted Disease, Tuberculosis Services

Percentage of Services Provided
Overall, Metropolitan – Non-Metropolitan, Population Size and LPHA Type

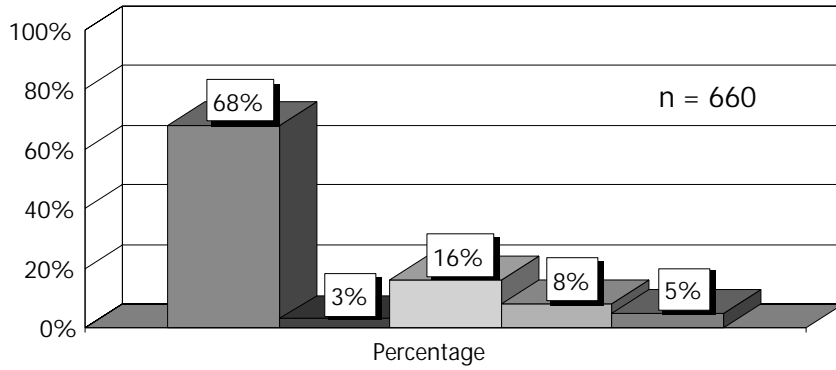
Overall					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
HIV/AIDS Testing & Counseling (n=666)	52	5	7	27	8
HIV/AIDS Treatment (n=666)	14	5	6	65	11
STD Testing & Counseling (n=666)	53	4	8	26	8
Tuberculosis Testing (n=667)	74	5	9	8	4
Tuberculosis Treatment (n=669)	56	5	10	24	5
Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
HIV/AIDS Testing & Counseling	47	6	8	26	13
HIV/AIDS Treatment	15	6	7	58	14
STD Testing & Counseling	48	5	9	27	11
Tuberculosis Testing	67	8	11	8	6
Tuberculosis Treatment	46	6	10	30	8
Non-Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
HIV/AIDS Testing & Counseling	56	5	7	27	5
HIV/AIDS Treatment	14	4	4	69	9
STD Testing & Counseling	57	4	8	26	5
Tuberculosis Testing	79	3	7	9	2
Tuberculosis Treatment	63	4	10	20	3

Table 13. (cont.)

Population Size (percent providing service, contracting or both)					
	0-24,999	25,000-49,999	50,000-99,999	100,000-499,999	500,000+
HIV/AIDS Testing & Counseling	51	62	83	93	93
HIV/AIDS Treatment	19	19	26	41	54
STD Testing & Counseling	54	64	81	91	94
Tuberculosis Testing	79	95	96	96	94
Tuberculosis Treatment	63	74	75	85	91
LPHA Type (percent providing service, contracting or both)					
	County	City	City-County	Township	Multi-County
HIV/AIDS Testing & Counseling	80	43	73	11	72
HIV/AIDS Treatment	29	18	28	5	25
STD Testing & Counseling	80	60	76	6	69
Tuberculosis Testing	96	87	99	45	90
Tuberculosis Treatment	85	48	90	17	71

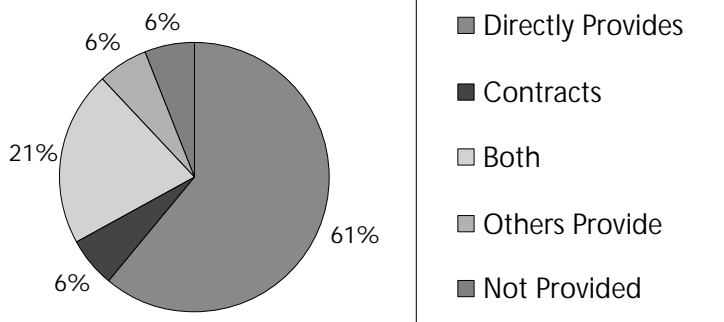
Figure 11. LPHA PROGRAMS AND SERVICES:
Health Education/Risk Reduction

Overall

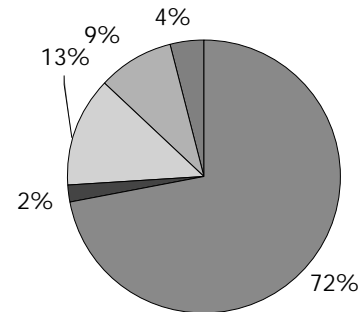


Health education and risk reduction programs were frequently provided LPHA services. 87% of all responding LPHAs and 100% of all large population LPHAs provided these services in their jurisdictions. In 1992-1993, NACCHO reported 84% of all LPHAs provided this service – almost identical to the current research.

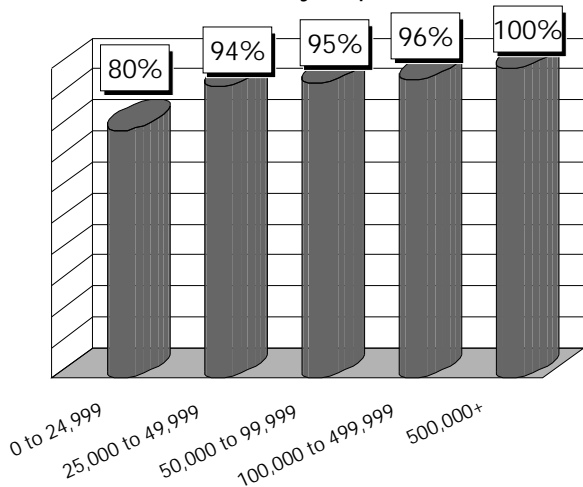
Metropolitan



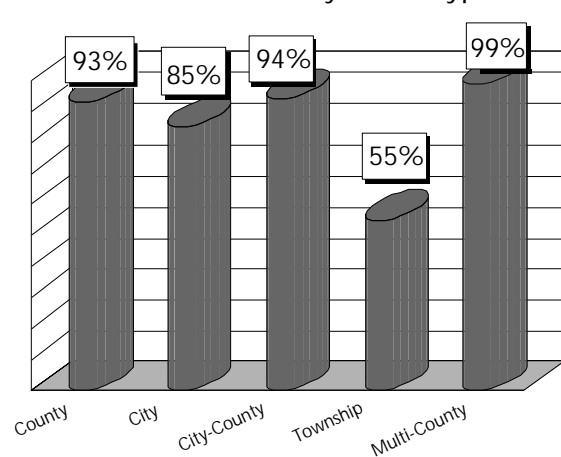
Non-Metropolitan



Service Provided by Population Size



Service Provided by LPHA Type

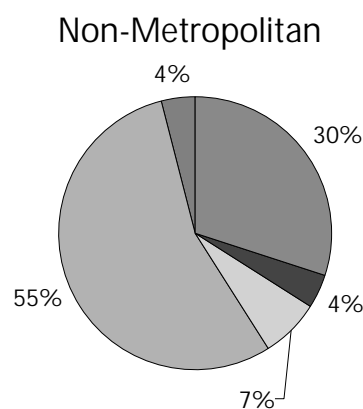
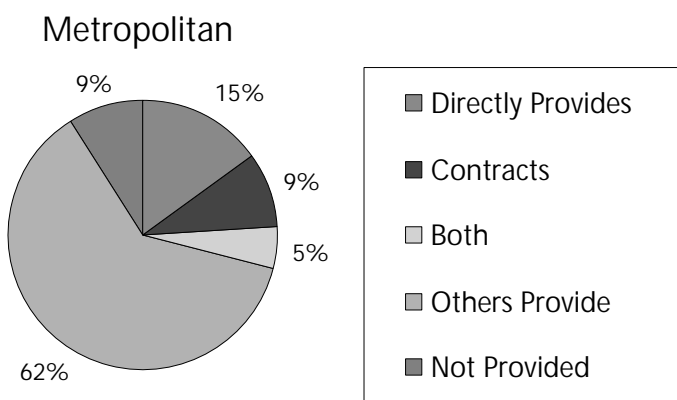
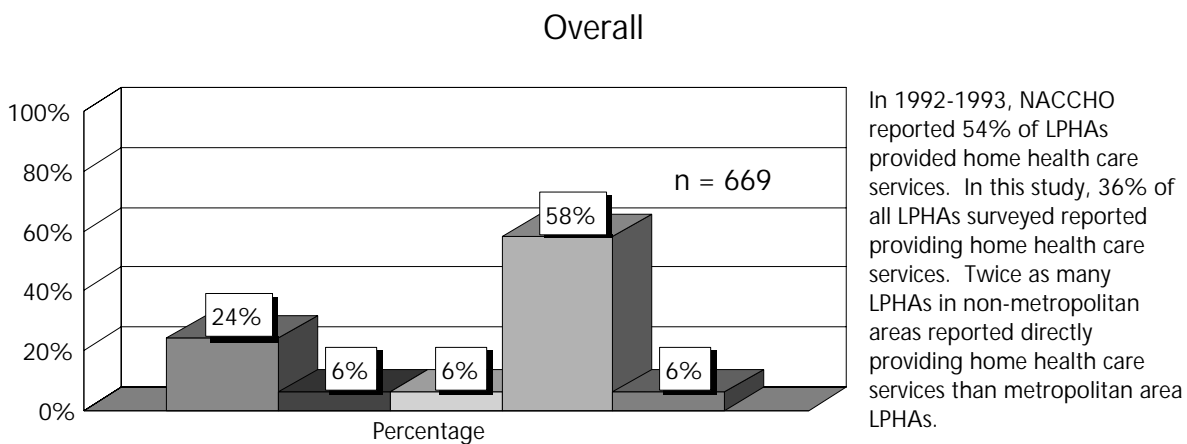


■ Yes

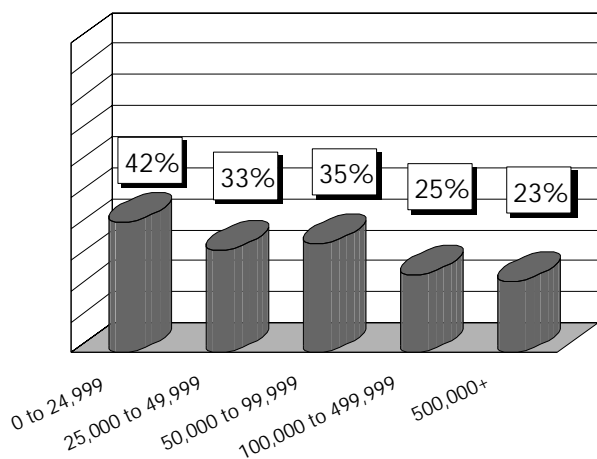
■ Yes

"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

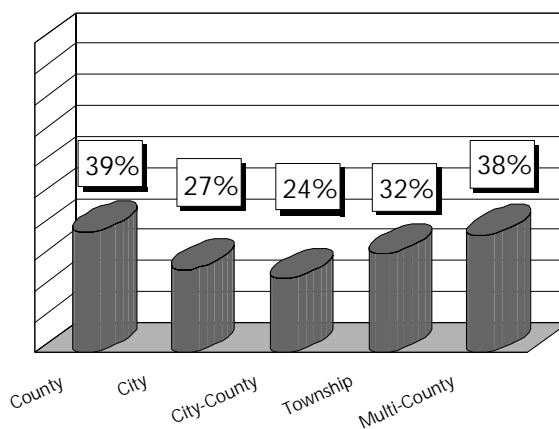
Figure 12. LPHA PROGRAMS AND SERVICES:
Home Health Care



Service Provided by Population Size



Service Provided by LPHA Type

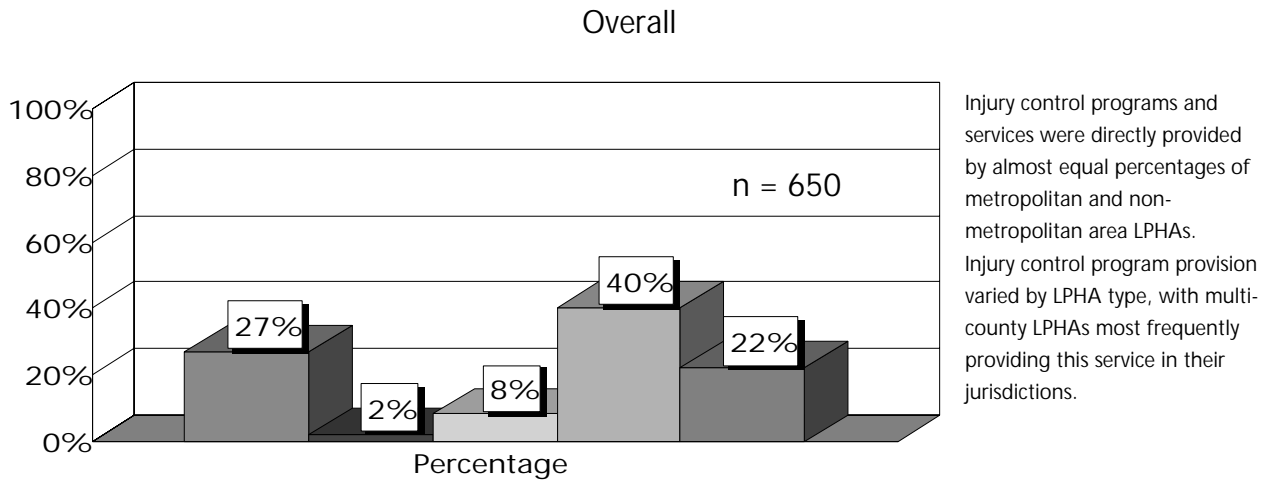


■ Yes

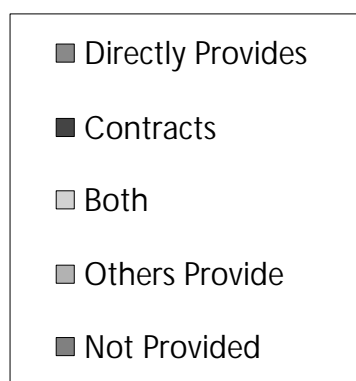
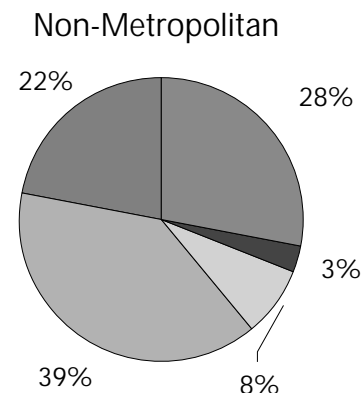
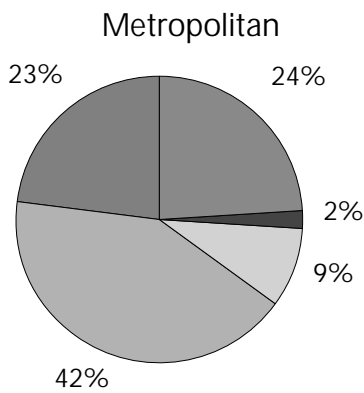
■ Yes

"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

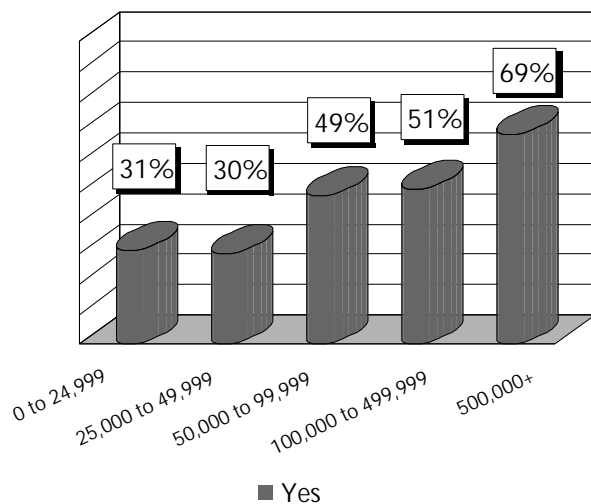
Figure 13. LPHA PROGRAMS AND SERVICES:
Injury Control



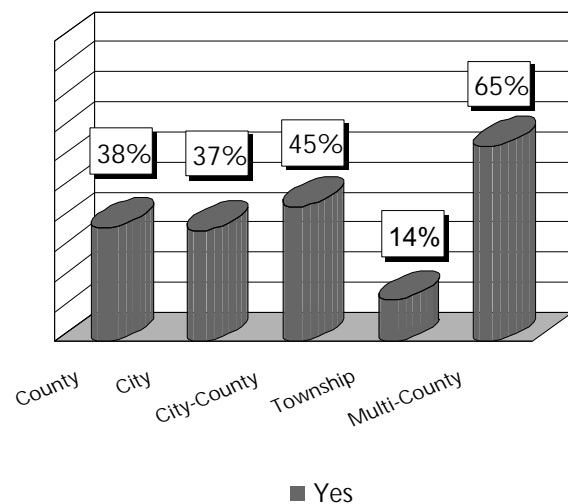
Injury control programs and services were directly provided by almost equal percentages of metropolitan and non-metropolitan area LPHAs. Injury control program provision varied by LPHA type, with multi-county LPHAs most frequently providing this service in their jurisdictions.



Service Provided by Population Size



Service Provided by LPHA Type



"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

Table 14. LPHA PROGRAMS AND SERVICES:
Inspections and Licensing

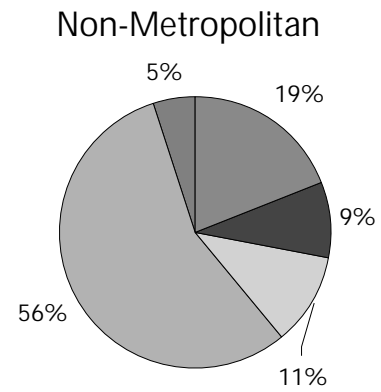
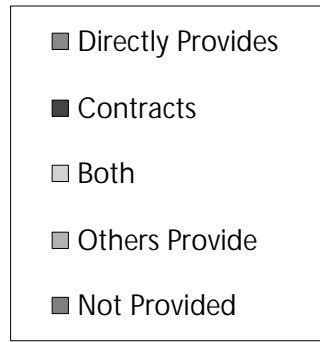
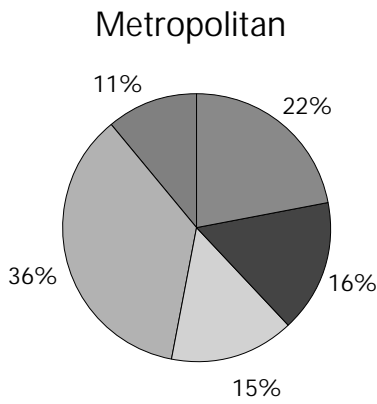
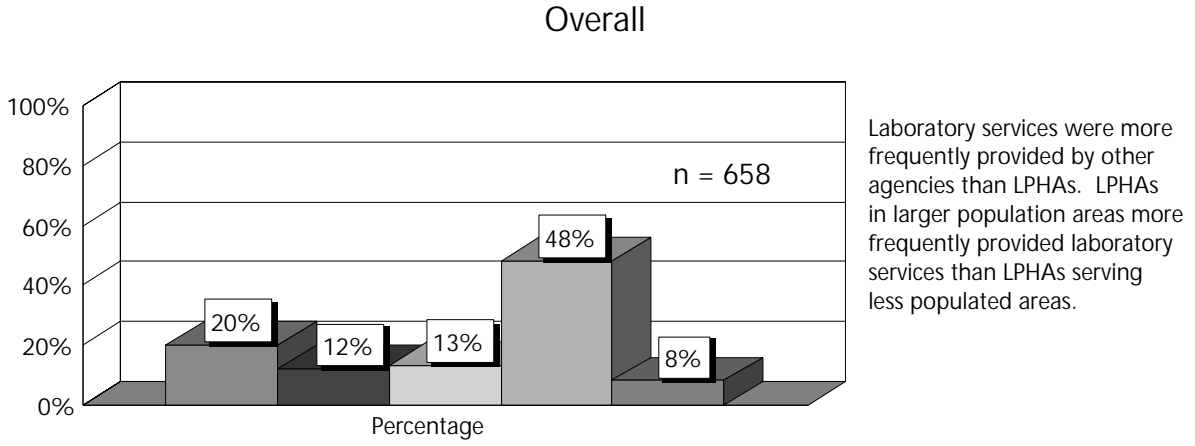
Percent of Services Provided
Overall, Metropolitan – Non-Metropolitan, Population Size and LPHA Type

Overall					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Food & Milk (n=643)	57	2	3	34	3
Public Drinking Water (n=653)	33	3	8	53	4
Private Drinking Water (n=656)	59	3	3	27	7
Recreational Water (n=653)	42	3	4	42	9
Restaurants (n=670)	76	2	2	19	1
Health Related Facilities (n=662)	29	3	6	56	7
Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Food & Milk	70	1	5	22	2
Public Drinking Water	32	4	9	48	7
Private Drinking Water	61	2	3	21	13
Recreational Water	57	3	4	26	10
Restaurants	89	0	1	8	2
Health Related Facilities	34	3	11	42	10
Non-Metropolitan					
	Directly Provides	Contracts	Both	Others Provide	Not Provided
Food & Milk	49	3	2	42	4
Public Drinking Water	33	2	6	57	2
Private Drinking Water	58	3	4	32	3
Recreational Water	31	3	4	54	8
Restaurants	66	4	2	27	1
Health Related Facilities	25	3	2	66	4

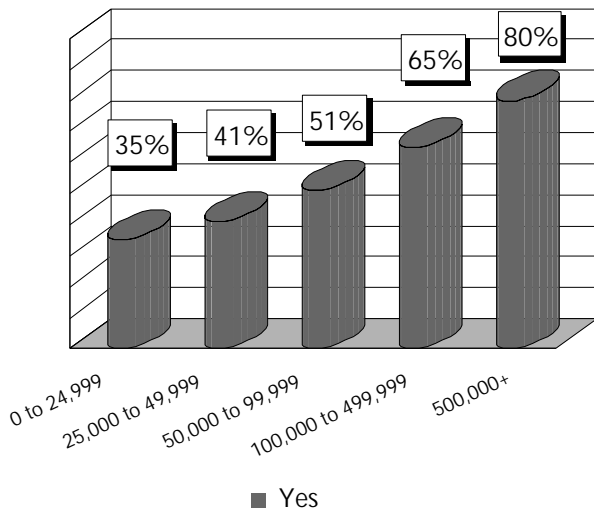
Table 14. (cont.)

Population Size (percent providing service, contracting or both)					
	0-24,999	25,000-49,999	50,000-99,999	100,000-499,999	500,000+
Food & Milk	59	68	67	62	62
Public Drinking Water	45	38	37	47	49
Private Drinking Water	63	65	64	76	60
Recreational Water	41	57	51	55	69
Restaurants	73	85	84	88	85
Health Related Facilities	32	41	41	44	42
LPHA Type (percent providing service, contracting or both)					
	County	City	City-County	Township	Multi-County
Food & Milk	57	82	59	79	59
Public Drinking Water	42	35	42	44	59
Private Drinking Water	69	42	72	61	65
Recreational Water	43	55	50	65	52
Restaurants	76	90	83	80	88
Health Related Facilities	34	56	38	38	35

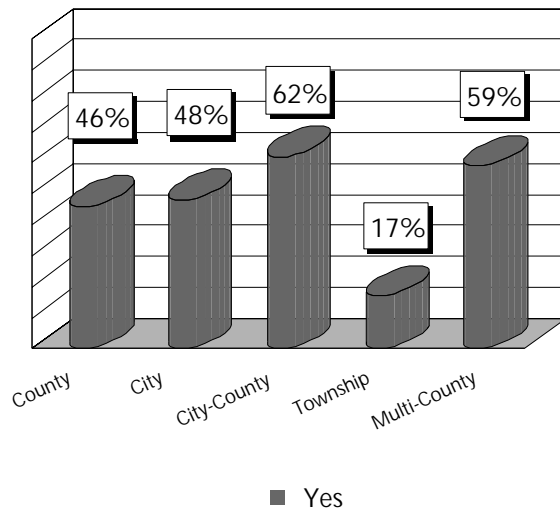
Figure 14. LPHA PROGRAMS AND SERVICES:
Laboratory Services



Service Provided by Population Size

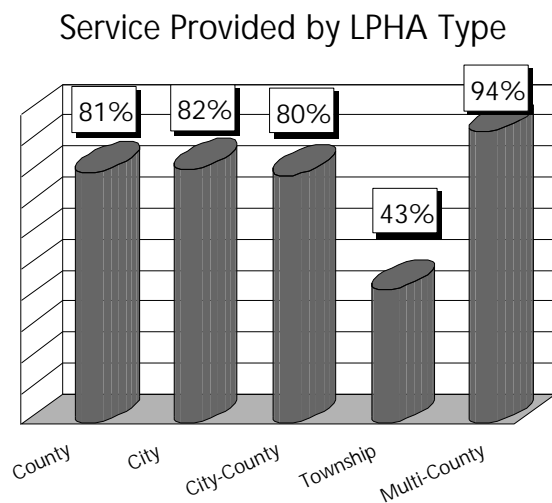
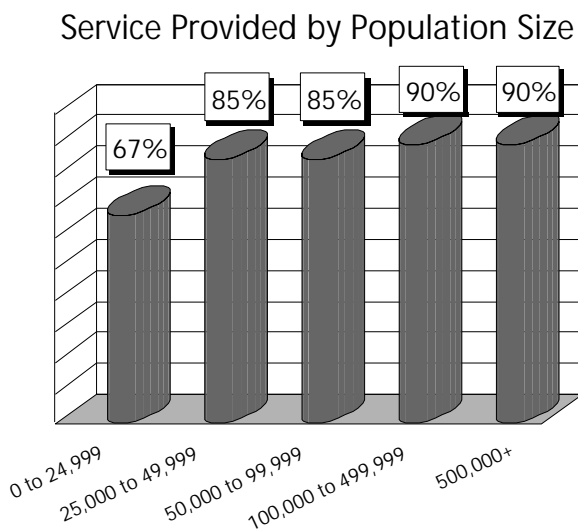
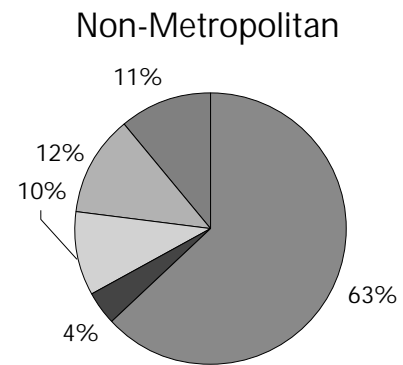
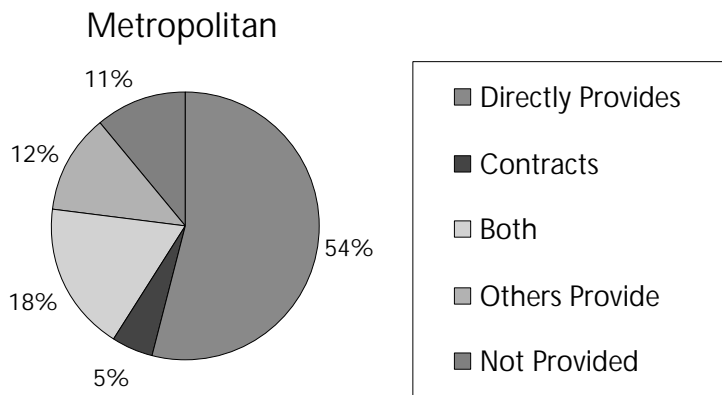
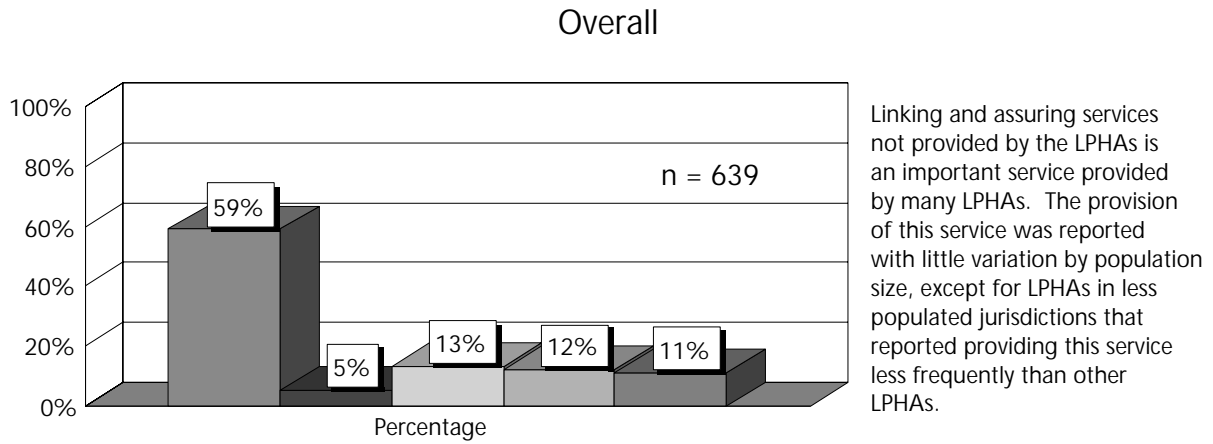


Service Provided by LPHA Type



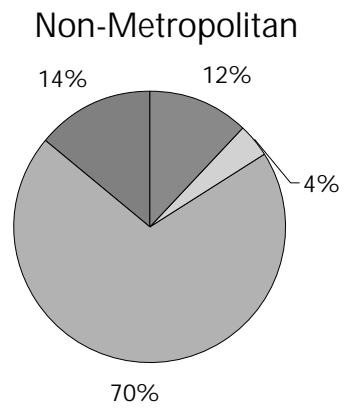
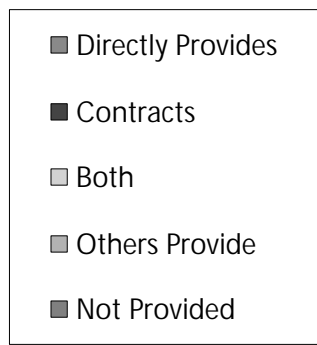
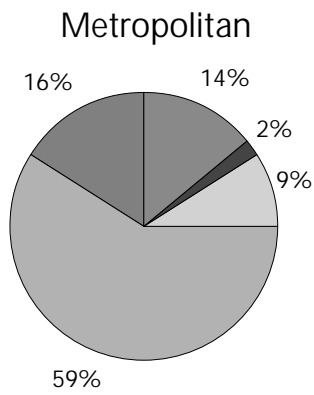
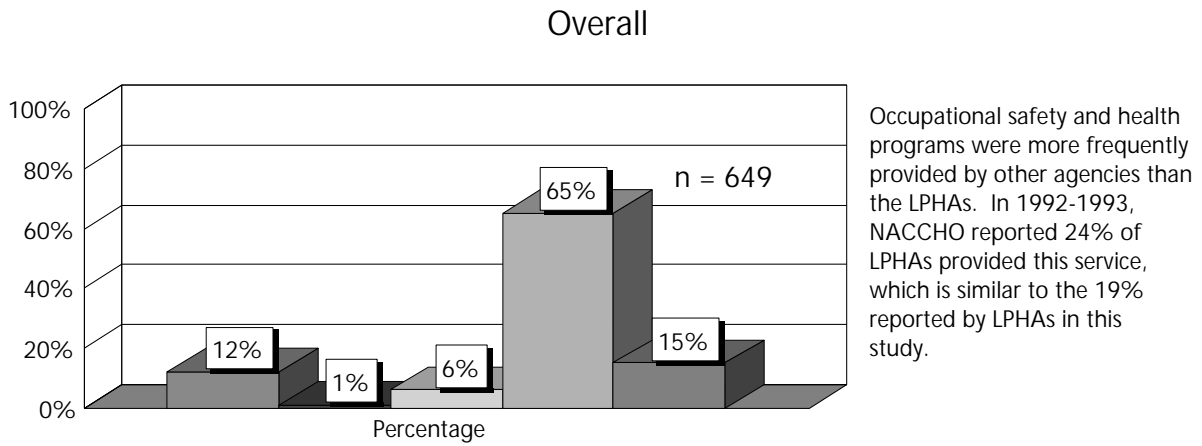
"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

Figure 15. LPHA PROGRAMS AND SERVICES:
Linking and Assuring Services if Not Provided by LPHA

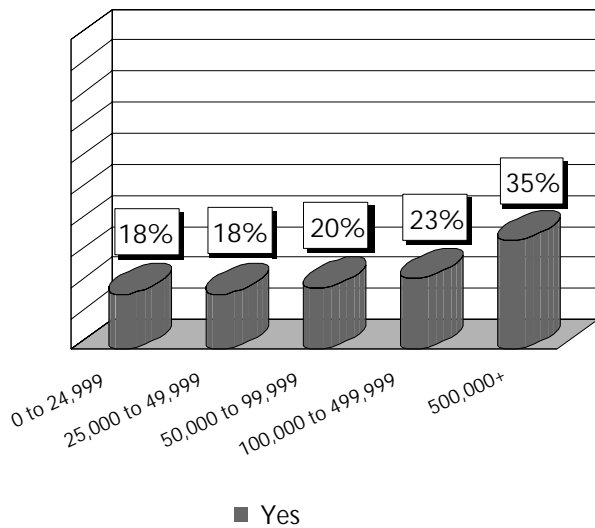


■ Yes
"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

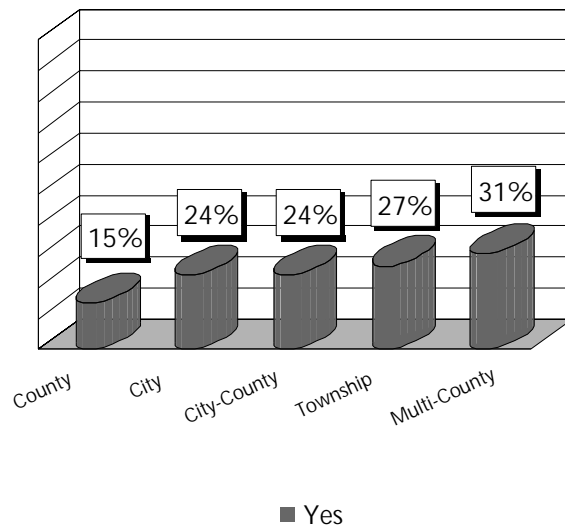
Figure 16. LPHA PROGRAMS AND SERVICES:
Occupational Safety and Health



Service Provided by Population Size

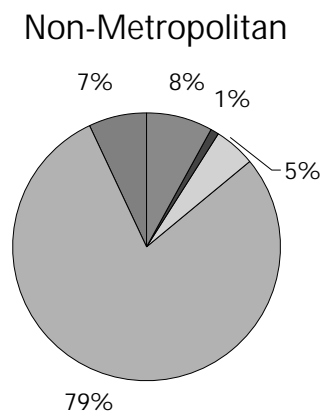
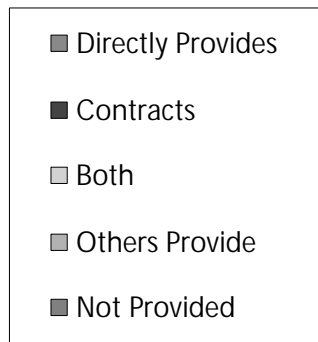
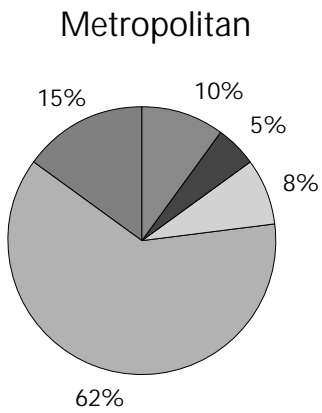
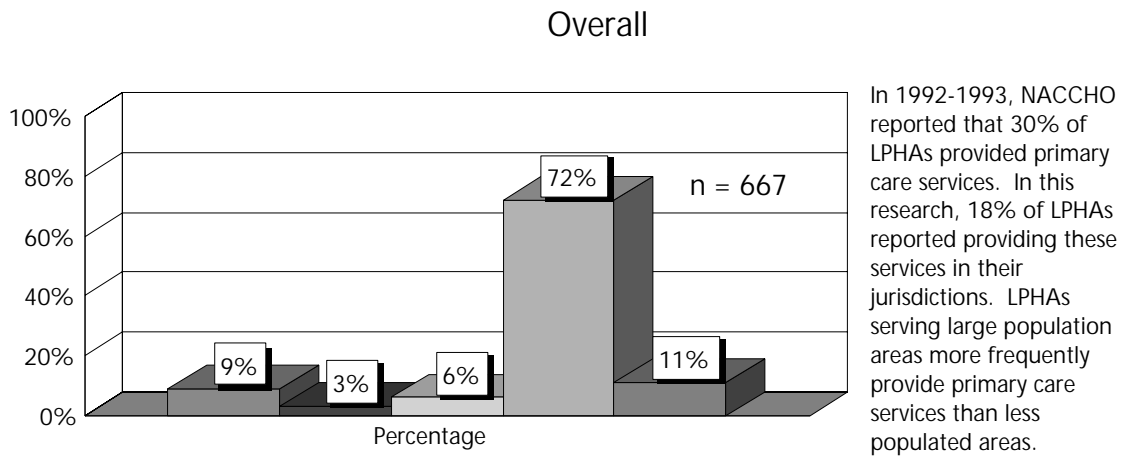


Service Provided by LPHA Type

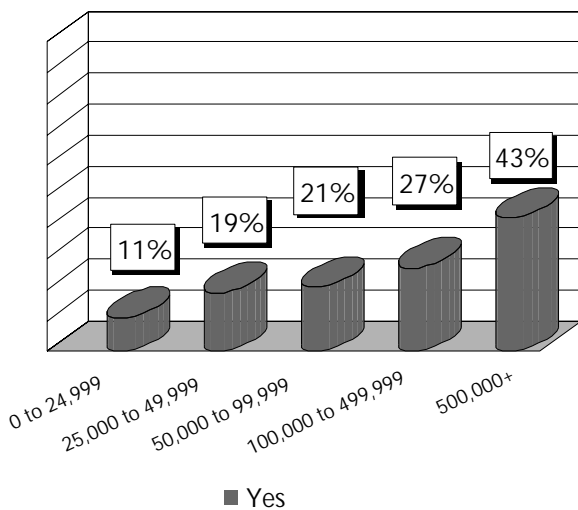


"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

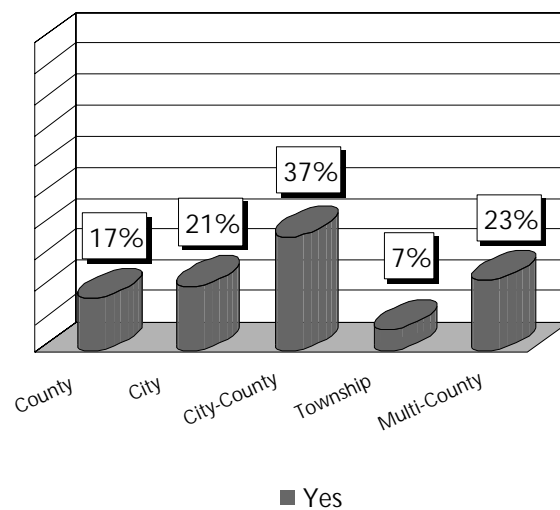
Figure 17. LPHA PROGRAMS AND SERVICES:
Comprehensive Primary Care Services



Service Provided by Population Size

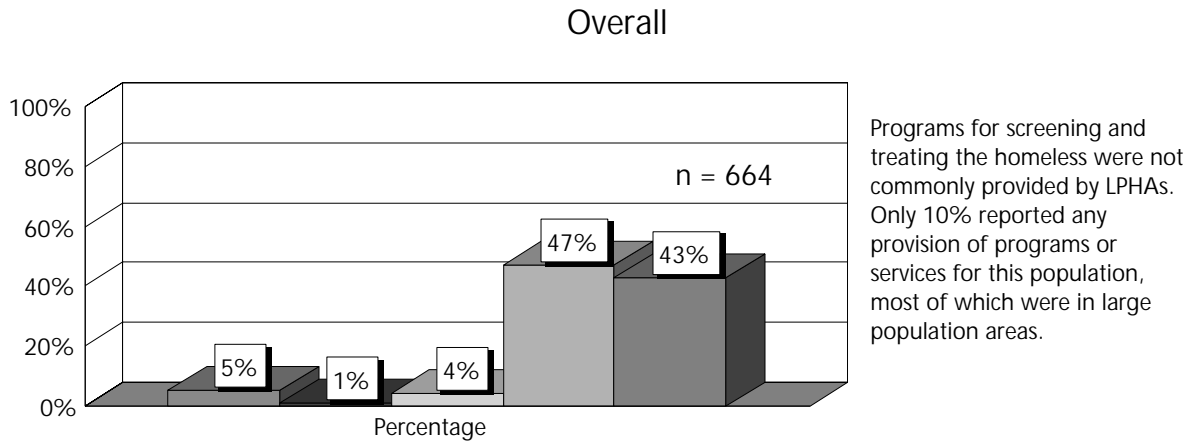


Service Provided by LPHA Type

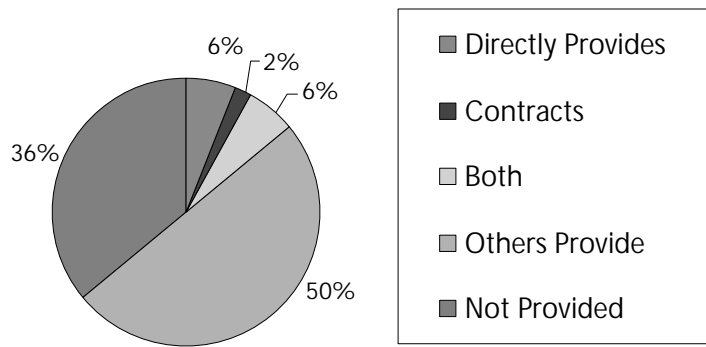


"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

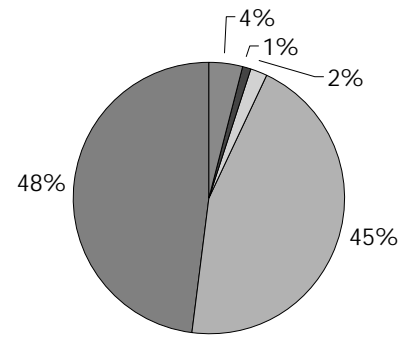
Figure 18. LPHA PROGRAMS AND SERVICES:
Programs for Screening and Treating the Homeless



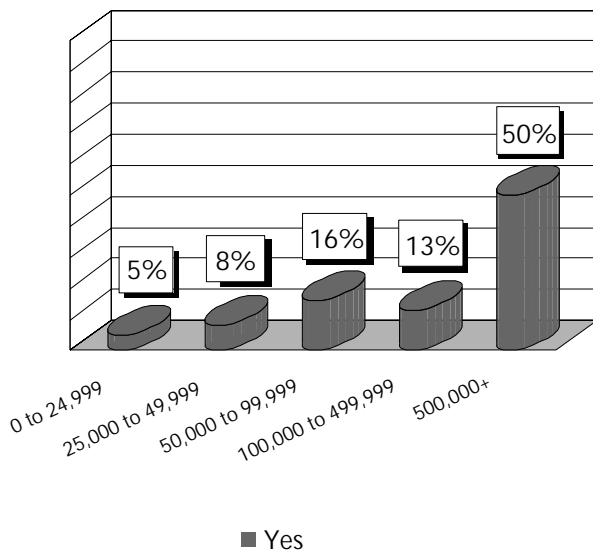
Metropolitan



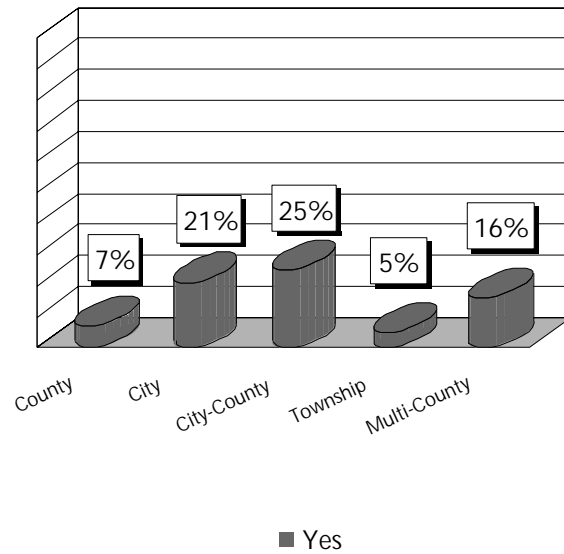
Non-Metropolitan



Service Provided by Population Size

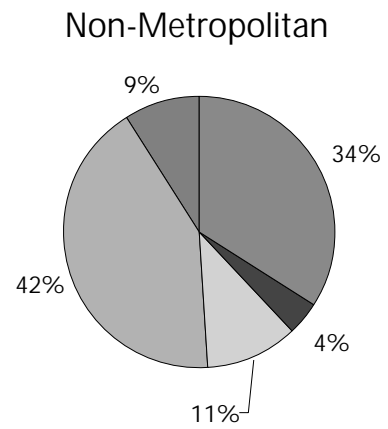
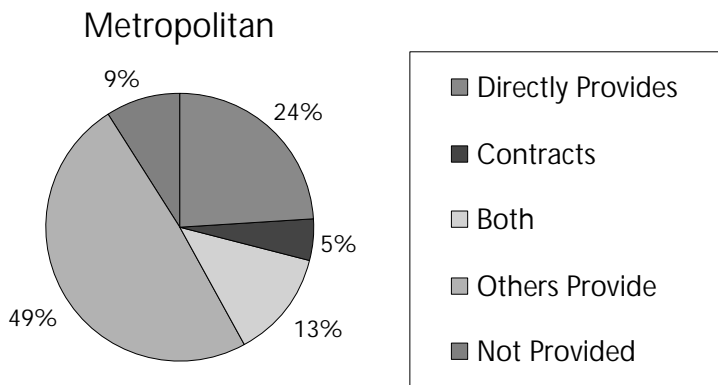
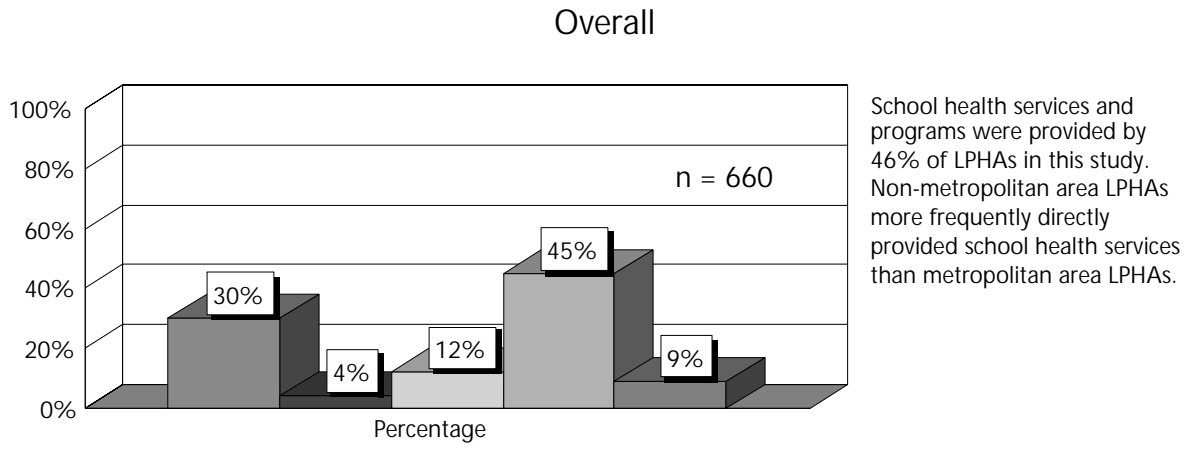


Service Provided by LPHA Type

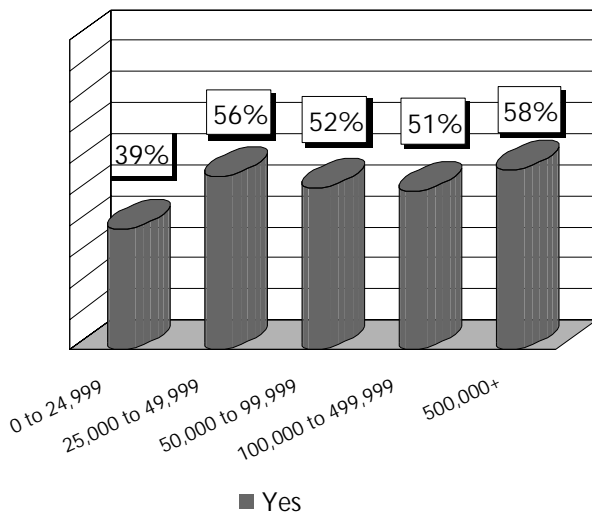


"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

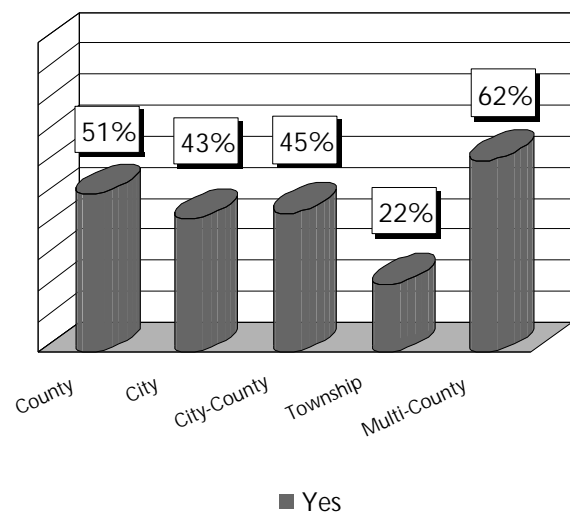
Figure 19. LPHA PROGRAMS AND SERVICES:
School Health



Service Provided by Population Size



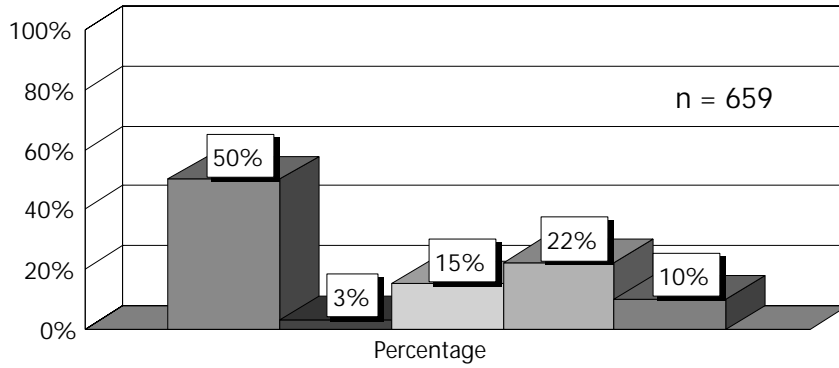
Service Provided by LPHA Type



"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

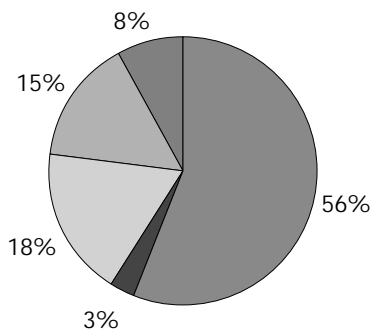
Figure 20. LPHA PROGRAMS AND SERVICES: Tobacco Use Prevention

Overall

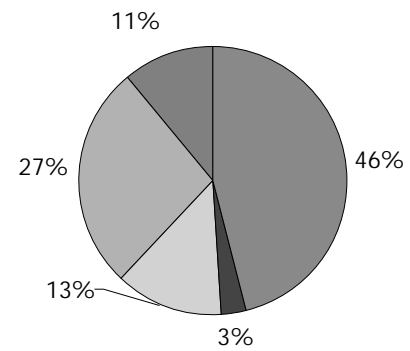


Tobacco use prevention programs were directly provided, provided by contract, or both, by two-thirds of LPHAs. LPHAs serving large population areas more frequently reported providing these services in their jurisdiction.

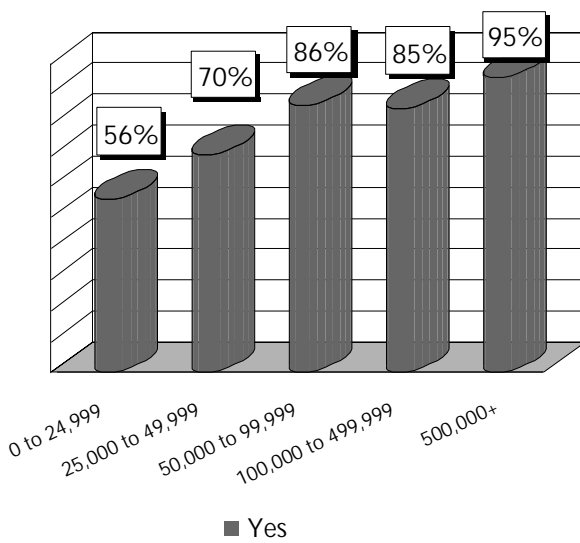
Metropolitan



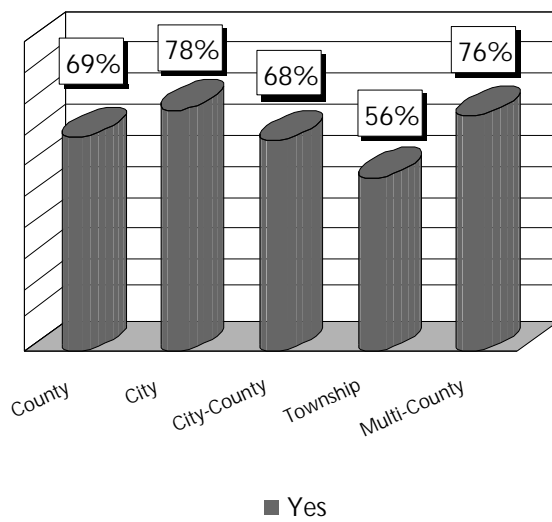
Non-Metropolitan



Service Provided by Population Size

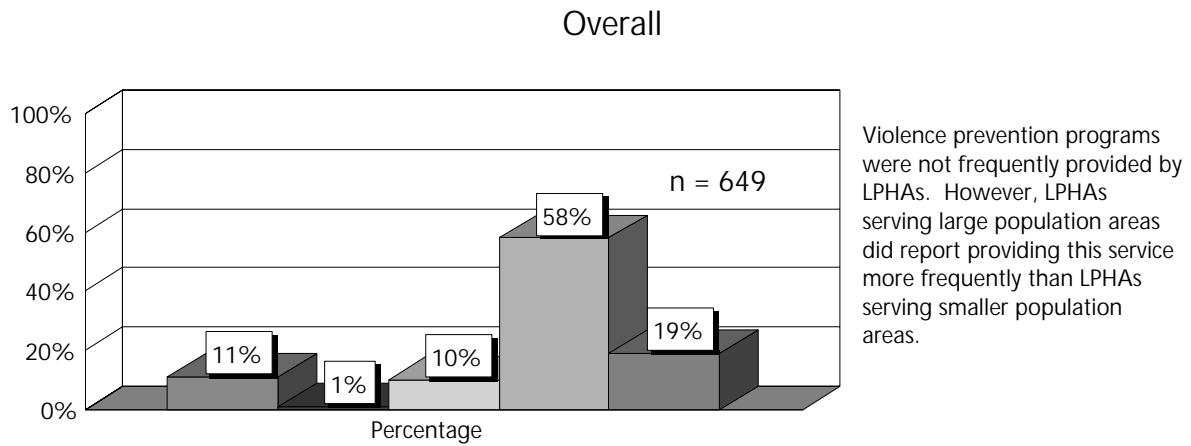


Service Provided by LPHA Type

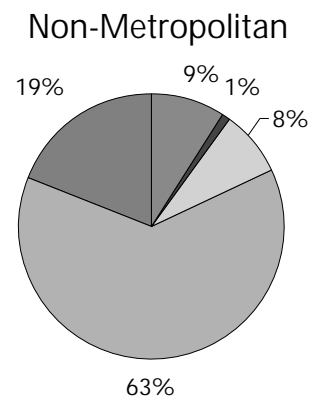
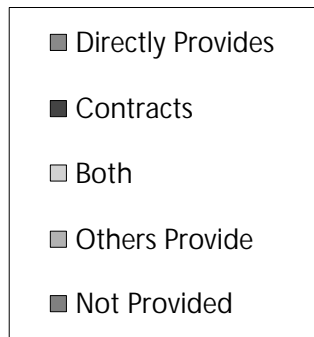
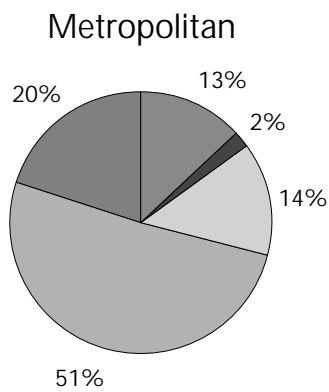


"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

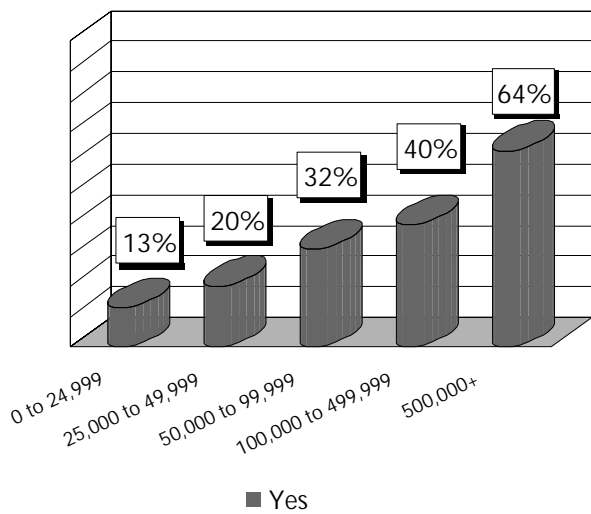
Figure 21. LPHA PROGRAMS AND SERVICES:
Violence Prevention



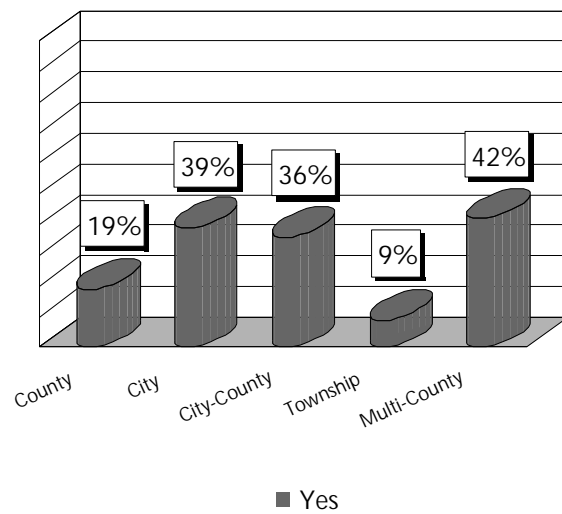
Violence prevention programs were not frequently provided by LPHAs. However, LPHAs serving large population areas did report providing this service more frequently than LPHAs serving smaller population areas.



Service Provided by Population Size



Service Provided by LPHA Type



"Yes" indicates that the service was directly provided, contracted, or both directly provided and/or contracted by the LPHA.

Partnerships and Collaboration

The topic of public health partnerships and collaboration has gained much attention in recent years. As the scope of public health practice widens, there is a growing recognition that public health activities are provided by many groups, including, but not limited to, the LPHA. Hospitals, community-based organizations, faith communities, universities, businesses, schools, and many others contribute to the health of their communities.

Many LPHAs have taken a leadership role in convening the wide array of partners to address local health issues and develop community health plans. For example, the *Mobilizing for Action through Partnerships and Planning* (MAPP) process is a tool LPHAs and community partners can use to identify community needs and priorities, and work strategically to strengthen the local public health system and improve health and well-being in communities.⁴⁰ *Protocol for Assessing Community Excellence in Environmental Health (PACE EH)* involves a wide range of community partners in developing environmental health indicators and priorities.⁴¹ The *Turning Point* initiative developed public health collaboratives to address community public health issues at the state and local levels.⁴² The Health Resources and Services Administration's *Community Access Program* supports the development of state and local partnerships to increase health insurance coverage in local areas.⁴³ All of these efforts promote involving community members in setting the local public health agenda, and mobilizing the LPHA and other groups to improve the health of communities.

Furthermore, many national conferences have stressed partnership development, for example joint NACCHO and Association of State and Territorial Health Officials' conferences and the American Public Health Association's meetings. This attention to partnership development clearly is demonstrated in the large percents of LPHAs that reported collaborating with various groups.

Survey respondents were asked to identify if they collaborate with various governmental and non-governmental organizations and the degree to which they collaborate with each of these organizations, on a scale of 1 to 5.

The results illustrate that there is a wide range in the number and type of partnerships developed to protect the public's health. A clear pattern emerges in the analysis of LPHA partnerships and collaborations. LPHAs serving small populations (especially 0 to 24,999 residents) less frequently reported collaborating with a wide range of partners. This may be because LPHAs, located in smaller population jurisdictions, have fewer entities with which to collaborate. LPHAs serving large populations, on the other hand, collaborate with a wide variety of groups.

GOVERNMENTAL PARTNERSHIPS AND COLLABORATIONS

LPHAs in this study commonly reported collaborating with other governmental agencies in their practice of public health.

Other LPHAs: For example, 94% of all LPHAs in the study reported collaborating with other LPHAs, and a high degree of collaboration (an average of 3.9 on a scale of 1 to 5). There was little variation by metropolitan and non-metropolitan LPHAs, the population of the jurisdiction, and LPHA type; however, among townships, 78% reported collaborating with other LPHAs, while the other LPHA types reported almost 100% collaboration. Data from NACCHO's *1997 Profile* reported that 72% of LPHAs collaborated with other LPHAs.

State Health Departments & Other State Agencies: Ninety-eight percent (98%) of all LPHAs surveyed indicated they collaborated with their state health department (the degree of collaboration averaged 4 on a scale of 1 to 5). Collaborations with other state agencies were reported by 92% of all LPHAs surveyed. State human services, social services, or mental health agencies (43%), state environmental departments (41%), agricultural agencies (4%), Medicaid agencies (3%), and education departments (3%) were all mentioned as state agency partners. NACCHO's *1997 Profile* found that 83% of LPHAs in that study collaborated with their state health agency, and 62% collaborated with other state government agencies. The LPHAs in this study most commonly selected overall state health departments, other LPHAs, and other state agencies as collaborators.

Federal Agencies: Collaborations with federal agencies, such as the Environmental Protection Agency (EPA), Health Care Financing Administration (HCFA), Health Resources and Services Administration (HRSA), and the Centers for Disease Control and Prevention (CDC) were reported by 65% of responding LPHAs. This percent is the lowest of the governmental agency collaborations, most likely because federal agencies more often collaborate directly with state health departments. Fifty-nine percent (59%) of LPHAs serving populations of 0 to 24,999 residents reported collaborating with federal agencies, and 90% of LPHAs serving 500,000 or more reported such collaborations. Respondents also rated the degree of collaboration with federal agencies lower than with other governmental agencies, an average of 2.7 on a scale of 1 to 5.

The survey also asked respondents which government agency was their *most important* partner. Sixty-six (66%) of all LPHAs indicated the state health department as their most important governmental partner; and in many cases, the partnership between LPHAs and the state health department was mandated by state statute. In others, the relationship was voluntary and not formalized or required by legislation. Twenty-five percent (25%) of LPHAs listed other LPHAs as their most important partner, while 7% listed other state agencies.

PARTNERSHIPS WITH NON-GOVERNMENTAL ORGANIZATIONS

Non-governmental organizations also are involved in improving the health of their communities. Several provide direct services, while others provide resources to the community.

Hospitals & Independent Providers: Both hospitals and independent healthcare providers are common partners for LPHAs. Ninety percent (90%) of LPHAs reported collaborating with these two groups. LPHAs serving less populated jurisdictions collaborated less frequently with hospitals, compared with larger population LPHA jurisdictions (83% of 0 to 24,999; 99% of 500,000 or more). Survey data from NACCHO's *1997 Profile* reported 67% of LPHAs partnered with hospitals.

Community-Based Organizations: Eighty-nine percent (89%) of LPHAs reported collaborating with community-based organizations (CBOs); the degree of collaboration was an average of 3.7 on a scale of 1 to 5.

Community Health Centers: Fifty-four percent (54%) of all LPHAs in the study reported collaborating with community health centers. This collaboration was more common among LPHAs serving metropolitan areas (61%) versus non-metropolitan areas (51%). LPHAs serving large populations more frequently collaborated with community health centers than LPHAs serving smaller population jurisdictions. NACCHO data from the *1997 Profile* study found that 39% of all LPHAs in that study collaborated with community health centers.

Managed Care & Health Maintenance Organizations: Managed care organizations and health maintenance organizations (HMOs) were less frequently cited as a partner (50% of all LPHAs reported collaborating with HMOs) than other types of clinical service providers. Overall, the degree of collaboration with HMOs was lower than other partners, 2.6 on a scale of 1 to 5. More metropolitan area LPHAs (56%) collaborated with HMOs than non-metropolitan LPHAs (45%). Only 38% of LPHAs serving populations of 0 to 24,999 residents reported collaborating with HMOs, while 71% of LPHAs serving populations 100,000 to 499,999 and 88% of LPHAs serving populations 500,000 or more reported such collaborations.

Universities & Academic Centers: Universities and academic centers were reported as collaborators by over 70% of LPHAs in the study. There is a linear relationship between population size and collaboration with universities: 57% of LPHAs serving populations 0 to 24,999 partnered with universities, and 99% of LPHAs serving populations over 500,000. In the *1997 Profile*, NACCHO found that 52% of all LPHAs partnered with universities or academic centers.

Businesses & Private Corporations: Businesses and private corporations contribute to local public health systems. Seventy four percent (74%) of all LPHAs reported collaborating with businesses, with an average

degree of collaboration of 2.6, on a scale of 1 to 5. Jurisdictions serving small populations reported fewer collaborations with businesses versus LPHAs serving larger populations. However, the percent in this study is higher than previously reported NACCHO data. In the *1997 Profile*, 44% of all LPHAs reported partnering with the business community.

Faith Communities: Faith communities and their role as social service providers have been the focus of recent national discussions. Over 80% of all LPHAs reported collaborating with faith communities or churches in their local area. This percent was similar for metropolitan and non-metropolitan LPHAs. Collaboration with faith communities was less common in less populated jurisdictions. For example, 73% of LPHAs in jurisdictions serving 0 to 24,999 residents reported collaborations with faith communities, and 90% of LPHAs serving 100,000 to 499,999 residents reported such collaborations.

State Associations of Local Health Officials: Collaborations with state associations of local health officials were reported by 79% of the LPHAs in this study, with more metropolitan LPHAs indicating collaborations with state associations of local health officials (87%) than non-metropolitan areas LPHAs (74%). LPHAs serving smaller populations less frequently reported collaborations with state associations of local health officials (0 to 24,999 reported 75%) than LPHAs serving large population jurisdictions (500,000 or more reported 87%).

Professional Associations: LPHAs collaborate with a number of professional associations, such as local medical societies, nursing associations, environmental professional associations or national associations such as NACCHO. These groups were reported as collaborators by 77% of the LPHAs in this study, with more metropolitan area LPHAs reporting collaboration with professional associations (81%) versus non-metropolitan LPHAs (73%).

Voluntary & Non-Profit Organizations: Collaborations with voluntary organizations and non-profit groups was also high among the LPHAs in this study: 74% of all

LPHAs reported collaborating with other voluntary groups/non-profit organizations (those that did not fall into the above categories).

The *most important* non-governmental partnerships reported by LPHAs were with local hospitals (24%) and independent providers (24%). Metropolitan and non-metropolitan area LPHAs reported hospitals, professional associations, and independent providers as their most important partners, however each to a different extent. Furthermore, LPHAs serving 0 to 24,999 in population reported that independent providers were their most important partners, and LPHAs serving the other population categories reported hospitals as such. Visiting nurse associations were listed as the most important partner for township LPHAs, independent providers were listed as the most important partner for county LPHAs, and hospitals were the most important partner for city, city-county, and multi-county/district LPHAs.

LPHAs collaborate with a wide range of partners. Recognition that public health is the responsibility of many groups will most likely result in further development of these collaborations and partnerships among governmental agencies, non-governmental agencies, and LPHAs.

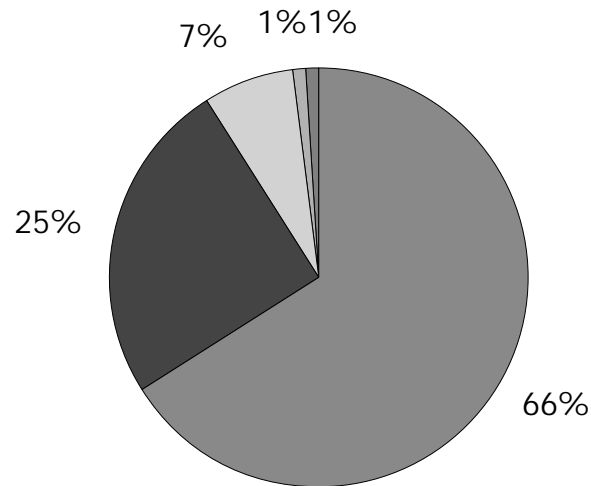
OUR GREATEST STRENGTH IS THE COMMUNITY THAT INCLUDES THE VARIOUS MERCHANTS, BUSINESS AND INDUSTRIES IN AND AROUND TOWN. THE TERM "BE A GOOD NEIGHBOR" IS NOT A CLICHE HERE, IT IS A WAY OF LIFE.

— A LOCAL HEALTH OFFICIAL

Table 20. PARTNERSHIPS AND COLLABORATION:
Government Agencies--Other Local Public Health Agencies,
State Health Departments, Other State Agencies, Federal Agencies

	Other Local Public Health Agencies (n=691)	State Health Departments (n=690)	Other State Agencies (n=683)	Federal Agencies (n=686)
Mean degree of collaboration	3.9	4	3.5	2.7
Yes	94	98	92	65
No	3	1	6	28
Not Applicable	3	1	2	7
Metropolitan - Non-Metropolitan (Percent reporting partnerships)				
Metropolitan	95	98	91	70
Non-Metropolitan	93	98	93	61
Population Size (Percent reporting partnerships)				
0 - 24,999	91	97	92	59
25,000 - 49,999	97	100	93	60
50,000 - 99,999	98	99	94	68
100,000 - 499,999	96	100	92	78
500,000 +	97	99	95	90

Figure 26. PARTNERSHIPS AND COLLABORATION:
Most Important Governmental Partner



■ State Health Department
 ■ Local Government
 ■ Other State Agency

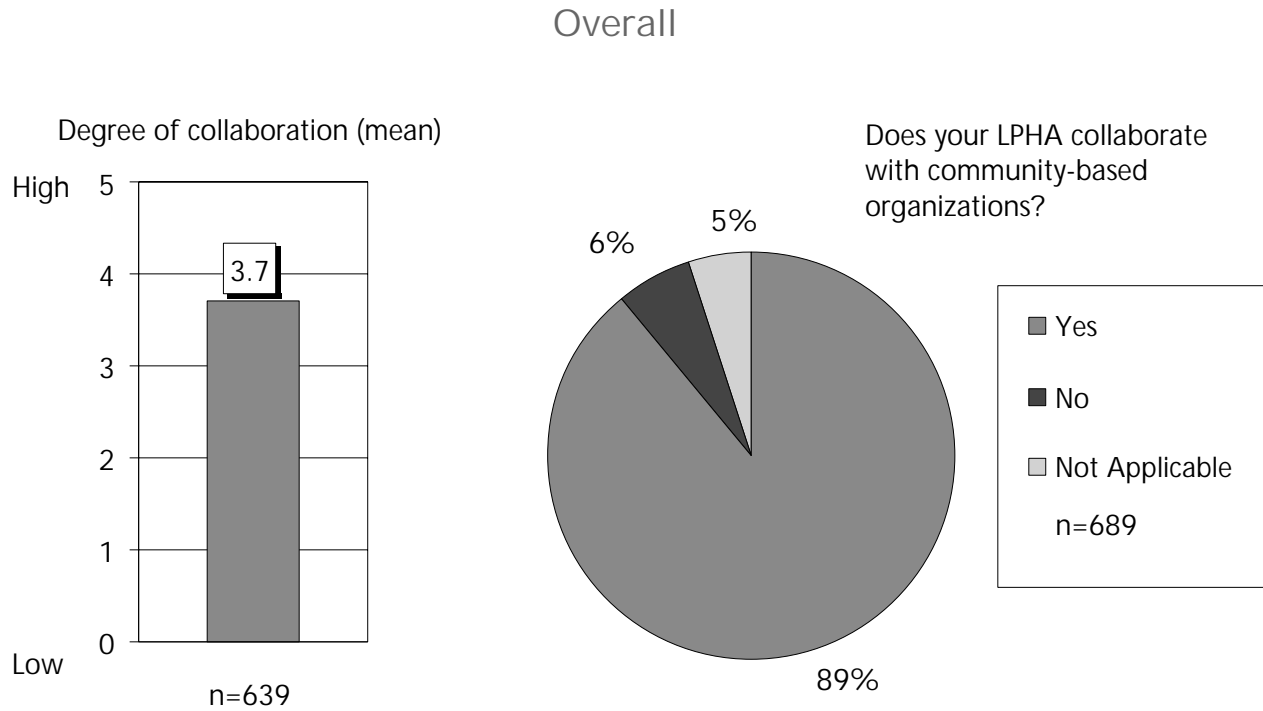
■ Federal Agency (CDC, HRSA, EPA, USDA)
 ■ Other

n=646

Note: The "Local Government" category also includes other local public health agencies.

The "Other" category includes: managed care organizations, universities, churches and faith communities, voluntary organizations, businesses, visiting nurses associations, and others not classified.

Figure 27. PARTNERSHIPS AND COLLABORATION:
Community-Based Organizations



Metropolitan - Non-Metropolitan LPHAs and Population Size

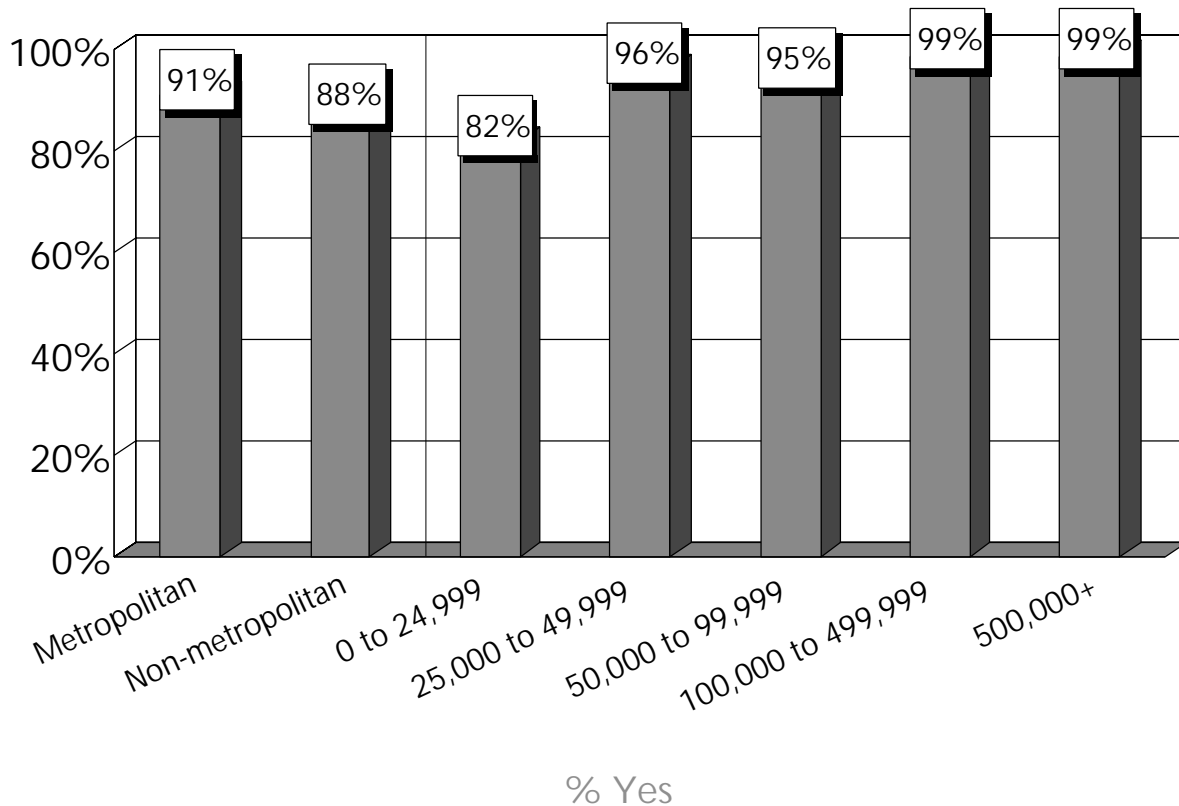
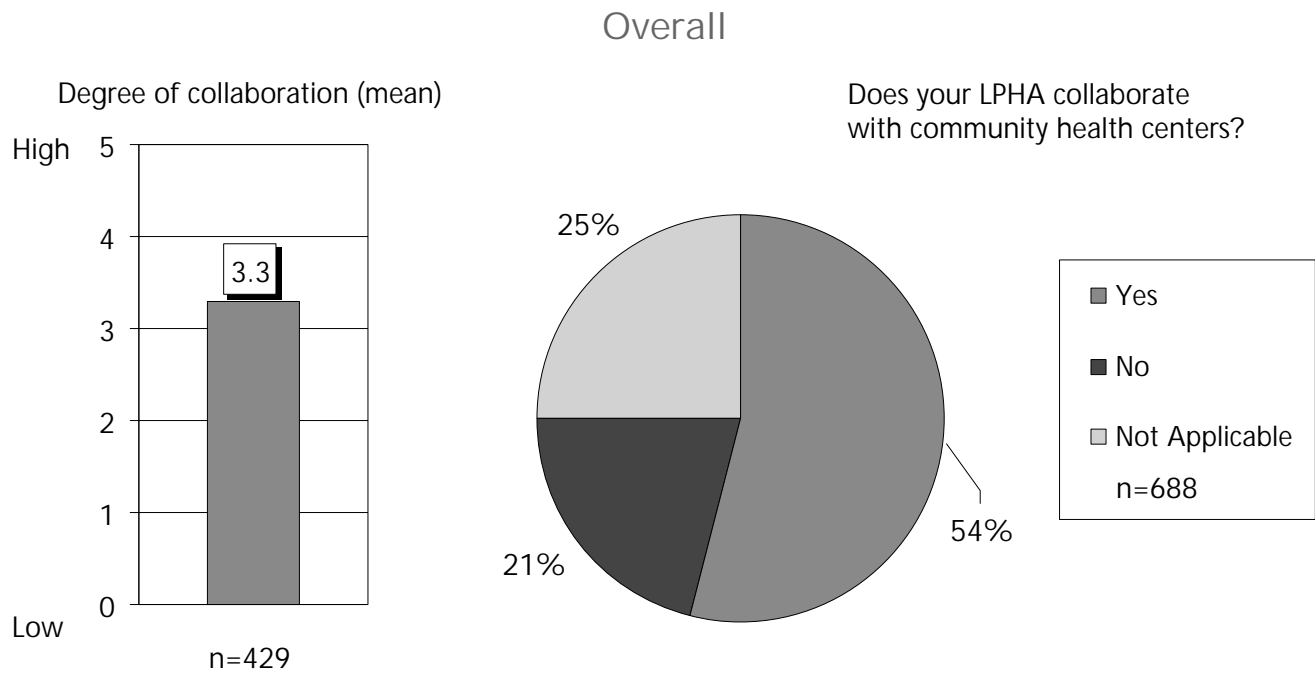


Figure 28. PARTNERSHIPS AND COLLABORATION:
Community Health Centers



Metropolitan - Non-Metropolitan LPHAs and Population Size

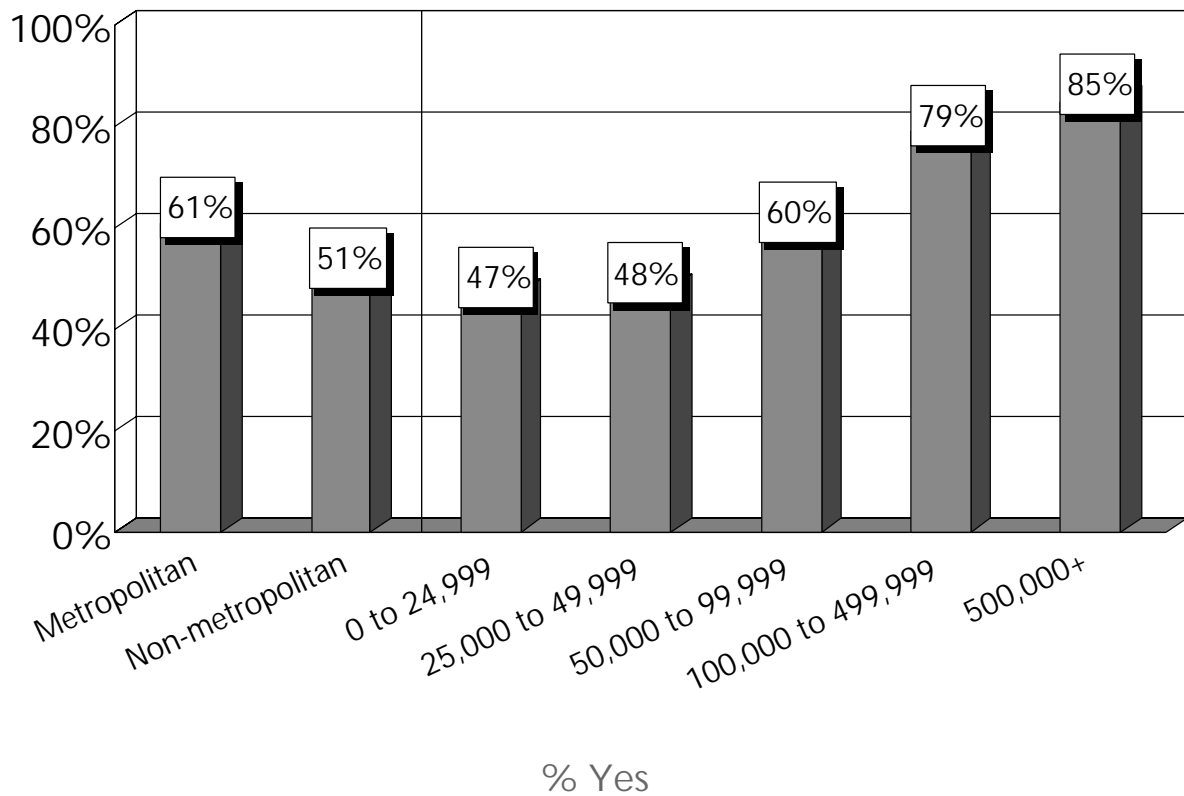
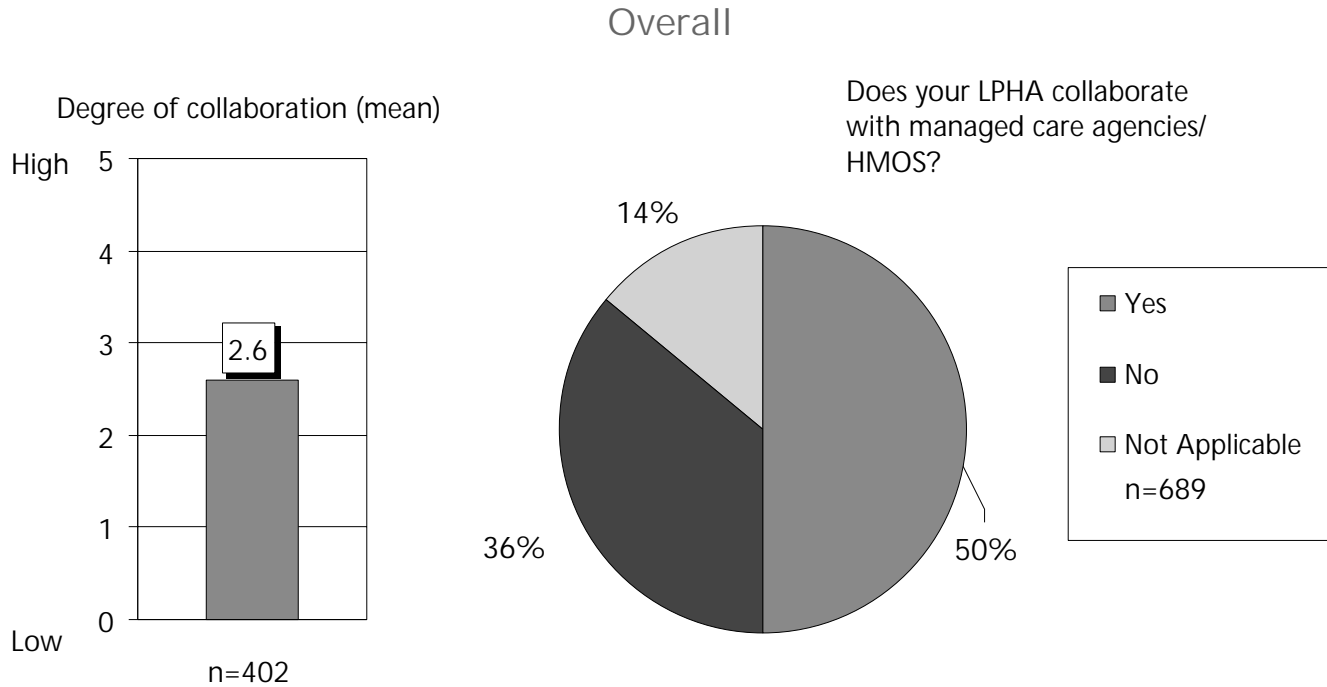


Figure 29. PARTNERSHIPS AND COLLABORATION:
Managed Care Organizations & HMOs



Metropolitan - Non-Metropolitan LPHAs and Population Size

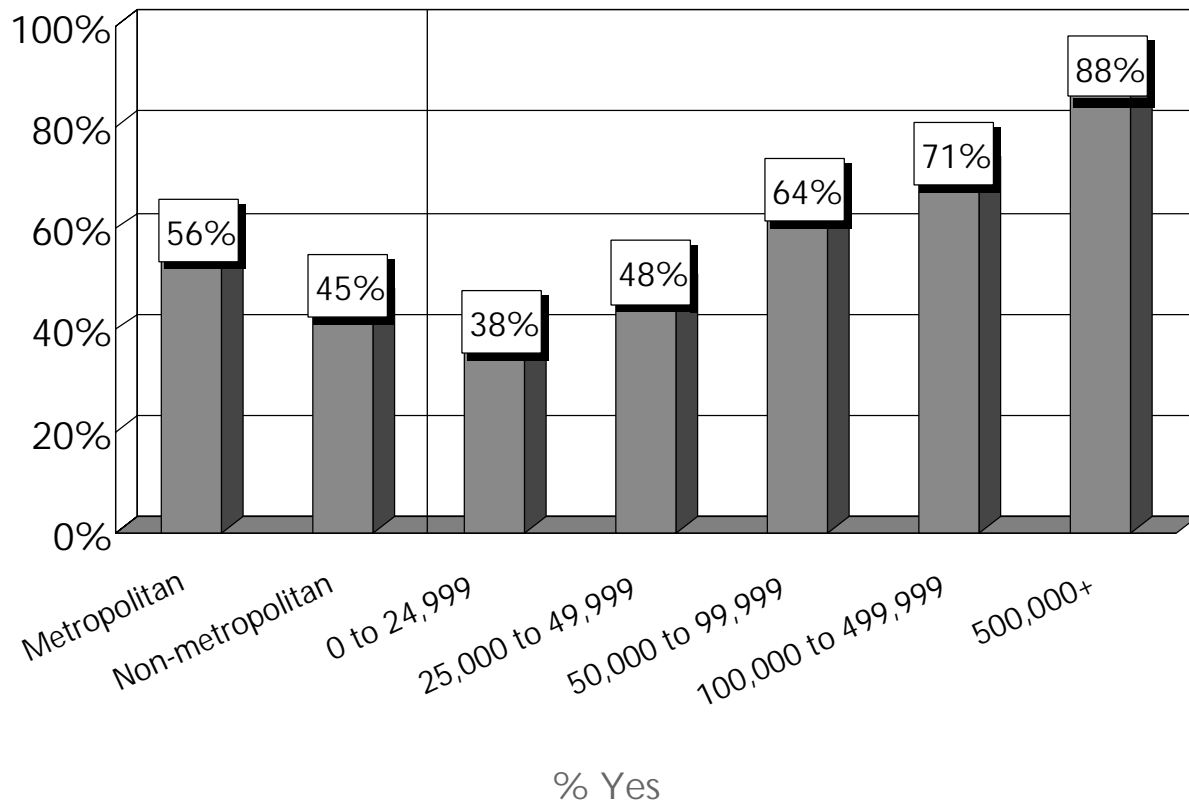
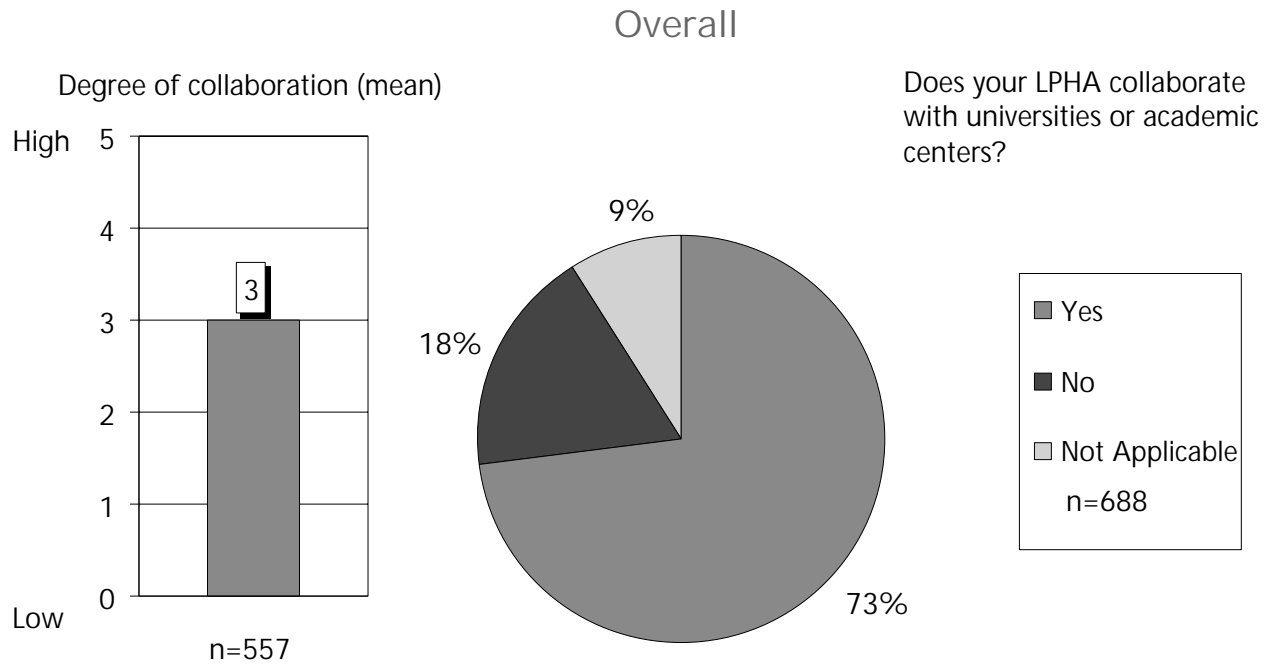


Figure 30. PARTNERSHIPS AND COLLABORATION:
Universities & Academic Centers



Metropolitan - Non-Metropolitan LPHAs and Population Size

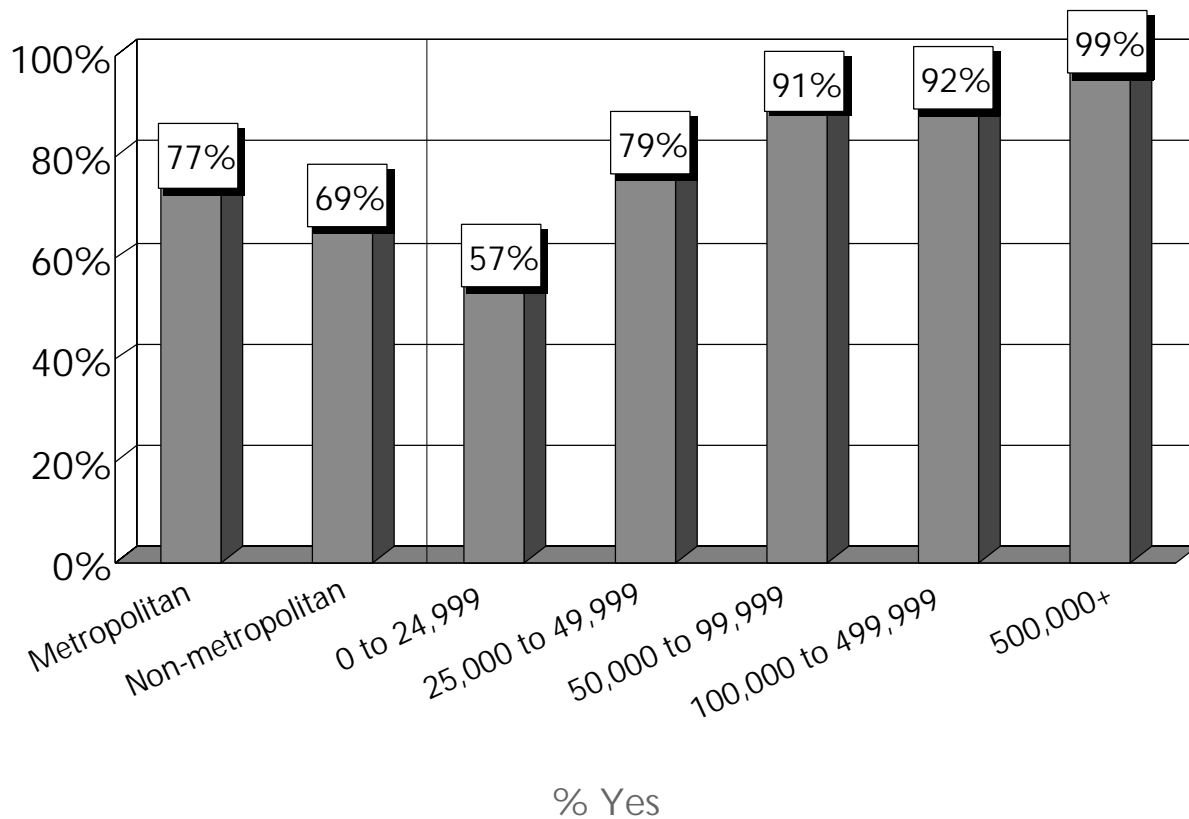


Figure 31. PARTNERSHIPS AND COLLABORATION:
Business & Private Corporations

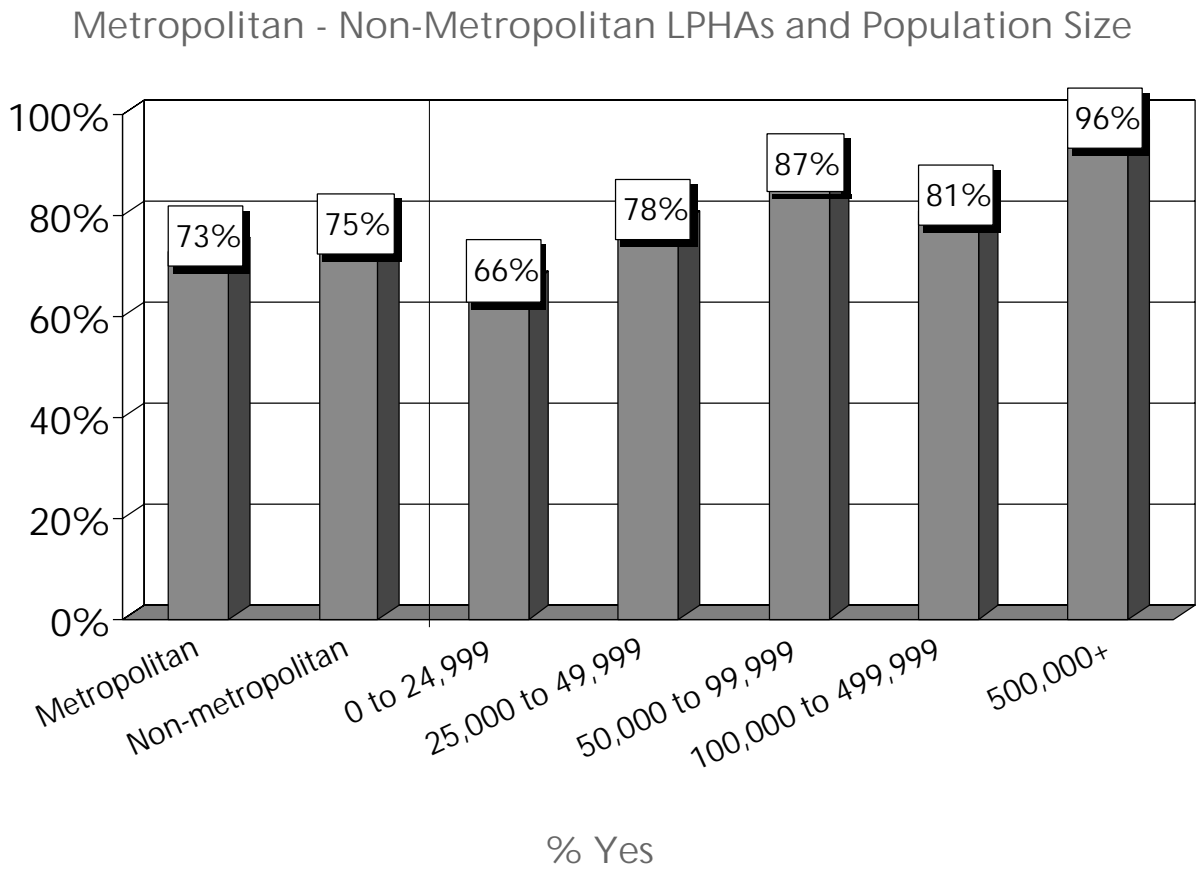
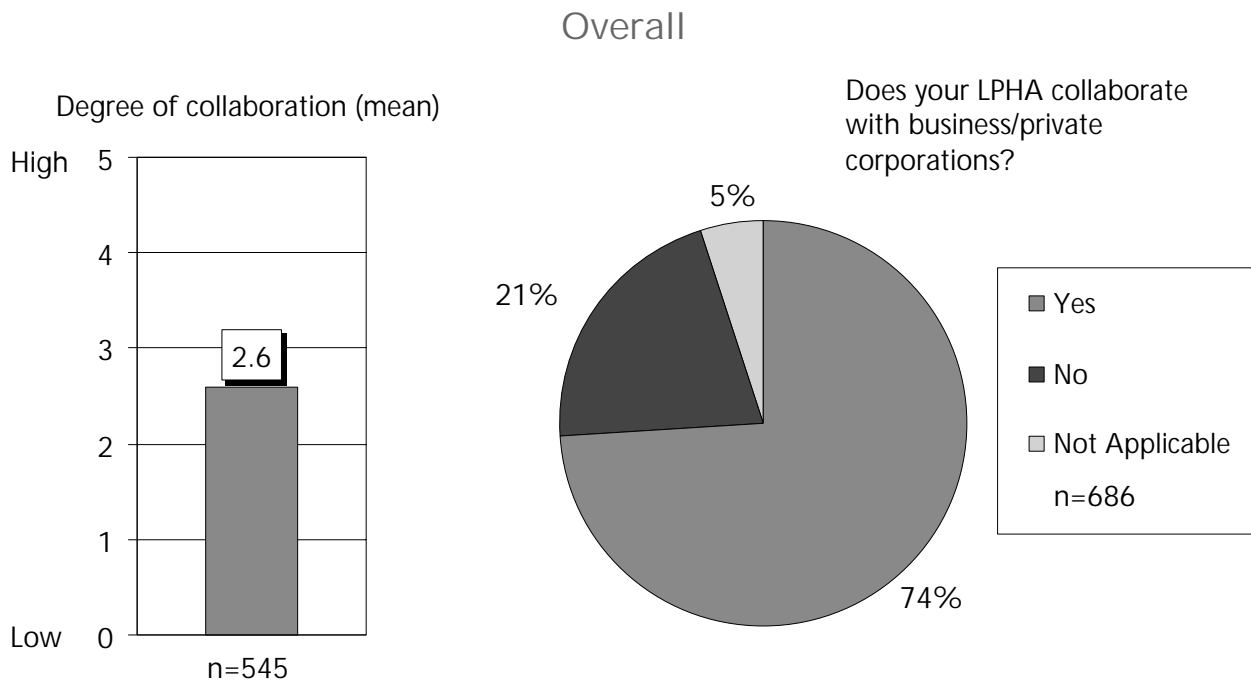
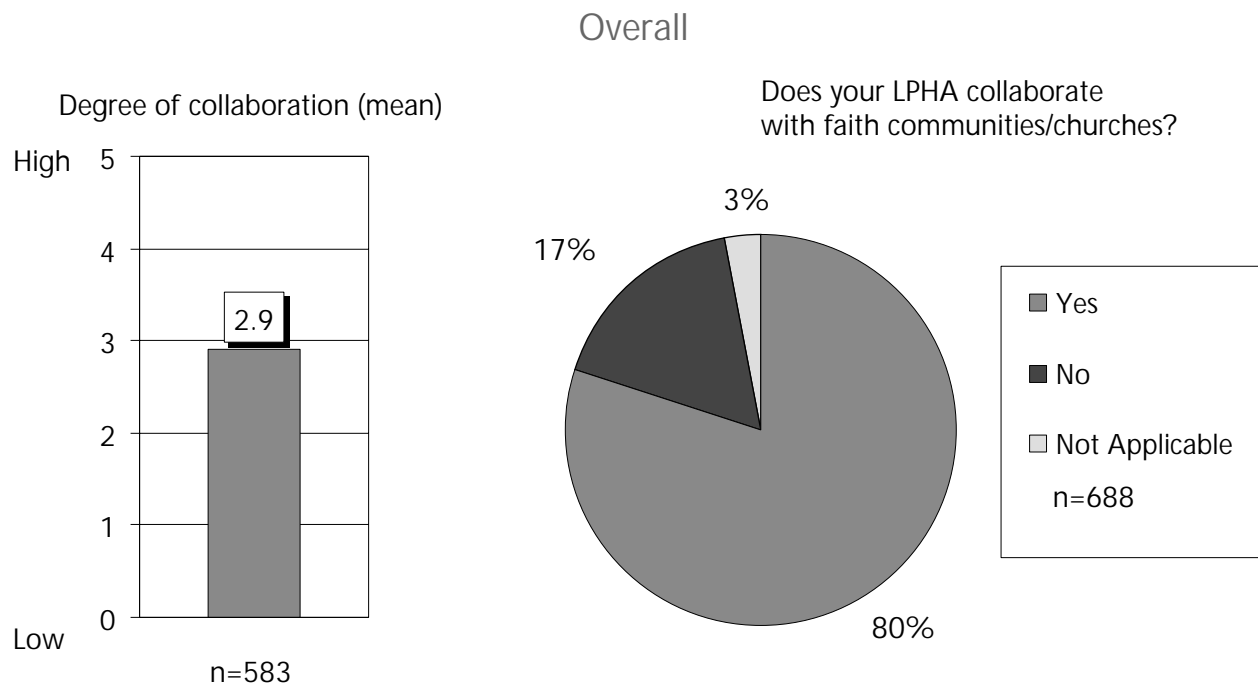


Figure 32. PARTNERSHIPS AND COLLABORATION:
Faith Communities & Churches



Metropolitan - Non-Metropolitan LPHAs and Population Size

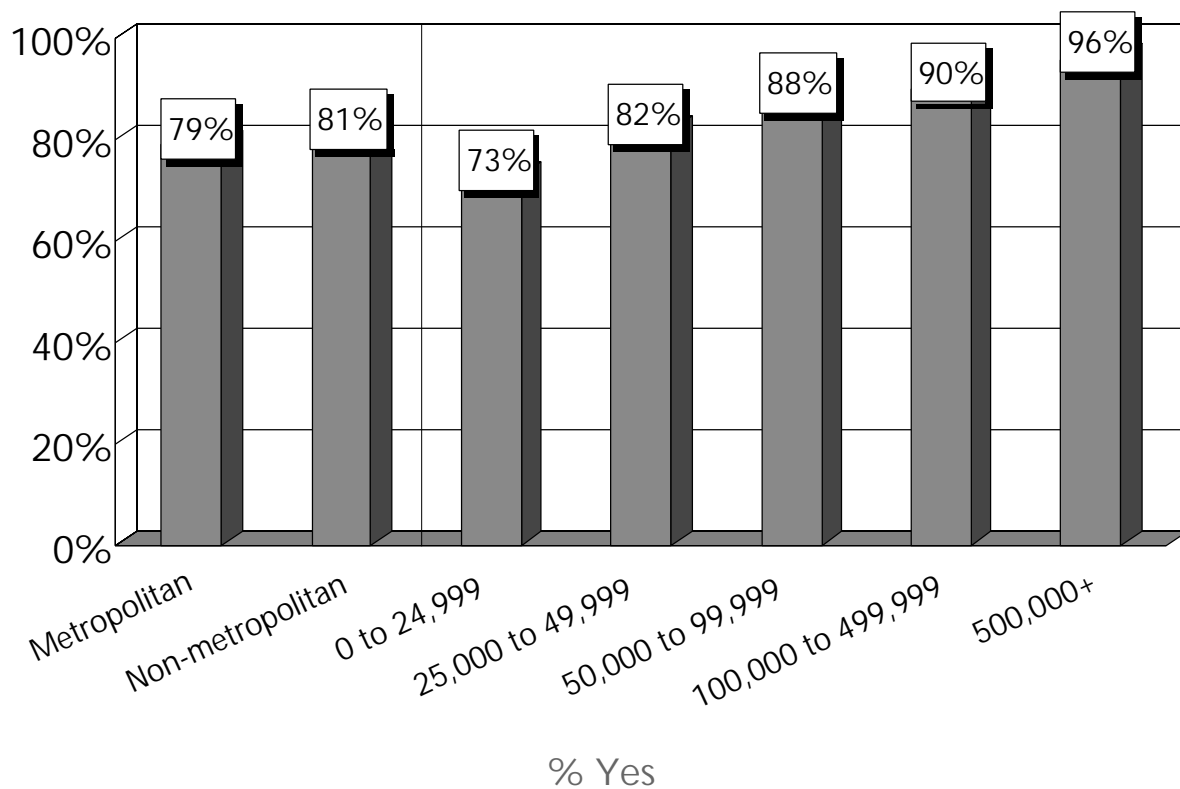
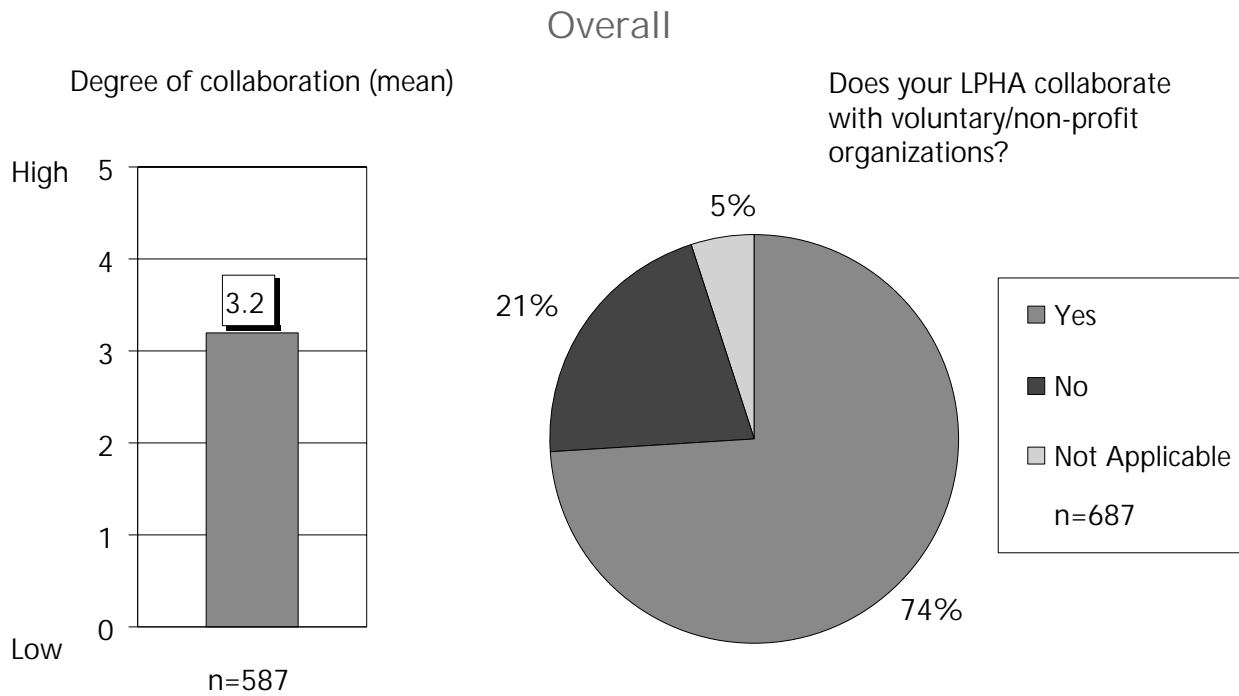


Figure 33. PARTNERSHIPS AND COLLABORATION:
Voluntary & Non-Profit Organizations



Metropolitan - Non-Metropolitan LPHAs and Population Size

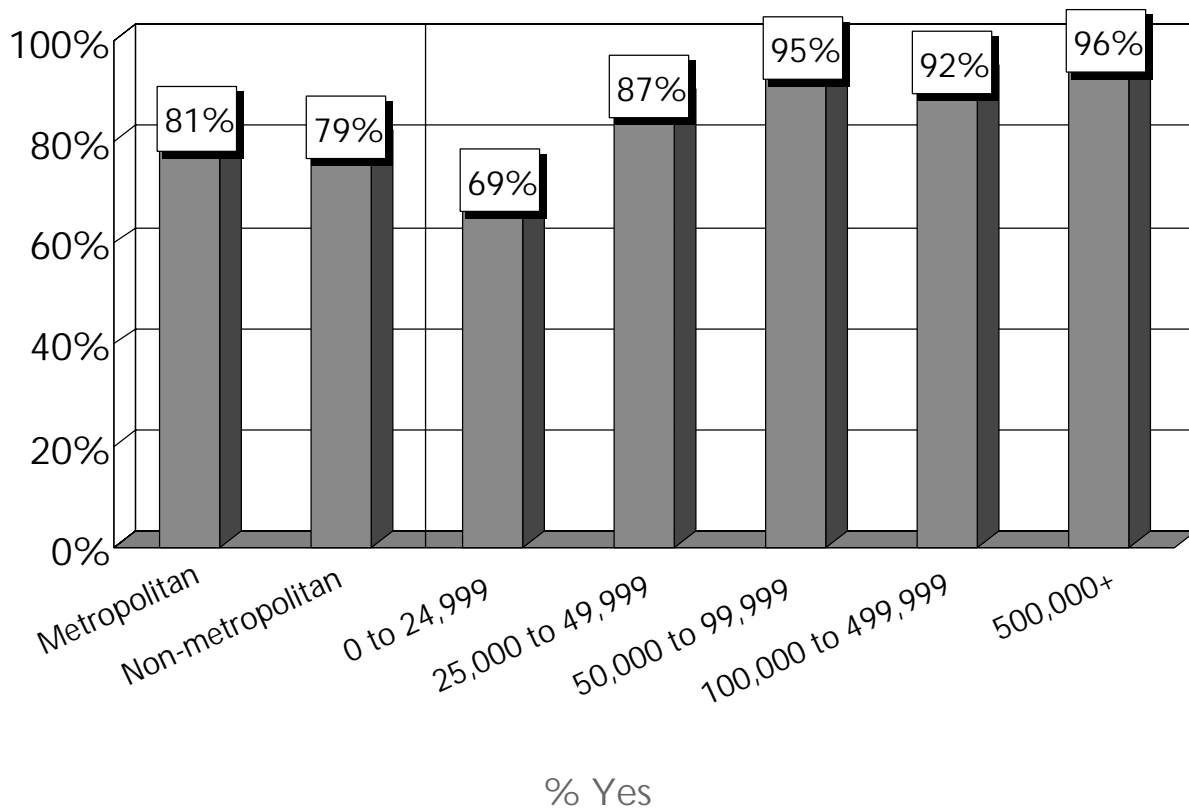
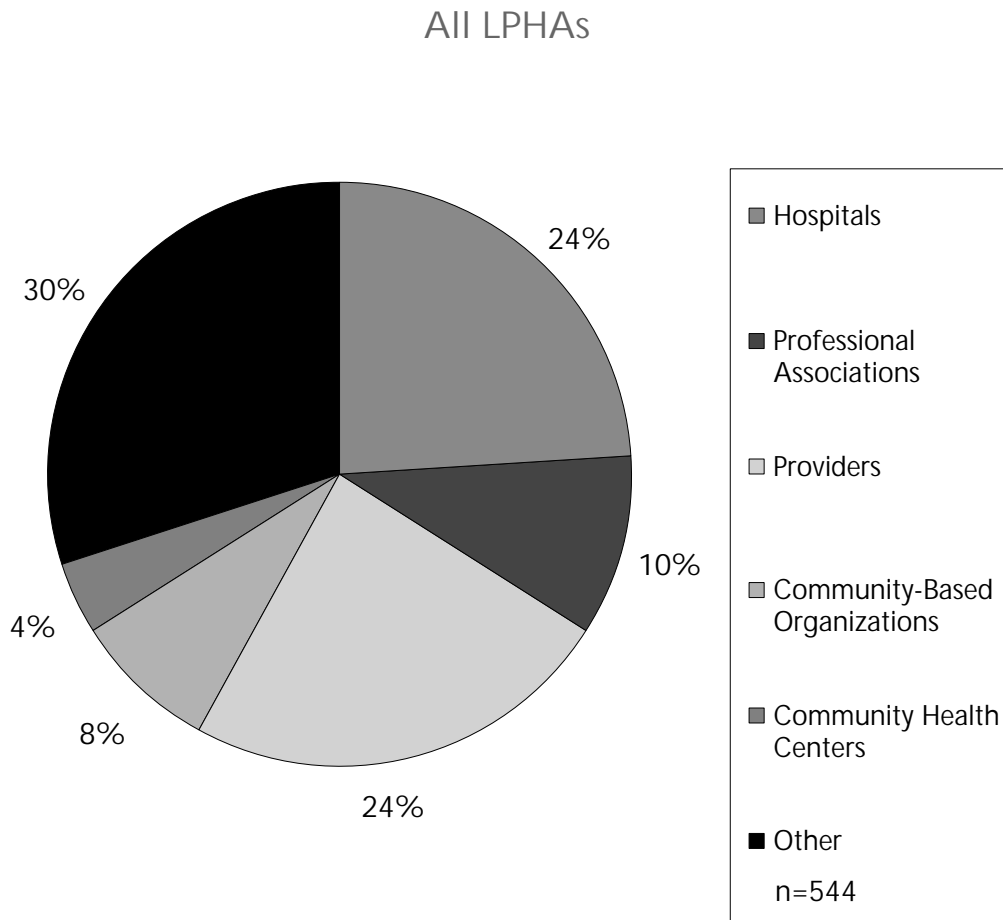


Table 21. PARTNERSHIPS AND COLLABORATION:
Other Non-Government Agencies-- Hospitals, Independent Providers,
State Associations of Local Health Officials, Professional Associations

	Hospitals (n=689)	Independent Providers (n=686)	State Associations of Local Health Officials (n=690)	Professional Associations (n=688)
Mean degree of collaboration	3.4	3.5	3.4	3.1
Yes	90	90	79	77
No	7	7	15	17
Not Applicable	3	3	6	6
Metropolitan - Non-Metropolitan (Percent reporting partnerships)				
Metropolitan	87	87	87	81
Non-Metropolitan	91	92	74	73
Population Size (Percent reporting partnerships)				
0 - 24,999	83	86	75	70
25,000 - 49,999	96	90	82	75
50,000 - 99,999	96	95	82	87
100,000 - 499,999	96	96	85	87
500,000 +	99	95	87	95

Figure 34. PARTNERSHIPS AND COLLABORATION:
Most Important Non-Governmental Partner



Note: The "Other" category includes: managed care organizations, universities, churches and faith communities, voluntary organizations, businesses, visiting nurses associations, and others not classified.

Community Health Assessment

In *The Future of Public Health* assessment was identified as one of the three core functions of public health.⁴⁴ Conducting regular, on-going community health assessments (CHAs) can help LPHAs and their communities address how

their community health system can effectively support the activities needed to assure the presence of the essential public health services. CHA is a basic activity in improving the health status of any community.

COMMUNITY HEALTH ASSESSMENT

In this study, a community health assessment was defined as a “process whereby a local health department and its community engage in assessing the health needs of their community and investigate adverse health effects and health hazards to create a ‘snapshot’ of a community’s health.” Many communities have developed such snapshots based on local health data and community public health priorities.

According to the survey data, 55% of LPHAs have conducted a community health assessment (CHA) in the past three years. Of those that did not conduct a CHA, almost half plan to complete a CHA within the next three years. Overall, about 75% of LPHAs nationwide either have conducted or are planning to conduct a CHA in the next three years. Those not planning to conduct a CHA are primarily LPHAs with few FTEs and small population jurisdictions. There was variation by both population of the jurisdiction served and LPHA type. Among LPHAs that serve less than 25,000 people, 44% conducted CHAs compared with 72% of LPHAs that serve 500,000 or more people; of township LPHAs 19% reported conducting a CHA, compared with 71% of multi-county/district LPHAs.

HEALTH IMPROVEMENT PLANS

Health improvement plans act as blueprints for improving a community’s health, including setting out strategic action steps that direct the distribution of health services and resources to improve a community’s health. The importance of health improvement plans is recognized in *Healthy People 2010*.⁴⁵ A specific objective of *Healthy People 2010* is to “increase the proportion of local

jurisdictions that have a health improvement plan linked with their state plan.”⁴⁶ Data presented on health improvement plans in this *Chartbook* can be used to track progress toward this important objective.

Over half of the nation’s LPHAs have developed or participated in the development of a community health improvement plan. The majority indicated that the plan was developed using the results of a community health assessment, and over half indicated the plan was linked to their state’s health improvement plan. Almost all respondents reported collaborating with the community and/or other organizations in the development of the plan. The most frequently cited partners in the development of the plan were community-based organizations, hospitals, and voluntary or non-profit organizations.

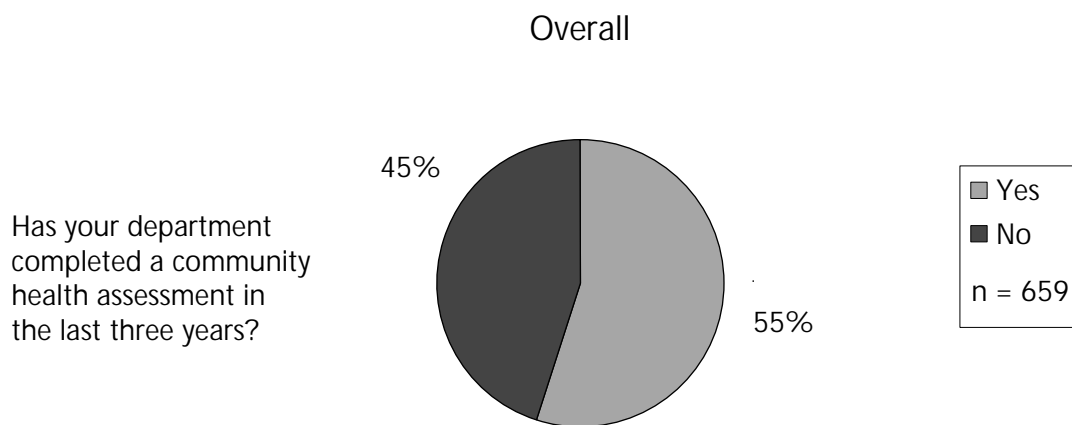
There were considerable differences among LPHAs by the population size of the jurisdiction served. Forty-one percent (41%) of LPHAs that serve small population jurisdictions (0 to 24,999) reported participating in health improvement planning, compared with 76% of LPHAs that serve the largest jurisdictions.

COMMUNITY HEALTH ASSESSMENT TOOLS

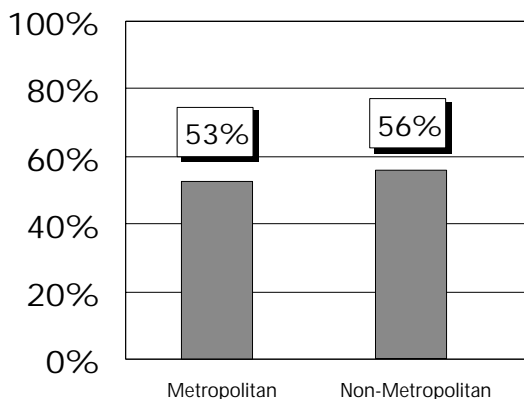
Fifty-one percent (51%) of LPHAs that conducted CHAs used an established tool or model. The *APEXPH* process was a popular tool, regardless of metropolitan versus non-metropolitan, size of jurisdiction, and type of LPHA. Among those that used an established tool, *APEXPH* was used by 47% of LPHAs. State-developed tools were more commonly used among LPHAs serving non-metropolitan areas (29%) compared with their metropolitan counterparts (18%).

A large percent of LPHAs and their community partners are involved in community health assessments and the development of health improvement plans. National and state tools have been vital in supporting these efforts, as seen by the use of a variety of assessment tools.

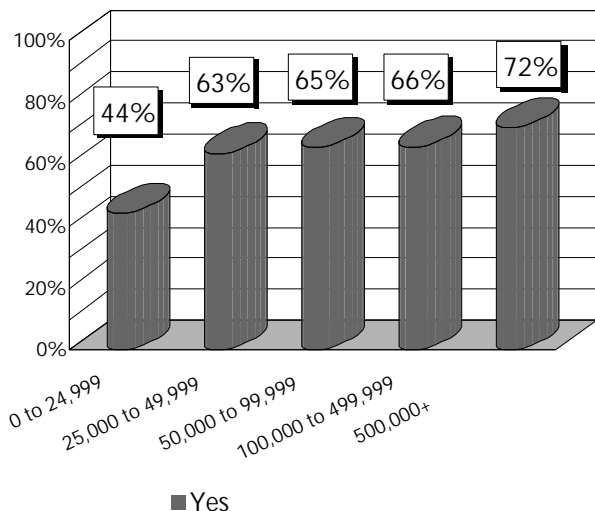
Figure 35. LPHA COMMUNITY HEALTH ASSESSMENT



Metropolitan and Non-Metropolitan LPHAs



Community Health Assessment by Population Size



Community Health Assessment by LPHA Type

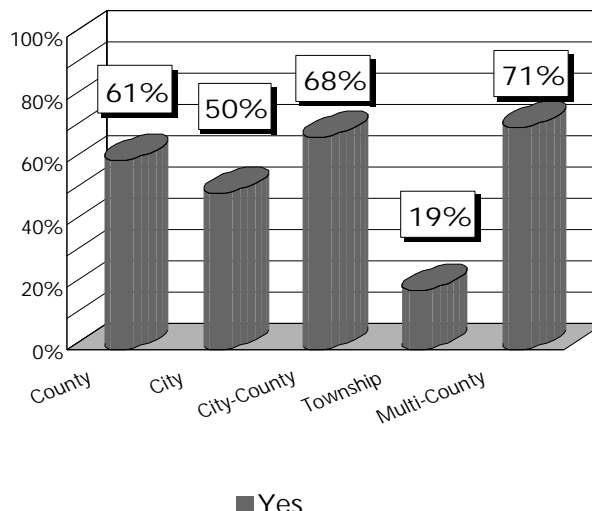
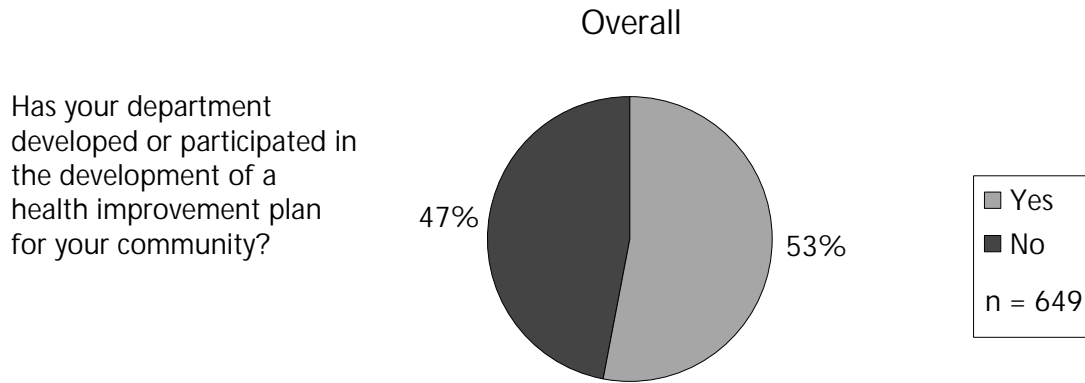
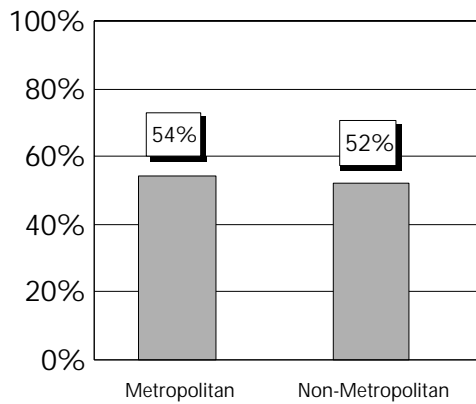


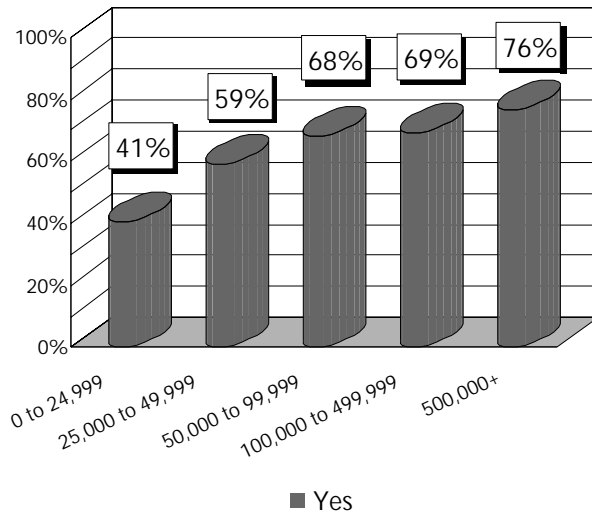
Figure 36. LPHA COMMUNITY HEALTH ASSESSMENT: Health Improvement Plans



Metropolitan and Non-Metropolitan LPHAs



Community Health Assessment by Population Size



Community Health Assessment by LPHA Type

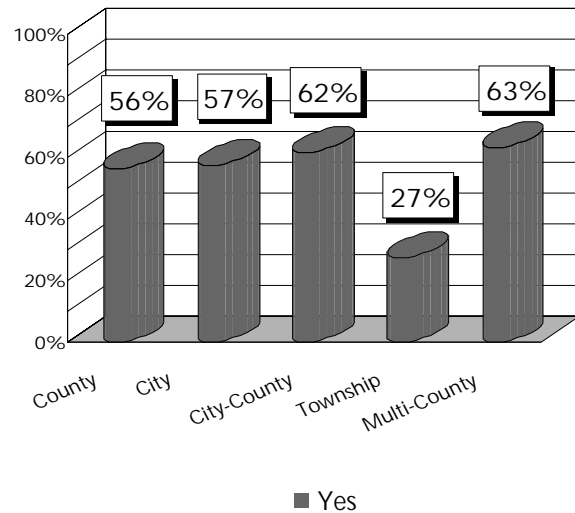
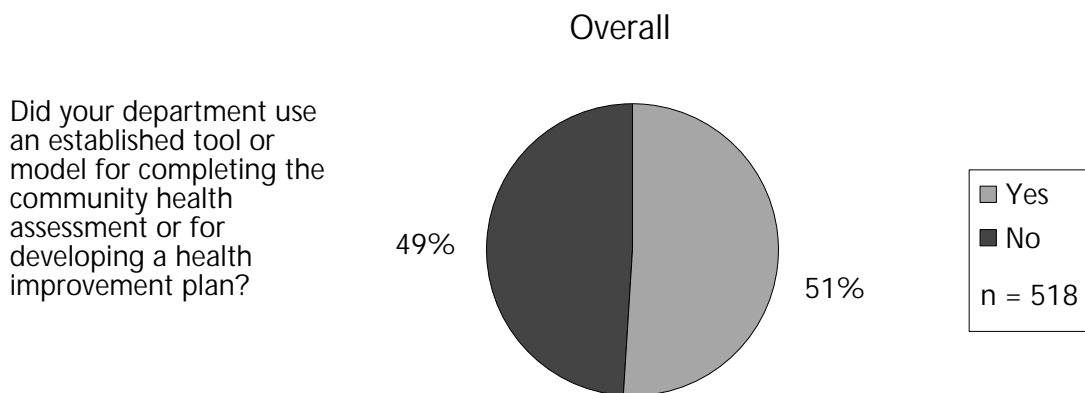
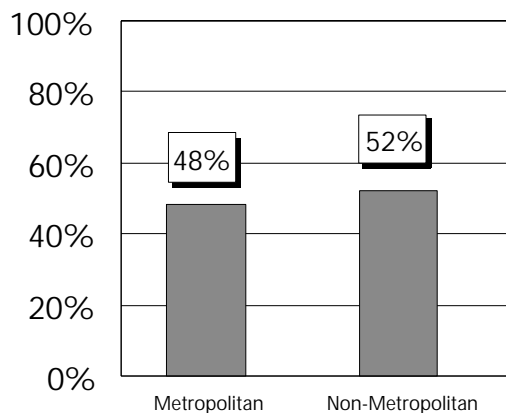


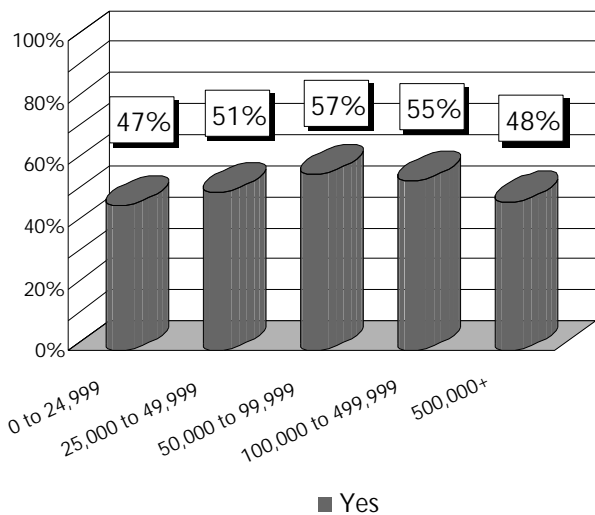
Figure 37. LPHA COMMUNITY HEALTH ASSESSMENT:
Use of Established Tools



Metropolitan and Non-Metropolitan LPHAs



Community Health Assessment by Population Size



Community Health Assessment by LPHA Type

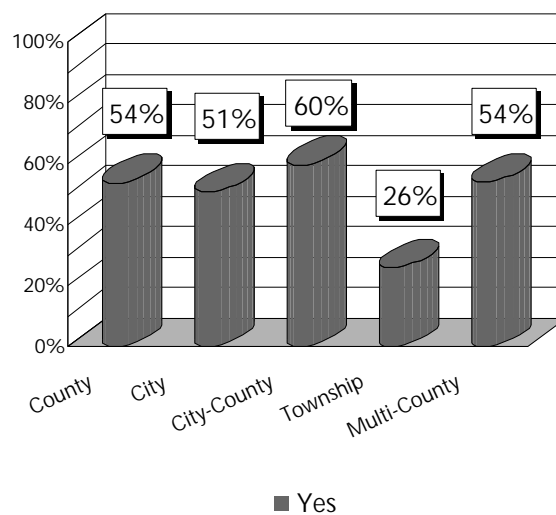
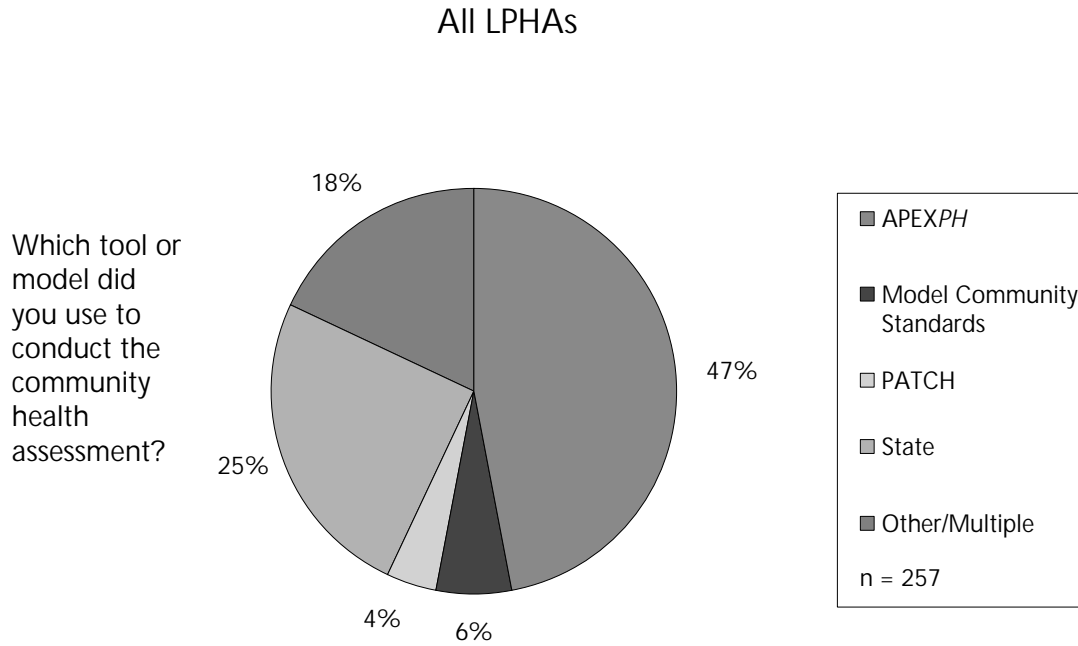
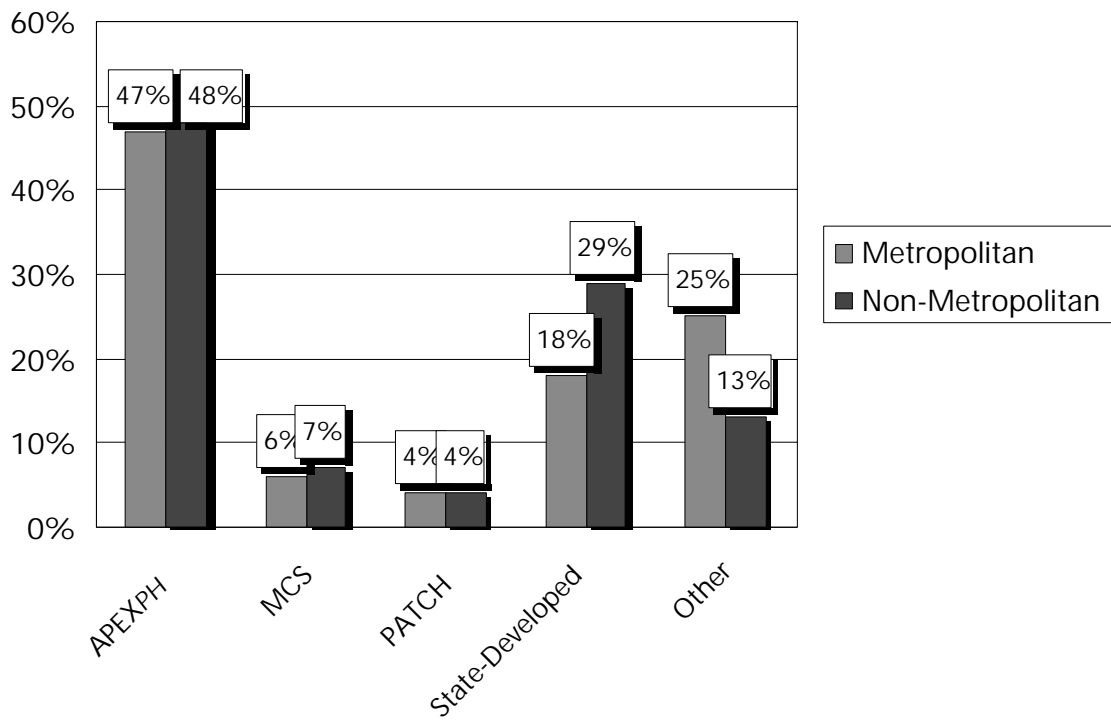


Figure 38. LPHA COMMUNITY HEALTH ASSESSMENT:
Type of Tool Used



Metropolitan vs. Non-Metropolitan LPHAs



Overall Strengths and Challenges

Public health officials were surveyed about what they viewed as their agencies' greatest strengths and challenges. Respondents were asked to list challenges and strengths as open-ended text on the survey. These lists were then coded and analyzed by research staff. Please note that only the first response given by LPHAs was used to generate the following graphs and tables.

LPHA STRENGTHS

Investigating the strengths of LPHAs allows us to demonstrate the many contributions LPHAs make to the health of their communities. It also provides an opportunity to celebrate the accomplishments of LPHAs, and emphasize where LPHA infrastructure is sound. To provide a context, LPHAs were asked to list their greatest strengths compared with other local health departments serving populations of a similar size.

To facilitate interpretation of the tables and charts listed in this section, we briefly describe the coding categories that were developed by research staff. Categories include:

- **Workforce**—strengths that had to do with LPHA personnel, e.g., praise of staff, “teams,” and employees as caring, committed, or able to do their best given scarce resources.
- **Local Support**—local and community support, such as a supportive county commissioners, mayor, town manager, or supportive citizens and residents.
- **Stable Funding**—a stable source of funding for LPHA activities.
- **Flexible**—LPHAs are responsive and flexible to community needs.
- **Innovative**—willingness to try new ways to solve problems, or improve upon existing business models.
- **Partnership**—partnerships with the community, collaboration with other agencies, and input from outside the LPHA when making decisions about community health.
- **Accessible**—openness of the LPHA to address new and emerging issues and meet community needs.
- **Diversity**—diversity of staff and/or community.

- **Health Outcomes**—specific health areas where LPHA jurisdictions felt they were doing well, e.g., teen pregnancy, cardiovascular disease.
- **Other**—strengths that did not fall into the above categories.

Overall, thirty-seven percent (37%) of all LPHAs said their workforce was one of their agency's greatest strengths. LPHAs of all types, jurisdiction sizes, and metropolitan and non-metropolitan LPHAs consistently mentioned workforce as a great strength. Please refer to pages 49 to 59 for a detailed discussion on workforce issues. LPHA directors used terms like “enthusiastic, dedicated, committed, compassionate, highly-skilled, and cooperative” to describe their personnel. One health director wrote:

“Great and devoted staff, good teamwork. The community gets a big bang for the buck. Low turnover, lots of experience and expertise.”

In addition to workforce, partnerships were cited as a great strength by 16% of all LPHAs. Please refer to pages 60 to 73 for a detailed discussion on partnerships and collaboration. By naming partnerships as a strength, LPHAs acknowledge the importance of working with others to build a healthier community.

An example from a local health official demonstrates how partnerships were seen as a strength:

“Our close collaboration with community based providers of medical, psychological, and social services allow for [city residents] to access services in a culturally competent setting which increases overall health.”

Specific health outcomes were cited as a strength by 12% of all LPHAs. These included specific mentions of exemplary programs, such as immunization clinics or birth registries. For example, one health director wrote:

“Immunization program for children and adults [is our greatest strength]. Over the last three years the agency has increased the number of influenza and pneumococcal vaccines given.”

The tables accompanying this section illustrate that there were differences in strengths by LPHA type and size of the population served. For example, “accessibility” was cited as a strength by more city-county LPHAs and township LPHAs than other types of LPHAs in the study. Local support was seen as a strength by more LPHAs serving populations 0 to 24,999 residents and 500,000 or more residents than other sized jurisdictions.

LPHA CHALLENGES

The coding categories developed to describe LPHA challenges are listed below. Categories include:

- Workforce—training, recruiting and retaining the LPHA workforce.
- Funding—financial operation of the LPHA, e.g., lack of funding, funding that was not sustainable, or funding that was too limited or categorical.
- Changing Mission—transitions from a focus on providing public health services to assuring public health services in their local public health system.
- Health Assessments—planning or conducting community health assessments in the LPHA’s jurisdiction.
- Health Outcomes—specific health areas where LPHA jurisdictions felt they were lagging behind e.g., teen pregnancy, cardiovascular disease.
- Partnerships—community partnerships and collaboration to improve local public health and change the way they do business in communities.
- Community Needs—community-specific challenges that the LPHA was attempting to address, and those areas where the LPHA perceived they were not meeting the needs of the community.
- Other—challenges that did not fall into the above categories.

As the accompanying charts and figures illustrate, challenges differ between metropolitan versus non-metropolitan area LPHAs and the various types of LPHAs.

Overall, LPHAs indicated that their biggest challenge was funding (35%). Funding was not sufficient for their needs, not secure, and not sustainable. For example, a respondent wrote that their funding challenge was:

“Integrating categorically funded programs. Maintain[ing] a solid funding base. Addressing community needs without adequate community resources.”

Forty-one percent (41%) of non-metropolitan area LPHAs indicated that funding was their biggest challenge, compared with 26% of all metropolitan LPHAs. Part of this difference may be the result of the differing funding streams that support metropolitan and non-metropolitan LPHAs. As illustrated earlier in this report, metropolitan areas LPHAs relied upon both local and state sources of funding and non-metropolitan area LPHAs appear to rely most upon their state for funding. Other reasons for this difference could be less fiscal support and more competition for fewer resources in non-metropolitan areas.

The challenges surrounding workforce deal directly with the difficulty in training, recruiting, and retaining public health workers. Overall, 15% of LPHAs indicated workforce was one of their biggest challenges, which is the next most frequently mentioned category after funding. Twenty-four percent (24%) of city, 18% of multi-county/district, and 10% of city/county LPHAs reported workforce as a challenge.

Metropolitan area LPHAs more frequently indicated that specific program areas were their largest challenge (20%) compared with non-metropolitan LPHAs (8%). Program challenges included developing programs for existing and emerging public health threats, and sustaining programs for specific issues such as diabetes or tuberculosis. One health director wrote:

“Developing programs to focus on the prevention of injury control, adult diabetes, cardiovascular disease in the young, suicide prevention, and health education for all ages.”

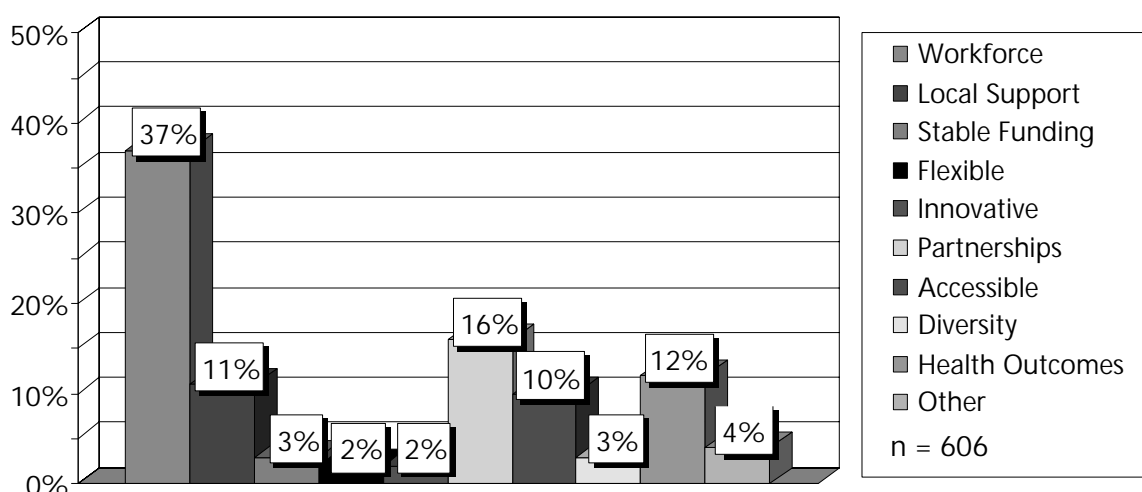
LPHA strengths and challenges contribute to an overall understanding of where LPHAs perceive they are doing well, where there are gaps, and what future opportunities exist. As policies and programs to support local public health infrastructure are developed, it is important to consider these data. For example, this analysis suggests

the need to continue and improve existing programs for the public health workforce, and to develop new initiatives for the local public health system to address the challenge of funding. In addition, data on differences

between LPHA types and the population they serve may help target infrastructure improvements to specific kinds of LPHAs, such as county or city LPHAs, or LPHAs serving metropolitan or non-metropolitan areas.

Figure 39. LPHA STRENGTHS

Overall



Metropolitan vs. Non-Metropolitan LPHAs

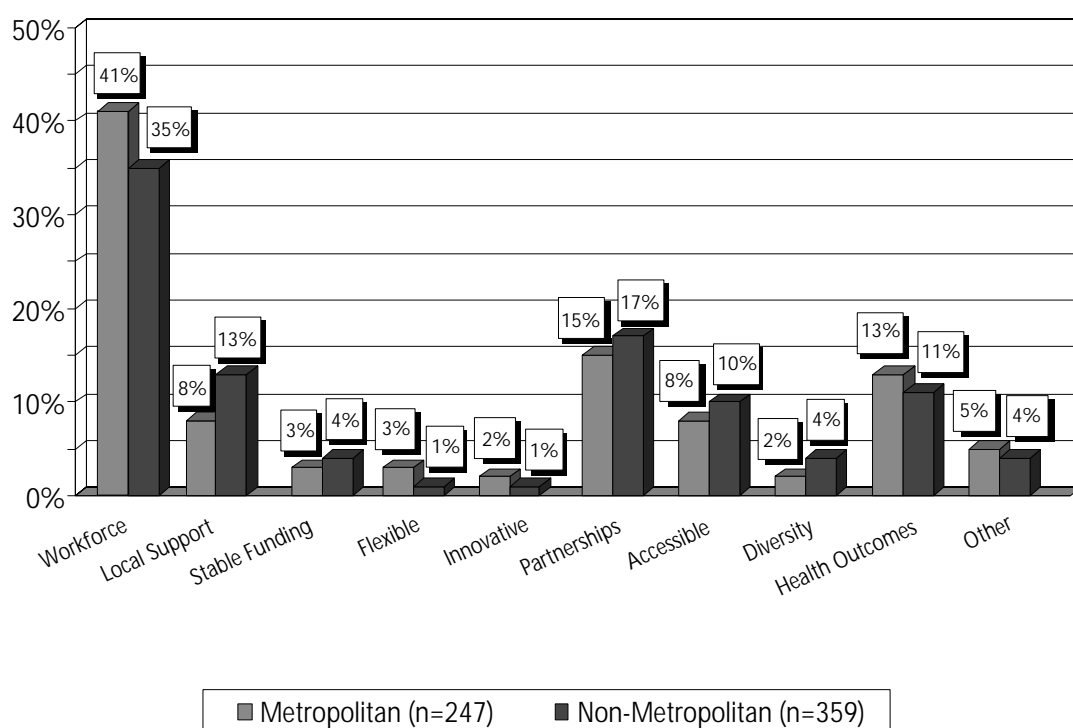


Table 22. LPHA STRENGTHS
Population Size (in %)

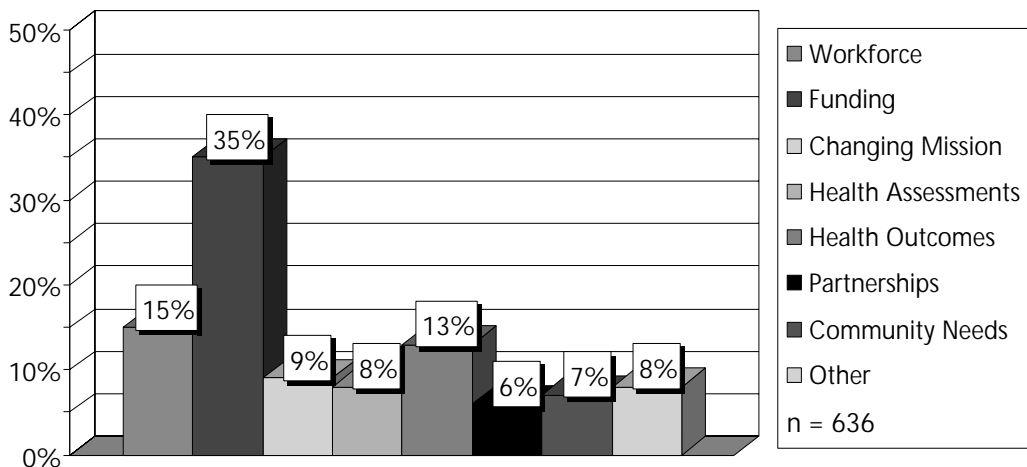
	0 to 24,999 (n=288)	25,000 to 49,999 (n=119)	50,000 to 99,999 (n=85)	100,000 to 499,999 (n=90)	500,000 + (n=24)
Workforce	31	48	47	36	36
Local Support	14	4	7	9	15
Stable Funding	3	3	5	3	6
Flexible	2	2	2	3	1
Innovative	1	0	2	3	6
Partnerships	14	15	16	24	17
Accessible	15	5	6	2	6
Diversity	5	1	1	3	3
Health Outcomes	11	18	10	10	9
Other	4	4	4	7	1

LPHA Type (in %)

	County (n=374)	City (n=57)	City-County (n=43)	Township (n=79)	Multi-County (n=53)
Workforce	36	46	30	38	45
Local Support	11	8	9	12	13
Stable Funding	5	1	0	0	5
Flexible	2	5	3	2	4
Innovative	1	3	4	0	2
Partnerships	19	6	14	15	13
Accessible	8	5	19	18	6
Diversity	4	3	2	3	2
Health Outcomes	11	19	16	12	8
Other	3	4	3	0	2

Figure 40. **LPHA CHALLENGES**

Overall



Metropolitan vs. Non-Metropolitan LPHAs

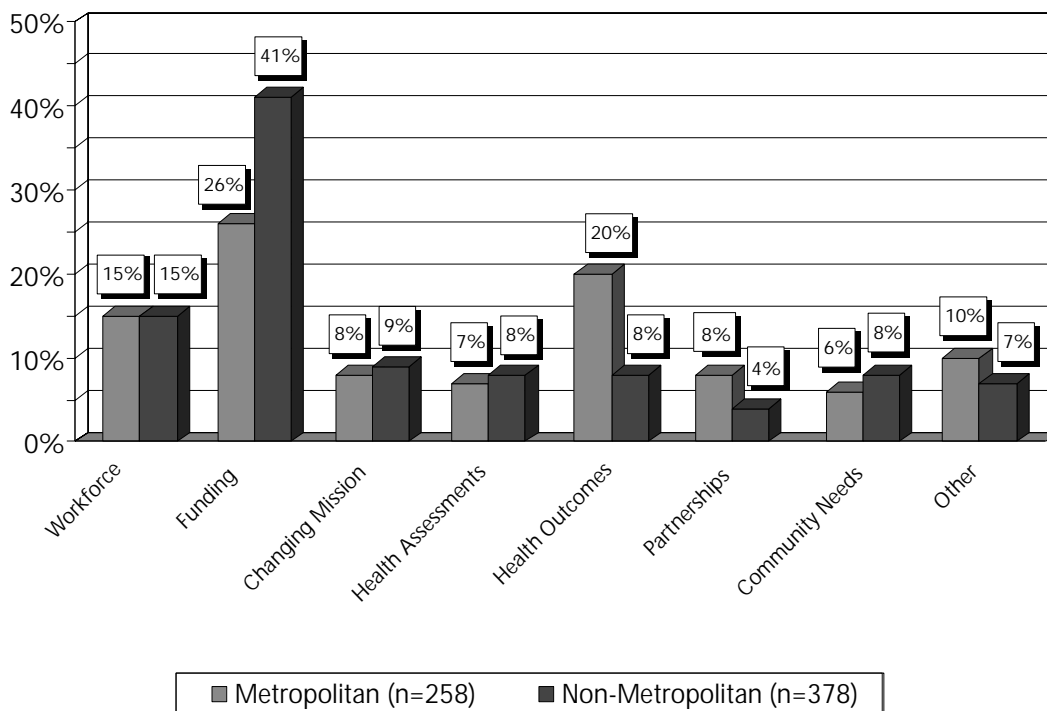


Table 23. LPHA CHALLENGES:
Population Size (in %)

	0 to 24,999 (n=310)	25,000 to 49,999 (n=124)	50,000 to 99,999 (n=88)	100,000 to 499,999 (n=91)	500,000 + (n=23)
Workforce	16	17	9	12	19
Funding	34	36	43	31	34
Changing Mission	9	7	8	15	3
Health Assessments	9	9	5	8	1
Health Outcomes	14	13	12	10	16
Partnerships	5	5	9	5	11
Community Needs	8	7	6	7	1
Other	5	6	8	12	15

LPHA Type (in %)

	County (n=386)	City (n=62)	City-County (n=44)	Township (n=88)	Multi-County (n=56)
Workforce	14	24	10	14	18
Funding	39	16	40	18	54
Changing Mission	10	5	14	0	14
Health Assessments	7	12	5	12	5
Health Outcomes	9	17	11	33	2
Partnerships	5	9	4	11	2
Community Needs	9	7	9	2	1
Other	7	10	7	10	4

Conclusion

This *Chartbook* provides a fresh, comprehensive look at LPHA infrastructure issues. In reviewing the results of the study, several important topics deserve attention.

- With the ever-changing health services environment, LPHAs are reassessing and redefining their roles within the health care system. The data in this *Chartbook* corroborate the general understanding that LPHAs are moving away from the provision of comprehensive primary care services. Comparing data from NACCHO's *1992-1993 Profile* report with these data indicate that the number of LPHAs providing direct clinical services has decreased while the number of LPHAs providing population-based services, such as communicable disease control, community assessment, and community outreach and education, has increased.
- Seventy percent (70%) or greater of LPHA respondents provide the following services to their communities: adult and childhood immunizations, communicable disease control, community outreach and education, epidemiology and surveillance, food safety, restaurant inspections, and tuberculosis testing.
- LPHAs rely upon a core set of professional public health workers, primarily composed of public health nurses and environmental health specialists. These professionals, along with administrative staff, are vital building blocks of the LPHA infrastructure. Furthermore, the public health workforce was seen as a strength and a challenge. As noted in the workforce section of this report, this was the first time the Standard Occupational Classification has been used to collect data directly from the LPHA. Further research in this area could improve upon current methodology for enumerating the public health workforce.
- This study reveals that approximately 75% of LPHAs predicted they will have completed community health assessments within the next three years. This suggests that LPHAs are deeply involved in this core function/essential service of public health.
- LPHAs reported partnership and collaborative activities substantially more than prior studies have reported. Recent national attention to partnerships and collaboration highlight how local public health infrastructure is developed and maintained by many community stakeholders, not just the LPHA. Broadening the view of who is involved in public health infrastructure is a necessity, and raises new challenges. Further study merits the examination of a possible relationship between the increasing number of LPHA partnerships as it relates to the decrease of direct service provision, as noted above.
- This *Chartbook* marks an innovation in methodology — data are presented for metropolitan and non-metropolitan area LPHAs. Through the proxy of metropolitan and non-metropolitan areas, these data provide an initial glimpse at the challenges and triumphs faced by rural and urban LPHAs. This is the first time NACCHO has published such data.

Data from this *Chartbook* provide examples of the ways that the LPHA infrastructure works, and where there are challenges to overcome. This information can be used by LPHAs to celebrate their successes and chart a course for enhancing the local public health infrastructure of the future.

References

¹ For example, *the National Public Health Performance Standards Program*, a collaborative project sponsored by the Centers for Disease Control and Prevention (CDC) and national partnership organizations, including NACCHO, will gather performance data that can be linked with these infrastructure data.

² U.S. Department of Health and Human Services, 2000. *Healthy People 2010*. U. S. Government Printing Office: Washington, DC.

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⁷ Turnock, B.J. 1997. *Public Health: What It Is and How It Works*. Aspen Publishers, Inc.: Gaithersburg, MD.

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⁹ Roper, W. and E. Baker, et al., 1992. “Strengthening the Public Health System.” *Public Health Reports* 107(6):609-615.

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¹² For more information on The Public Health Threats and Emergency Act of 2000, (P.L. 106-505, Title I) visit NACCHO’s Web site at www.naccho.org or contact NACCHO’s Government Affairs Counsel at (202) 783-5550, or info@naccho.org.

¹³ US Public Health Service, Public Health Functions Steering Committee, *Public Health in America*. Washington, DC.

¹⁴ Corso, L. et al. 2000. “Using the Essential Services as a Foundation for Performance Measurement and Assessment of Local Public Health Systems.” *Journal of Public Health Management and Practice*. 6(5), 1-18.

¹⁵ NACCHO, 1997. *National Profile of Local Health Departments Dataset*. NACCHO: Washington, DC.

¹⁶ NACCHO, 1995. *1992-1993 National Profile of Local Health Departments*. NACCHO: Washington, DC.

¹⁷ NACCHO, 1990. *1998 National Profile of Local Health Departments*. NACCHO: Washington, DC.

¹⁸ Information on the Standard Occupational Classification System (SOC) is available on the Web at: stats.bls.gov/soc/soc_home.htm.

¹⁹ The District of Columbia was also included as a LPHA. Rhode Island is the only state that is considered to have no local public health agencies. Therefore, it was not included in the NACCHO database of existing LPHAs and is not represented in this study.

²⁰ A detailed description of the sampling methodology used in this study is available by contacting NACCHO’s Research and Evaluation Team at (202) 783-5550, or info@naccho.org.

²¹ A detailed description of the sampling weight and final weight methodology is available by contacting NACCHO’s Research and Evaluation Team at (202) 783-5550, or info@naccho.org.

²² *STATA Release 6 and Release 7*. STATA Corporation: College Station, TX.

²³ Contact NACCHO's Research and Evaluation Team at (202) 783-5550, or info@naccho.org, or www.naccho.org for more information.

²⁴ Ricketts T.C. and K.D. Johnson-Webb. 1997. What is "rural" and how to measure "rurality": a focus on health care delivery and health policy. Technical Issues Paper. Chapel Hill, NC: North Carolina Rural Health Research and Policy Analysis Center, Cecil G. Sheps Center for Health Services Research. Contract No.:HRSA 93-857(P). Sponsored by the Federal Office of Rural Health Policy, HRSA, U.S. DHHS.

²⁵ The *Area Resource File* dataset is available from QRS, Inc., at www.arfsys.com. QRS is the Health and Human Services Department's contractor for developing the *Area Resource File*.

²⁶ Morrill, R., J. Cromatie, and G. Hart. 1999. "Metropolitan, Urban, and Rural Commuting Areas: Toward a Better Depiction of the United States Settlement System." *Urban Geography* 20: 727-748.

²⁷ For more information on the structure of local and state public health systems, two different resources on local and state public health agency structure may be helpful to the reader: NACCHO's *Research Brief #2 (October, 1999)*, and the Center for Disease Control and Prevention's (CDC) *Profile of State and Territorial Public Health System: United States, 1990*.

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³⁰ Miller, C.A., T.B. Richards, S.M. Davis, et al. 1995. "Validation of a Screening Survey to Assess Local Public Health Performance." *Journal of Public Health Management and Practice* 1(1):63-71.

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³² Milne, T.L. 2000. "Strengthening Local Public Health Practice: A View to the Millennium." *Journal of Public Health Management and Practice* 6(1):61-6.

³³ NACCHO collected data on more services and programs than are presented in this *Chartbook*. Contact NACCHO for additional information on services and programs not presented in this report at (202) 783-5550, or info@naccho.org.

³⁴ Kennedy, V.C., B.C. Quill, and A.D. Wiltshire, 2000. "Final Report: NACCHO Public Health Workforce Development Project." Available from NACCHO's Research and Evaluation Team.

³⁵ U. S. Department of Health and Human Services, Health Resources and Services Administration, 2001. *The Public Health Workforce: Enumeration 2000*. Columbia School of Nursing, Center for Health Policy: New York City, NY. Report available on the web at: cpmcnet.columbia.edu/dept/nursing/chphsr.

³⁶ Information on the Center for Disease Control and Prevention's Workforce Development Initiative is available from the CDC's Public Health Practice Program Office, www.cdc.gov/phppo.

³⁷ Information on the Standard Occupational Classification System (SOC) is available on the web at: stats.bls.gov/soc/soc_home.htm.

³⁸ Kennedy, V.C., B.C. Quill, and A.D. Wiltshire, 2000. “Final Report: NACCHO Public Health Workforce Development Project.” Available from NACCHO’s Research and Evaluation Team. Done in cooperation with the Association of Schools of Public Health (ASPH).

³⁹ Ibid, page 3

⁴⁰ For information on NACCHO’s *Mobilizing for Action Through Partnerships and Planning* (MAPP), contact NACCHO at www.naccho.org or (202) 783-5550, or info@naccho.org.

⁴¹ For information on NACCHO’s *Protocol for Assessing Community Excellence in Environmental Health (PACE EH)*, contact NACCHO at www.naccho.org or (202) 783-5550, or info@naccho.org.

⁴² For information on the Turning Point project, contact NACCHO at www.naccho.org or (202) 783-5550 or visit the other Turning Point partners’ Web sites – W.K. Kellogg Foundation: www.wkcf.org, the Robert Wood Johnson Foundation: www.rwjf.org and the University of Washington School of Public Health and Community Medicine: www.turningpointprogram.org.

⁴³ For information on HRSA’s Community Access Program (CAP) contact HRSA at: www.hrsa.gov/CAP/default.htm or (301) 443-0536.

⁴⁴ Institute of Medicine, 1988. *The Future of Public Health*. National Academy Press: Washington, DC.

⁴⁵ U.S. Department of Health and Human Services, 2000. *Healthy People 2010*. U. S. Government Printing Office: Washington, DC.

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ADDRESSING COMMUNITY NEEDS WITHOUT
ADEQUATE COMMUNITY RESOURCES.

— A LOCAL HEALTH OFFICIAL

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(as of May 25, 1998)

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1999 Local Health Department Infrastructure Survey

National Association of County and City Health Officials



Sponsored by:

National Association of County and City Health Officials
Robert Wood Johnson Foundation

Conducted by:

Mathematica Policy Research, Inc.
Princeton, NJ

A COPY OF THIS SURVEY IS AVAILABLE AT:

www.naccho.org

Standard Occupational Classification (SOC) Categories Used in this Research

Occupational Classifications and Definitions Used in this Study

1. Environmental Engineer
(e.g., Water Supply/Waste Water Engineer, Solid Waste Engineer, Air Pollution Engineers, Sanitary Engineer)
2. Environmental Engineering Technician and Technologist
(assists Environmental Engineers in the control, elimination, or prevention of environmental health hazards, e.g., Water/Waste Water Plant Operator and Testing Technician)
3. Environmental Scientist and Specialist
(e.g., Sanitarian, Environmental Researcher, Environmental Health Specialist, Food Scientist, Soil and Plant Scientist, Air Pollution Specialist, Hazardous Materials Specialist, Toxicologist, Water/Waste Water/Solid Waste Specialist, Entomologist)
4. Environmental Science Technician and Technologist
(assists Environmental Scientists and Specialists in the control, elimination, or prevention of environmental health hazards.)
5. Health Educator with Certified Health Education Specialist (CHES) certification
(e.g., Public Health Educator, Community Health Educator, School Health Educator)
6. Health Educator without CHES certification
7. Occupational Safety and Health Specialist
(e.g., Industrial Hygienists, Occupational Health Specialists, Radiologic Health Inspectors, Safety Inspectors)
8. Occupational Safety and Health Technician/Technologist
(collects data on workplace environments for analysis by Occupational Safety and Health Specialists. Implements programs and conducts evaluation of programs designed to limit chemical, physical, biological, and ergonomic risks to workers.)
9. Health Service Managers or Administrators, Health Director
(includes department's top agency official)
10. Public Health Policy Analyst
(analyzes needs and plans for the development of health programs, facilities, and resources; analyzes and evaluates the implications of alternative policies relating to health care.)
11. Biostatistician
12. Epidemiologist
13. Public Health Physician
(e.g., General Preventive Medicine/Public Health, Occupational Medicine, Epidemiologist, Physician Executive)
14. Public Health Nurse
(e.g., Occupational Nurse, School Nurse, Community Health Nurse, Nurse Practitioner, LPN)

-
15. Public Health Dentist
-
16. Public Health Dental Worker
(e.g., Dental Hygienist, Dental Assistant)
-
17. Public Health Veterinarian
-
18. Public Health Nutritionist
(e.g. Community Nutritionist, Registered Dietician, Nutrition Scientist)
-
19. Public Health Attorney or Hearing Officer
-
20. Public Health Laboratory Scientist
(e.g., Microbiologist, Chemist, Physicist, Entomologist)
-
21. Public Health Laboratory Technician and Technologist
(e.g., Clinical Laboratory Technician, Histologic Technician and Technologist, Cytotechnologist)
-
22. Public Health and Community Social Worker
(e.g., Community Organizer, Outreach and Education Social Worker, Public Health Social Worker, Community Health Technician, HIV/AIDS Counselor)
-
23. Mental Health and Substance Abuse Social Worker
(e.g., Alcoholism Worker, Clinical Social Worker, Community Health Worker, Crisis Team Worker, Drug Abuse Worker, Marriage and Family Social Worker, Psychiatric Social Worker, Psychotherapist Social Worker)
-
24. Psychologists, Mental Health Providers
(e.g., Clinical Psychologist, Counseling Psychologist, Child Psychologist, Marriage Counselor Psychologist, Psychotherapist)
-
25. Alcohol and Substance Abuse Counselors, including Addiction Counselors
[e.g. Substance Abuse Counselor, Certified Substance Abuse Counselor, Certified Alcohol Counselor, Certified Alcohol and Drug Counselor, Certified Abuse and Drug Addiction Counselor, Drug Abuse Counselor (associate' degree or higher), Drug Counselor (associate's degree or higher), Alcohol Counselor (associate's degree or higher)]
-
26. Mental Health Counselors
(e.g. Clinical Mental Health Counselors, Mental Health Counselors)
-
27. Health Information Systems Specialist, Computer Specialists
-
28. Administrative or Clerical Staff, not included above
-
29. Other Allied Health Professionals
(e.g., Physical Therapist, Occupational Therapist, Speech Therapist, Pharmacist)

OUR ABILITY TO PARTNER, COLLABORATE,
AND MAKE BEST USE OF AVAILABLE RESOURCES
IN OUR COMMUNITY IS CERTAINLY A GREAT
STRENGTH.

— A LOCAL HEALTH OFFICIAL