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Enumeration of the Local Public Health Workforce in New York:
Findings From the Pilot Study

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Center for Health Workforce Studies
School of Public Health
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Preface

The Center for Health Workforce Studies, in collaboration with the New York State Department of Health (DOH) and the New York State Association of County Health Officials (NYSACHO), is conducting an enumeration survey of New York's local public health workforce. The New York State Department of Health, in conjunction with the New York-New Jersey Public Health Training Center, convened the Public Health Workforce Task Force in July, 2005 to address the public health workforce challenges in New York. The Task Force acknowledged that it was necessary to increase the knowledge about the size and composition of the public health workforce. It called for a functional enumeration to determine current workforce composition, measure the extent of workforce needs, project future staffing needs, and identify unmet training needs. The results of this pilot project will assist the Task Force to measure progress toward achieving its goals for a well-sized and competent public health workforce.

The goal of the pilot study was to test the effectiveness of the survey instrument in producing a detailed description of local public health workers and understand how health workers' composition, roles, educational backgrounds, and training needs affect the organizational capacity of local health departments in New York to perform essential public health services. This report summarizes the findings of the pilot study.

This report was prepared by the Center for Health Workforce Studies at the University at Albany, State University of New York with support from the New York State Department of Health. The Center is dedicated to the collection, analysis, and dissemination of health workforce research to inform policy makers, planners, educators, health care providers, and the public about issues related to the supply, demand, distribution, and use of health workers. This report was prepared by Dwayne Robertson, Sandra McGinnis, and Jean Moore. The views expressed in this report are those of the Center for Health Workforce Studies and do not necessarily represent positions or policies of the University at Albany, State University of New York, the School of Public Health, or the New York State Department of Health.

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EXECUTIVE SUMMARY

Background

The Center for Health Workforce Studies, in collaboration with the New York State Department of Health (DOH) and the New York State Association of County Health Officials (NYSACHO), is conducting a functional enumeration of New York's local public health workforce. The New York State Department of Health, in conjunction with the New York-New Jersey Public Health Training Center, convened the Public Health Workforce Task Force in July, 2005 to address the public health workforce challenges in New York. The Task Force acknowledged that it was necessary to increase the knowledge about the size and composition of the public health workforce. It called for a functional enumeration to determine current workforce composition, measure the extent of workforce needs, project future staffing needs, and identify unmet training needs. The results of this pilot project will assist the Task Force to evaluate progress toward achieving its goals for a well-sized and competent public health workforce.

The goal of the pilot study was to test the effectiveness of the survey instrument in producing a detailed description of local public health workers and to understand how health workers' composition, roles, educational backgrounds, and training needs affect the organizational capacity of local health departments (LHDs) in New York to perform essential public health services. The functional enumeration is still underway, but the number of online and scannable surveys returned and processed as of July 15, 2006 was sufficient to serve as a basis for the pilot study. This report presents findings and conclusions of the pilot study based on survey responses from 1,480 public health workers at 26 local health departments across the state. Results were tabulated using SPSS frequency, descriptive, and cross tabulation functions.

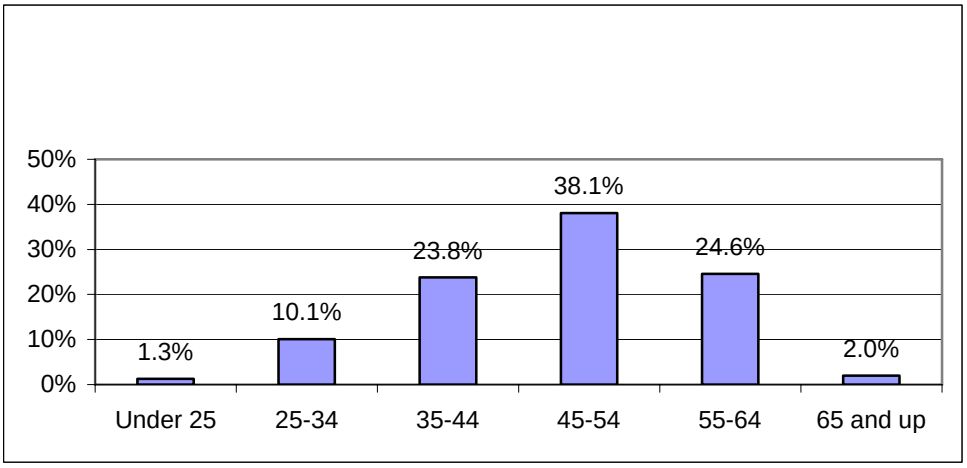
Key Findings

1. The local public health workforce in New York was older than average.

- The median age of a local public health worker was 49, compared to the median age of a U.S. civilian worker of 40[1].
- A little more than 1% of local public health workers were younger than age 25, while only 10% were between ages 25 and 34.

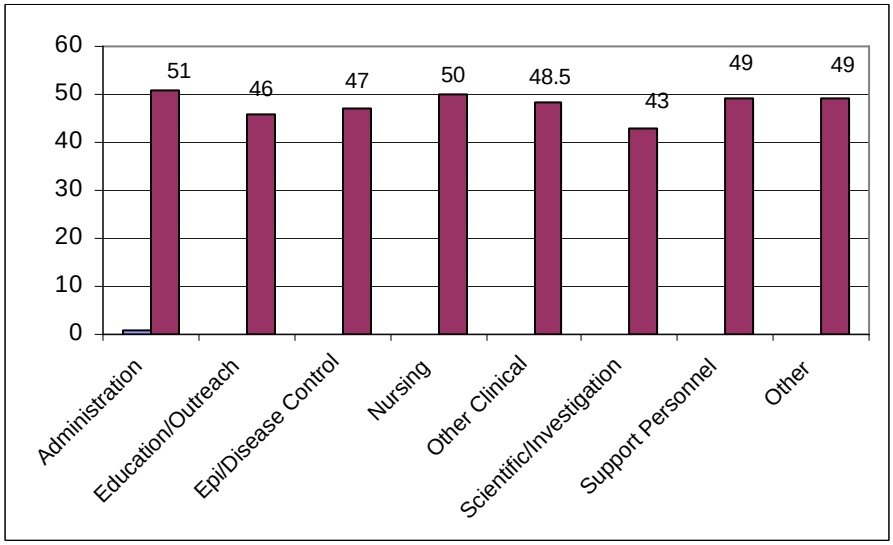
[1] Bureau of Labor Statistics, Current Population Survey, Basic Monthly Survey, June 2006.

Figure 1: Age Distribution of LHD Employees, New York, 2006 (N = 1428)



- Of all categories of public health workers, administrators and nurses were the oldest with median ages of 51 and 50, respectively.

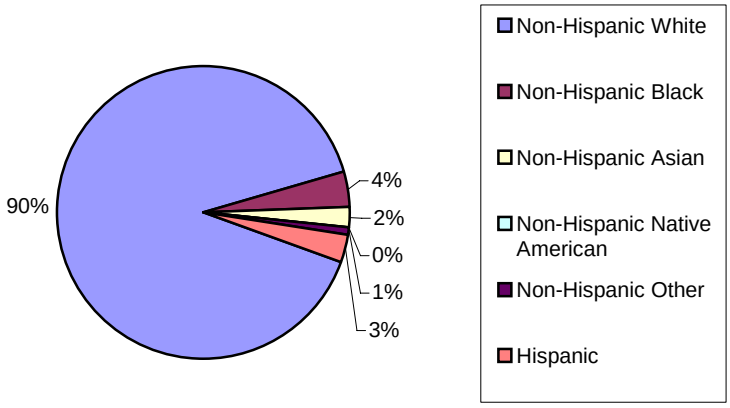
Figure 2: Median Ages of LHD Employees by Job Title Group, New York, 2006 (N = 1227)



2. The public health workforce was not as diverse as the population it serves.

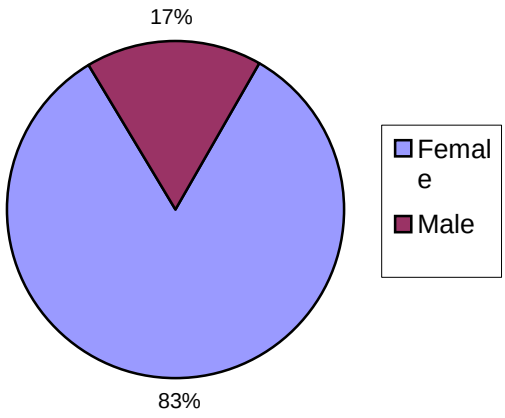
- The vast majority of public health workers were non-Hispanic White (90%), compared to county wide totals of 86%.

Figure 3: Racial and Ethnic Distribution of LHD Employees in New York, 2006 (N = 1430)



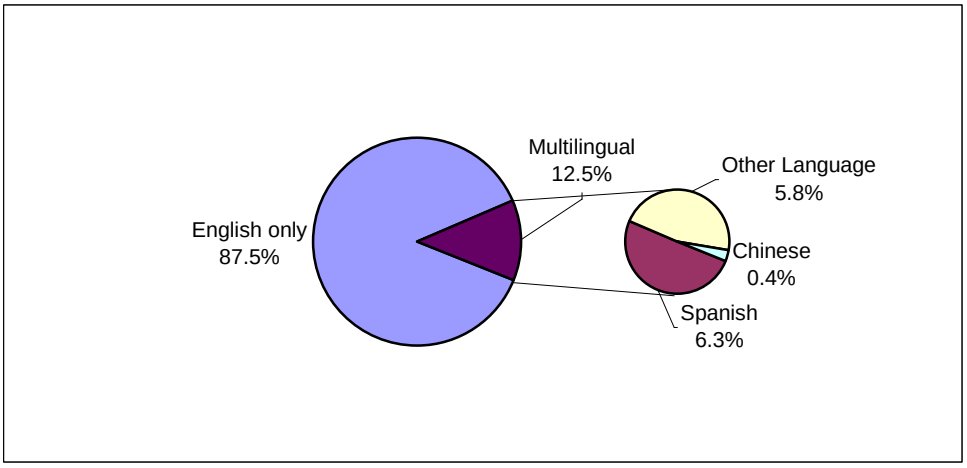
- About 4% of public health workers were Black/African-American, 2% were Asian, and 3% Hispanic/Latino, compared to the populations of the 26 counties that were 9% Black/African-American, 3% Asian, and 3% Hispanic/Latino.
- Public health workers were predominantly female (83%).

Figure 4: Gender Distribution of LHD Employees in New York, 2006 (N = 1456)



- Almost 13% of public health workers were bilingual.

Figure 5: Languages Spoken by LHD Employees, New York, 2006 (N = 1439)

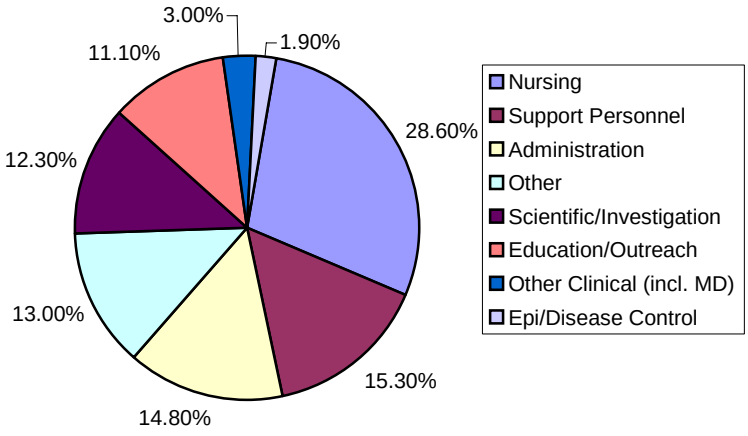


- Public health workers in the Education/Outreach and Epidemiology/Disease Control job titles were more likely to be racial/ethnic minorities and were also more likely to be bilingual.

3. Registered nurses working in public health were found in a variety of job roles.

- Nearly 30% of public health workers worked in nursing job titles.

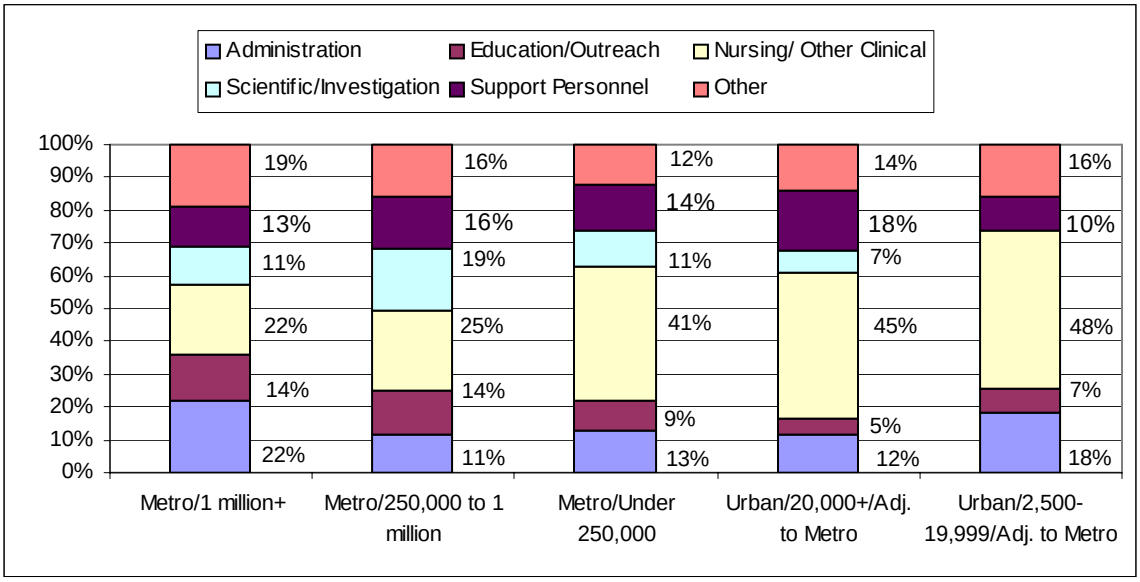
Figure 6: Formal Job Titles of LHD Employees Group (N = 1244)



- About one-third of all public health workers were registered nurses, and many of them worked in non-nursing titles including administration and Epidemiology/Disease Control.

4. Nearly half of workers in small rural local health departments were in clinical titles, especially nursing titles, compared to fewer than one-quarter of workers in urban health departments.

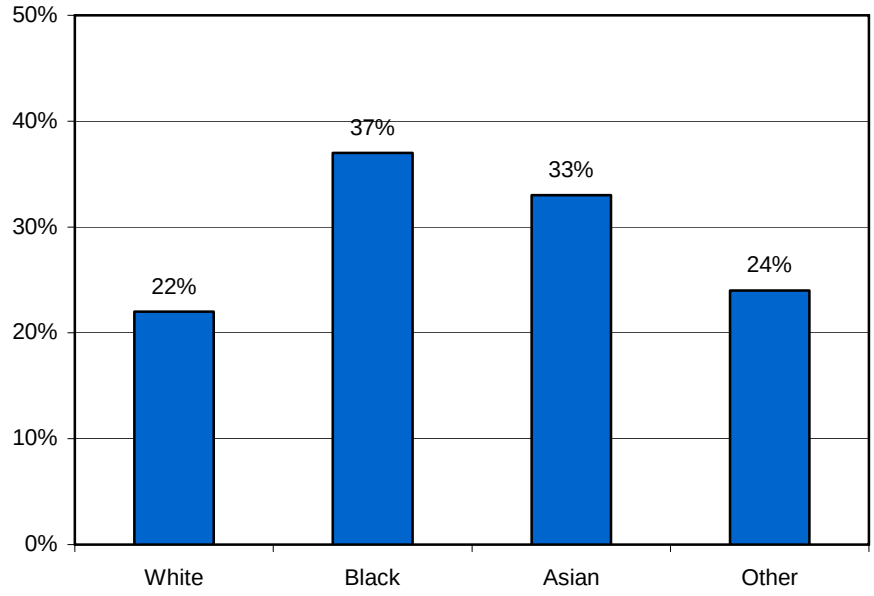
Figure 7: Staffing Patterns of LHDs by Rural or Urban, New York, 2006 (N = 1225)



5. Nearly one-quarter of public health workers were new to public health.

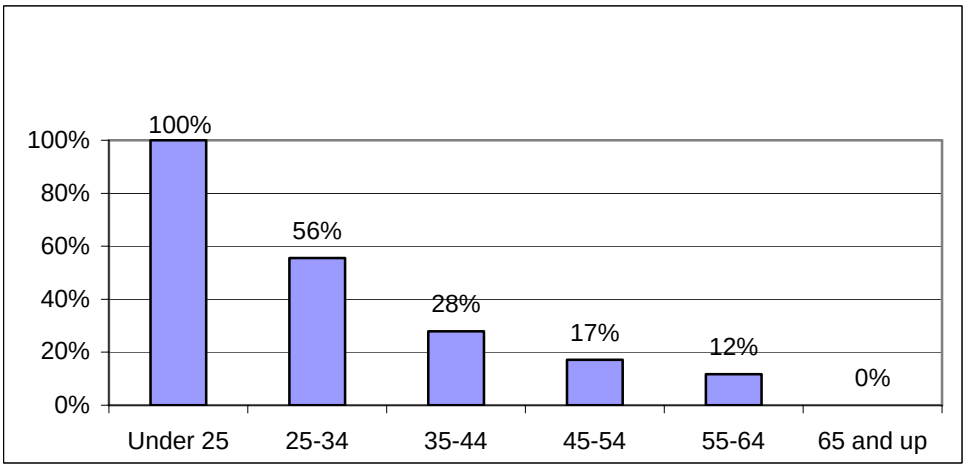
- About 23% of local public health workers reported beginning their public health careers within the last five years.
- Black/African-American and Asian public health workers were much more likely to be new to public health than non-Hispanic Whites (37% and 33%, respectively, versus 22%).

Figure 8: Percent of LHD Employees Who Entered Public Health Workforce in the Past Five Years by Race, New York, 2006 (N = 1360)



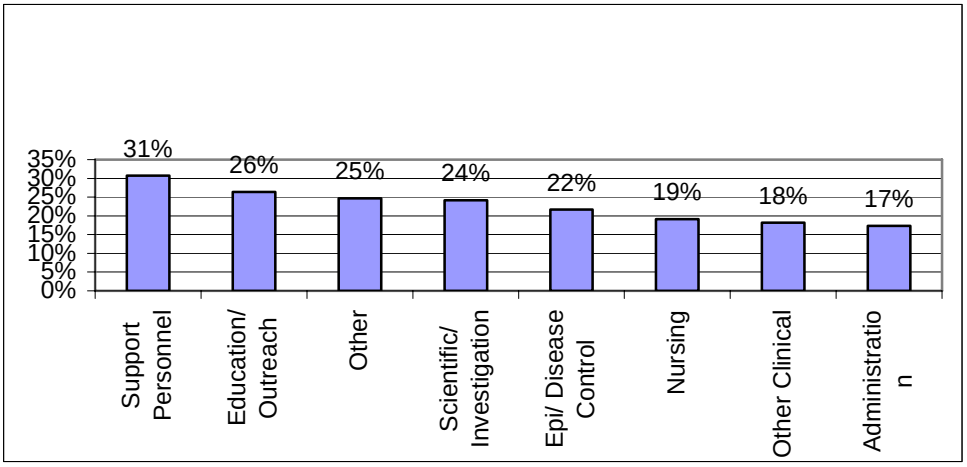
- Nearly 20% of public health workers between the ages of 45 and 54 were new to public health, compared to just over 10% of workers between the ages of 55 and 64.

Figure 9: Percent of LHD Employees Who Entered Public Health Workforce in the Past Five Years by Age, New York, 2006 (N = 1361)



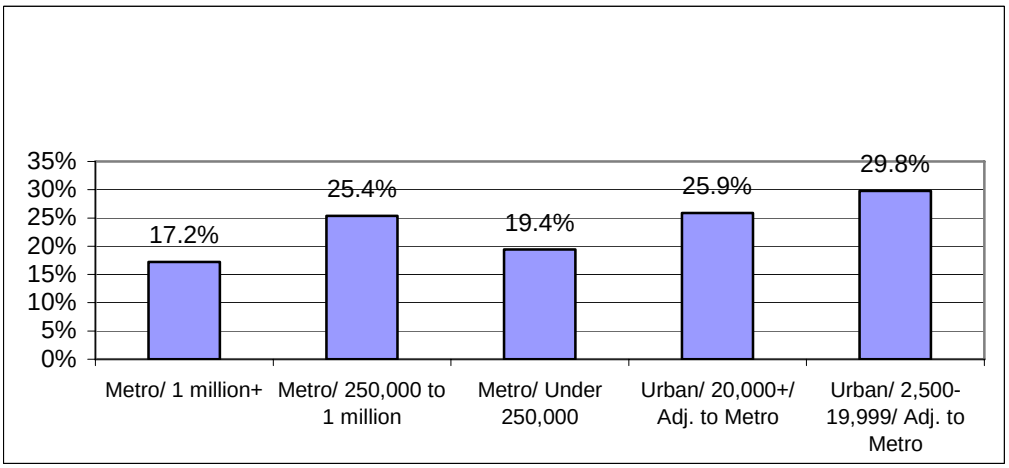
- Support Personnel and Education/Outreach titles were most likely to be held by people with limited experience in the field of public health.

Figure 10: Percent of LHD Employees New to Public Health in Last Five Years, New York, 2006 (N = 1187)



- Small rural local health departments tended to have more workers new to the field of public health than large urban local health departments.

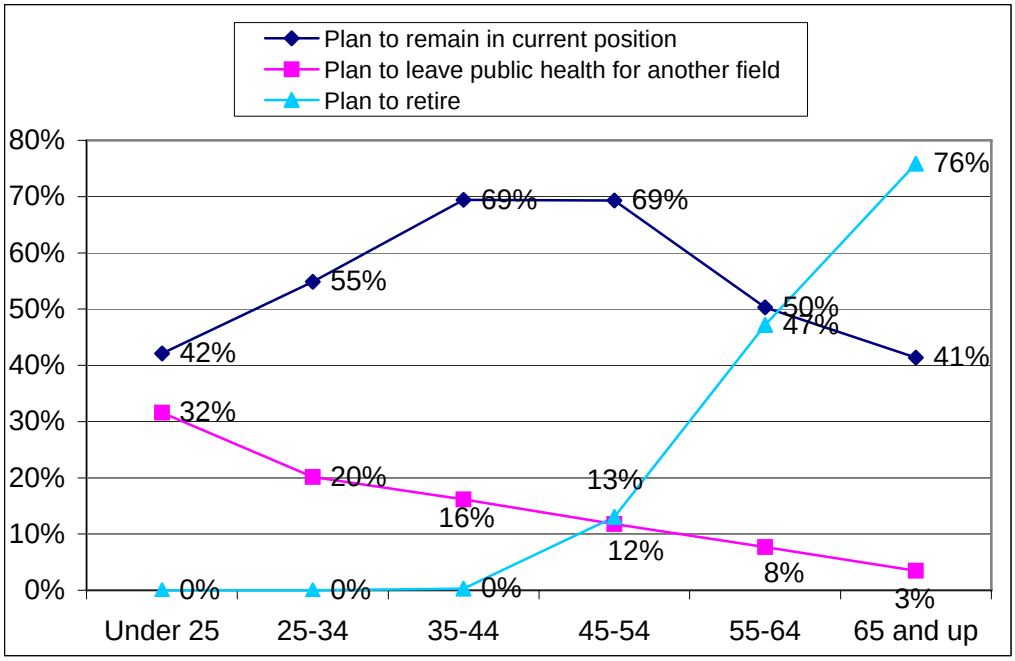
Figure 11: Percent of Employee Who Entered Public Health Within the Past Five Years by Rural or Urban, New York, 2006 (N = 1355)



6. A significant percent of public health workers older than age 55 reported plans to retire in the next five years.

- Nearly one in every five local public health workers (18%) reported retirement plans.

Figure 12: Career Plans of LHD Employees in Next Five Years by Age, New York, 2006 (N = 1428)

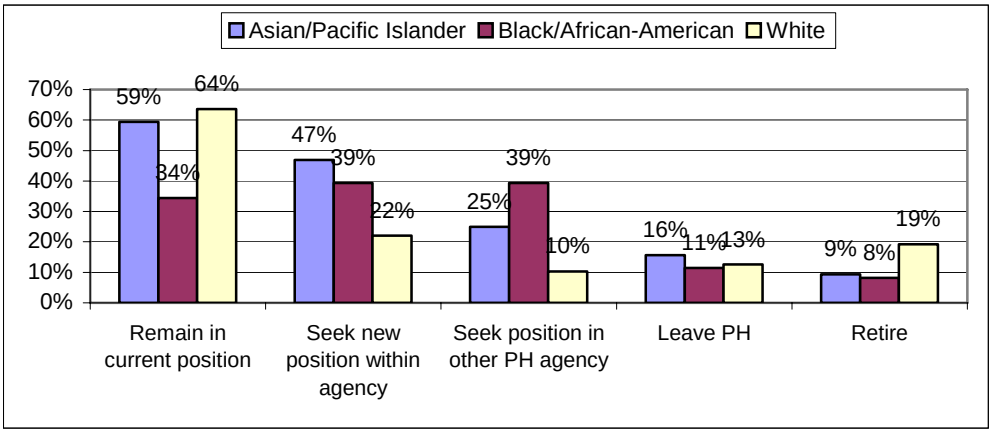


- More than three-quarters of local public health workers older than 65 (76%) reported retirements plans.
- Nearly half of public health workers between the ages of 55 and 64 (47%) also planned to retire within the next five years.

7. Nearly 20% of public health workers younger than age 34 reported plans to leave the field of public health within the next five years.

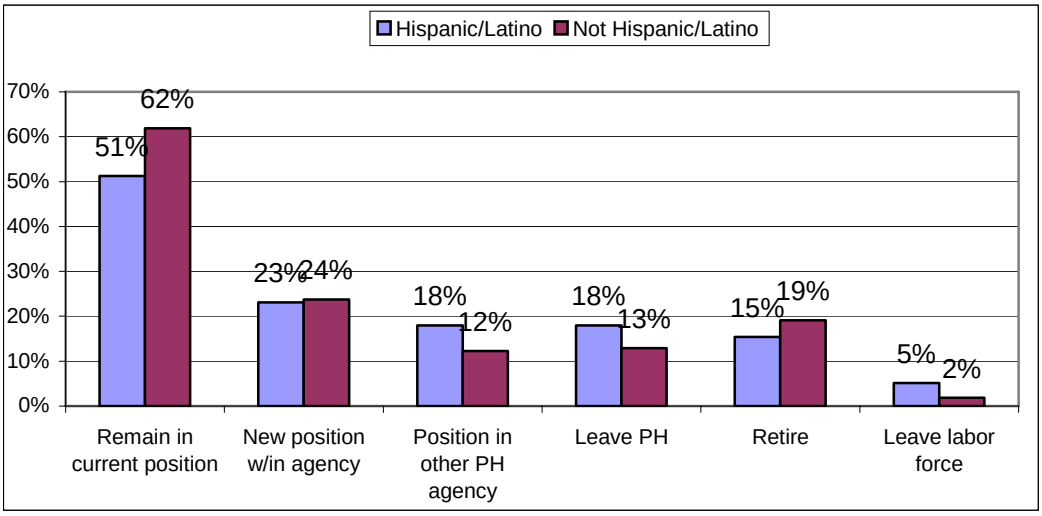
- Younger public health workers were most likely to leave the field of public health.
- Asian public health workers were the ethnic group most likely to report plans to leave public health, 16% compared to 11% of Black/African-Americans and 13% of non-Hispanic Whites.

Figure 13: Career Plans of LHD Employees by Race, New York, 2006 (N = 1430)



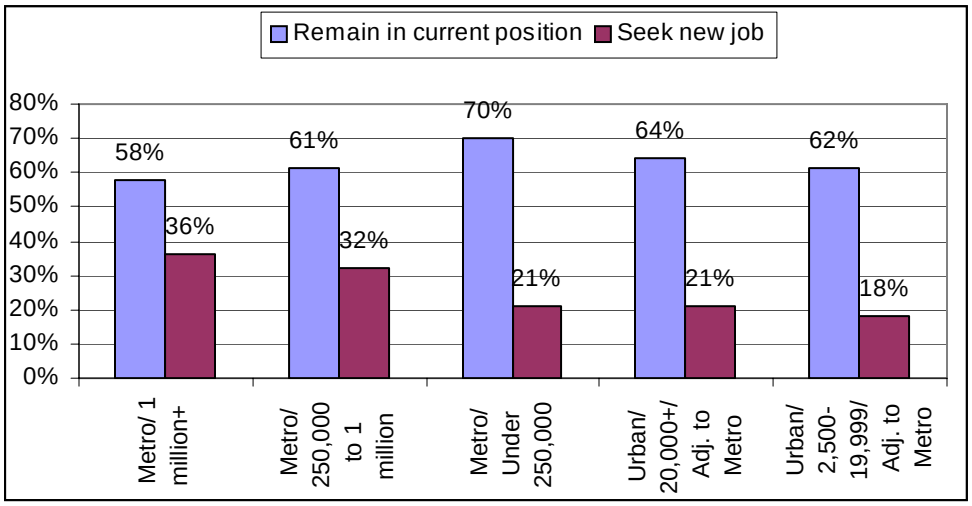
- Hispanic/Latino public health workers were more likely than non-Hispanic public health workers to report plans to leave the field of public health.

Figure 14: Career Plans of LHD Employees by Ethnicity, New York, 2006 (N = 1337)



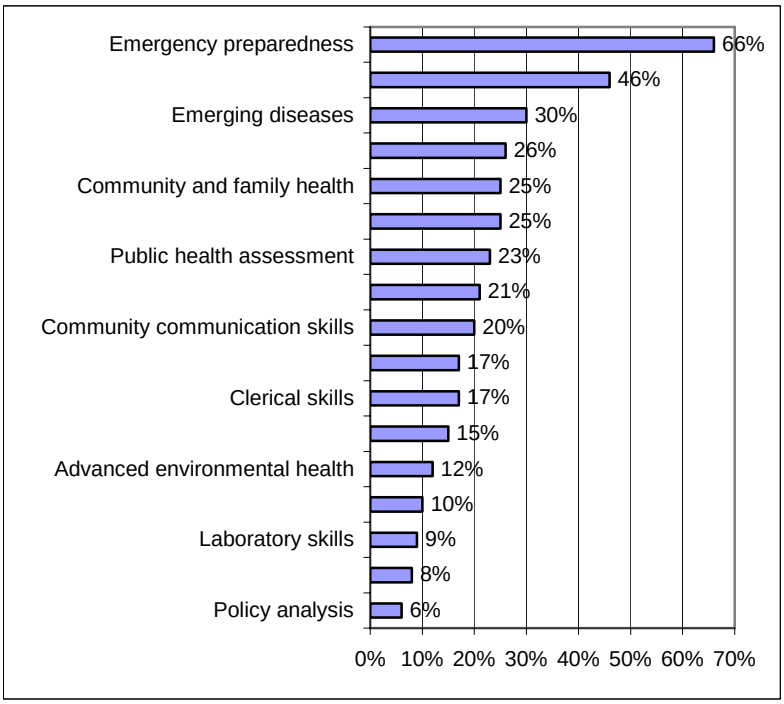
8. Local public health workers in larger, more urban local health departments were less likely to report plans to remain in their current positions and more likely to report plans to pursue new job opportunities within their agencies.

Figure 15: Career Plans of LHD Employees by Rural or Urban, New York, 2006 (N = 1424)



9. The majority of public health workers (66%) reported receiving training in emergency preparedness, but also reported the need for additional training.

Figure 16: Areas in Which LHD Employees Received Training in the Past Two Years, New York, 2006 (N = 1456)



10. Most public health workers who reported any job responsibilities in the areas of executive leadership, policy analysis, or clinical services did not receive any continuing education in these areas within the past two years.

Table 1: Percent of LHD Employees Performing Selected Roles Who Have Received Training in the Area of That Role

Role	Have received training in this area	Would like additional training in this area
Executive leadership	20%	25%
Policy analysis	10%	23%
Clerical services	27%	9%
Communication[2]	32%/34%/34%	18%/16%/18%
Management	43%	22%
Public health assessment	36%	21%
Communicable and Infectious Disease[3]	64%/44%	21%/22%
Environmental health[4]	40%/24%	19%/22%
Community and Family Health	38%	20%
Clinical	16%	16%
Laboratory	19%	15%

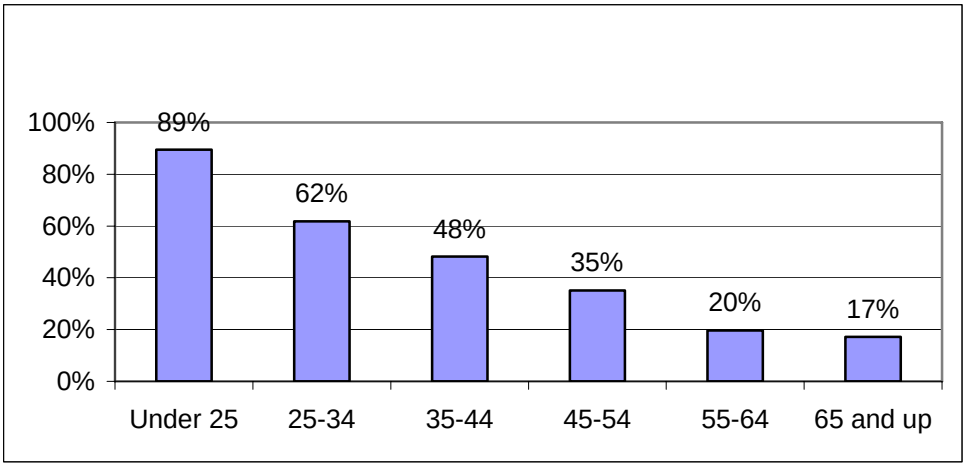
- About 10% of public health workers reporting policy analysis responsibilities received training on this topic in the past two years.
- Only 16% of public health workers reporting clinical responsibilities received training in the area of clinical services within the past two years.
- About 20% of public health workers reporting executive leadership responsibilities received training on this topic in the past two years.

11. More than one-third of local public health workers were interested in pursuing advanced education.

- The likelihood that a local public health worker reported interest in pursuing advanced education declined with age. The majority of local public health workers younger than age 35 would like to pursue an additional degree. However, two-thirds (66%) of public health workers who reported interest in pursuing an advanced degree were between the ages of 35 and 54.

[2] Trainings related to the communication role are communication skills with the media, in the workplace, and with the community, respectively.
[3] Trainings related to roles in communicable and infectious disease are communicable/infectious diseases and emerging diseases, respectively.
[4] Trainings related to roles in environmental health are introduction/overview and advanced topics in environmental health, respectively.

Figure 17: Percent of LHD Employees Interested in Pursuing an Additional Degree by Age, New York, 2006 (N = 1480)



- Local public health workers with fewer years of experience in public health or in their current job were more likely to report interest in advanced education.

I. INTRODUCTION

The Center for Health Workforce Studies, in collaboration with the New York State Department of Health (DOH) and the New York State Association of County Health Officials (NYSACHO), is conducting a functional enumeration of New York's local public health workforce. As part of this effort, a pilot study was conducted. The goal of the pilot study was to test the effectiveness of the survey instrument in producing a detailed description of local public health workers and understand how health workers' composition, roles, educational backgrounds, and training needs affect the organizational capacity of local health departments in New York to perform essential public health services.

The functional enumeration is still underway, but a sufficient number of online and scannable surveys were returned and processed under the pilot study to serve as a basis for this analysis. This report presents findings and recommendations of the pilot study based on survey responses from 1,480 public health workers at 26 local health departments across the state that were received by July 15, 2006. Results were tabulated using SPSS frequency, descriptive, and cross tabulation functions.

Methodology

All local health departments (LHDs) in New York were invited to participate in the survey. Contacts were identified and asked for a headcount of all employees. LHDs were offered a choice of paper or online versions of the survey, with an option of using both. The objective was to include all LHD employees other than in home health agencies,[5] including part time and temporary and per diem workers.

This document outlines results from the pilot study conducted with 26 county health departments in New York. The Albany County Department of Health was the first LHD to participate in the pilot study and provided valuable feedback on approaches to improve the survey process. The largest LHD in the state, the New York City Department of Health did not participate in the pilot study. Results were tabulated through SPSS using frequency, descriptive, and cross tabulation functions. A total of 1,480 individual participated in the survey.

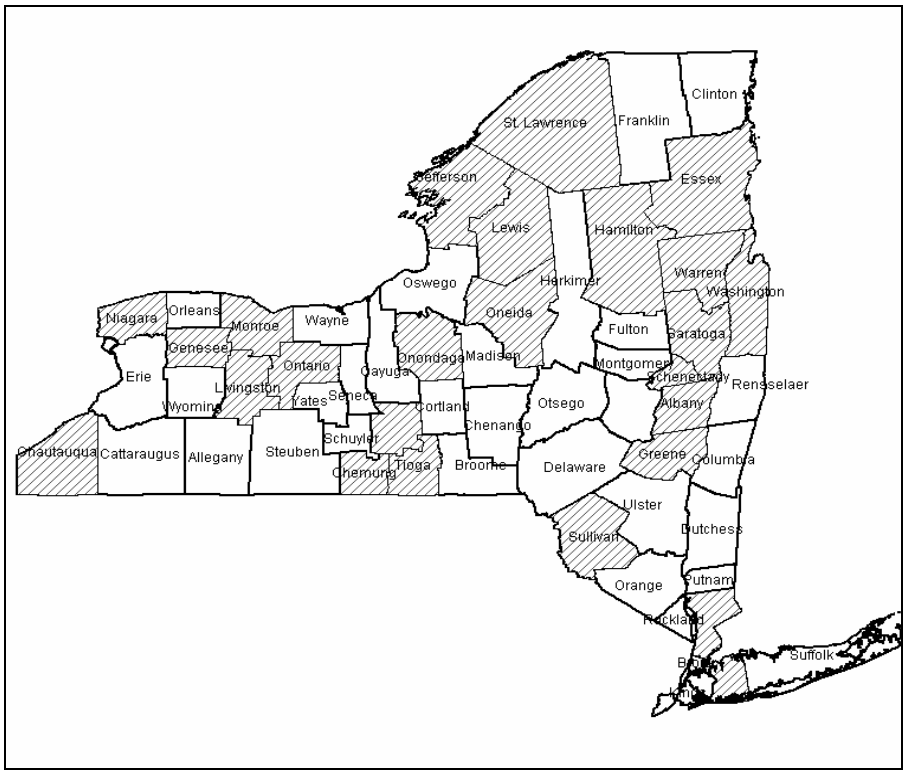
[5] Smaller LHDs were offered the option of including their home health workers for the purposes of providing the LHD administration with a statistical profile of their workforce; these workers were not included in the analyses presented in this report. At least one county was not able to separate their home health and public health workforce, and so a small number of respondents included in the analyses may work some or all of their hours in home health.

Table 2: Local Health Departments, Counts, and Response Rates as of 7/15/06

LHD	# of employees	# of respondents	Response Rate		LHD	# of employees	# of respondents	Response Rate
Albany	103	81	79%		Oneida	95	62	65%
Chautauqua	80	58	73%		Onondaga	407	367	90%
Chemung	70	46	66%		Ontario	9	6	67%
Essex	14	11	79%		Saratoga	66	13	56%
Genesee	33	30	91%		Schenectady	54	29	54%
Greene	56	43	77%		St. Lawrence	36	35	97%
Hamilton	4	3	75%		Sullivan	79	43	54%
Jefferson	100	79	79%		Tioga	50	2	4%
Lewis	40	31	78%		Tompkins	79	72	91%
Livingston	30	21	70%		Warren	40	33	83%
Monroe	248	126	51%		Washington	12	11	92%
Nassau	370	65	18%		Westchester	350	99	28%
Niagara	120	44	37%		Yates	16	14	88%

Note: Response rates were as of 7/15/06 and were not complete for all participating counties. Many larger LHDs started later and the survey is still in the field as of the writing of this report.

Figure 18: Distribution of Participating LHDs



Note: Counties that are shaded include participating health departments.

The counties included in the survey were diverse, in terms of their size as well as their location. In these analyses, rural or urban was measured in terms of Rural/Urban Continuum Codes (RUCCs).[6]

- Of the sixteen counties classified as metropolitan, six had a population of more than one million, six had a population between 250,000 and one million, and four had a population of less 250,000.

- Of the eight counties classified as non-metropolitan but adjacent to a metropolitan area, four had an urban center with a population of more than 20,000 and four had an urban center with a population of 2,500 to 19,999.

- One county was classified as non-metropolitan and *not* adjacent to a metropolitan area (this county had an urban center with a population of greater than 20,000).

- One county was classified as rural.

These are the categories of RUCC that were used throughout the report as measures of rural or urban status. Because of the small cell size, the counties in the latter two bullets were not included in the rural/urban analysis.

Limitations

The data included in this report have several important limitations, and all findings should be considered preliminary. First of all, these data did not represent the universe of all LHDs in New York, and were not comprehensive within all counties. The largest LHD in the state, the New York City Department of Health was not represented, and several other large counties had only just begun to participate in the survey when the pilot study data were compiled for this report. Consequently, these findings may not be representative of all LHDs in the state, or all employees within LHDs. An analysis of the data from the full enumeration survey, once completed, should provide a clearer picture of the New York LHD workforce, although the goals of 100% LHD participation and 100% employee participation within LHDs are unlikely to be achieved for the full enumeration.

Another consideration is that all survey responses were self-reported. Formal job titles and job responsibilities were not cross-checked against any other data source. This raises the possibility that some of the questions were not answered and sometimes questions were not well understood. When many respondents appeared to have misunderstood a particular question, this was noted in the text of the report; however individual variations in question interpretation could not be controlled.

[6] RUCC codes form a classification scheme that distinguishes metropolitan (metro) counties by the population size of their metro area, and nonmetropolitan (non-metro) counties by degree of urbanization and adjacency to a metro area or areas. The metro and non-metro categories have been subdivided into three metro and six non-metro groupings, resulting in a nine-part county codification. United States Department of Agriculture, Economic Research Service, 2004.

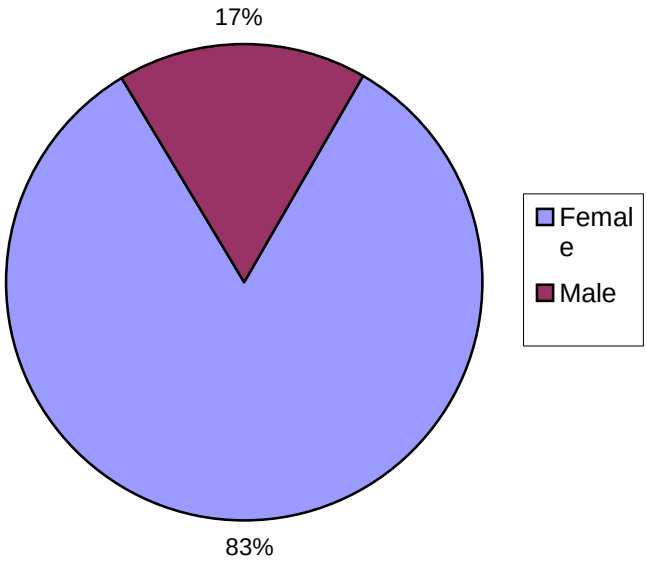
Finally, not all available data were included in the pilot database. A number of survey questions allowed respondents to write in responses -- sometimes to clarify a response of "other" and sometimes to provide information where a comprehensive list was impossible to provide (e.g., the field in which they hold a degree). For the paper surveys, these responses required hand-entry, which has not yet been completed.

II. CHARACTERISTICS OF THE WORKFORCE

Demographics

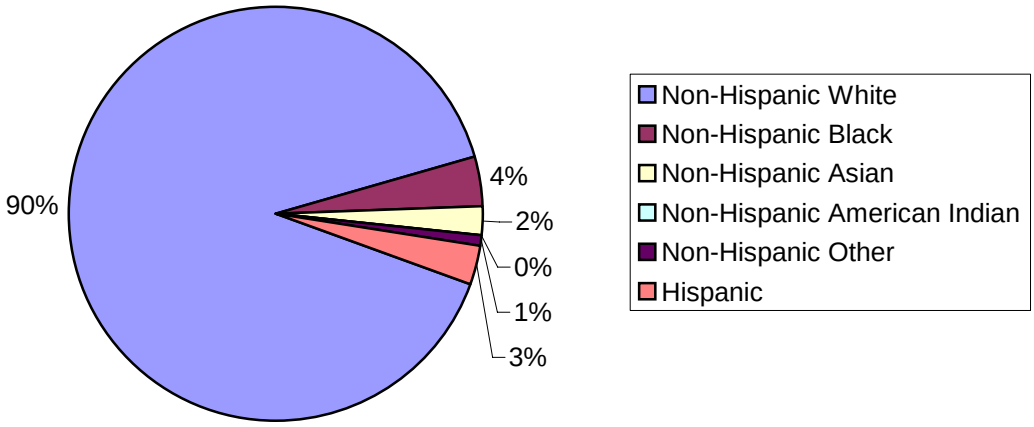
The vast majority of LHD employees were non-Hispanic White and female. Only 17% of LHD employees were men and 91% were non-Hispanic White, as shown in Figure 20. Minorities in general were underrepresented in the workforce, but Blacks/African-Americans and Hispanics/Latinos were particularly underrepresented (4% and 3%, respectively) when compared to their overall representation in the population of the state.[7]

Figure 19: Gender Distribution of LHD Employees in New York, 2006 (N = 1456)



[7] Blacks/African-Americans account for 18% of the state's population, Hispanics/Latinos account for 16% of the population. U.S. Census Bureau, 2004.

Figure 20: Racial and Ethnic Distribution of LHD Employees in New York, 2006 (N = 1430)

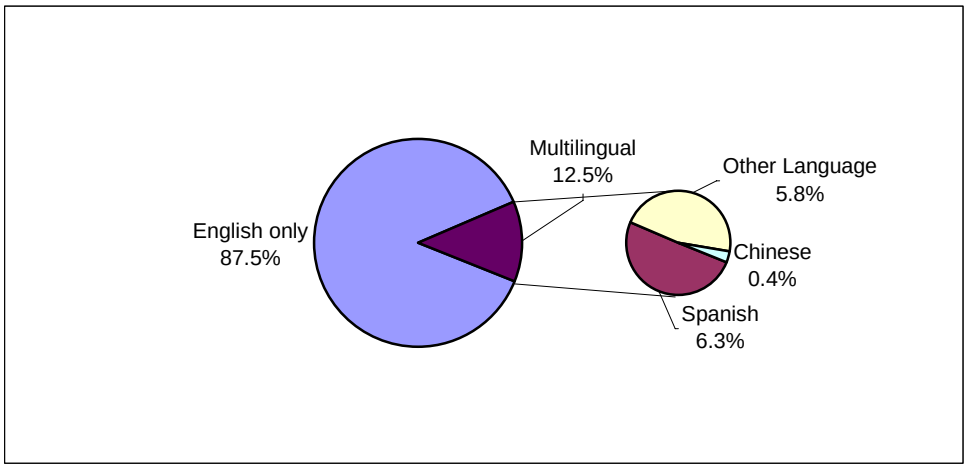


Not surprisingly, the workforce was more diverse in larger metropolitan counties, although even in the largest counties (metropolitan with a population of more than one million), the workforce was 84% non-Hispanic White (compared to 72% of the population of those counties).

Twelve percent of the workforce reported the ability to speak a second language compared to 15% of the population in the 26 counties that spoke a language other than English at home in 2000.[8] In the larger metropolitan counties, 18% of the workforce was bilingual.

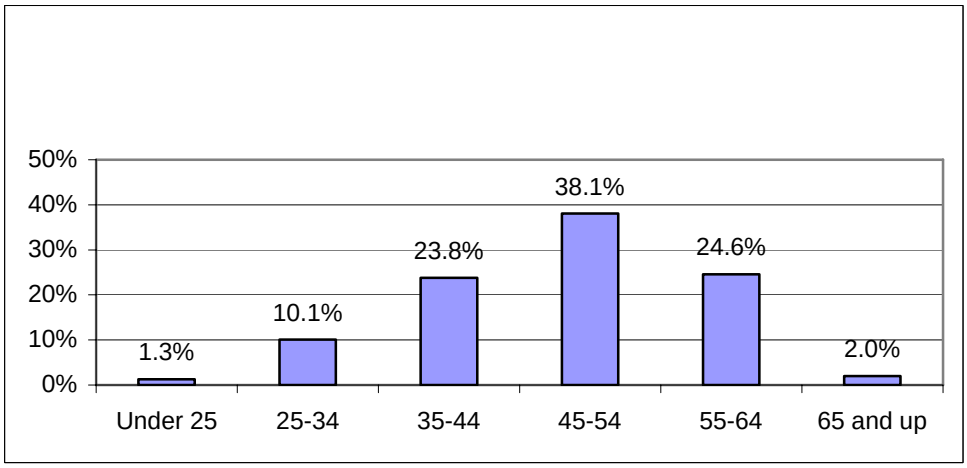
[8] U.S. Bureau of the Census, 2000.

Figure 21: Languages Spoken by LHD Employees, New York, 2006 (N = 1439)



The median age of the local public health worker was 49. Very few LHD employees were age 25 or younger (1.3%), and 10% were between the ages of 25 and 34. The largest group of LHD employees was 45 to 54 years old, comprising 37% of the workforce. Nearly two-thirds of the workforce was age 45 and older. There was little variation in age of the workforce by either the size or geographic location of the county.

Figure 22: Age Distribution of LHD Employees, New York, 2006 (N = 1428)



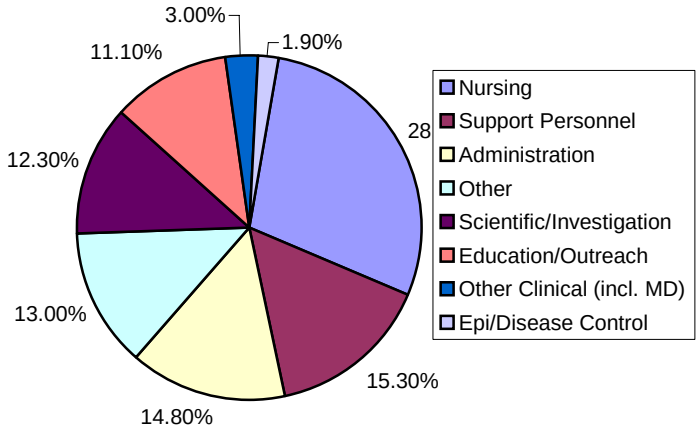
Formal Job Title

The survey asked respondents to identify their specific job title within general groups of formal job titles (e.g., health educator, nutritionist, and public health representative were specific titles listed within the category of Education/Outreach). Both specific job titles and general categories of titles were analyzed throughout the report. For a complete list

of job title categories and specific job titles, see page 3 of the survey instrument in the report Appendix.

The most common category of job title was Nursing (28.6%, compared to 24.4% in LHDs nationally[9]), followed by Support Personnel (15.3%) and Administration (14.8%).

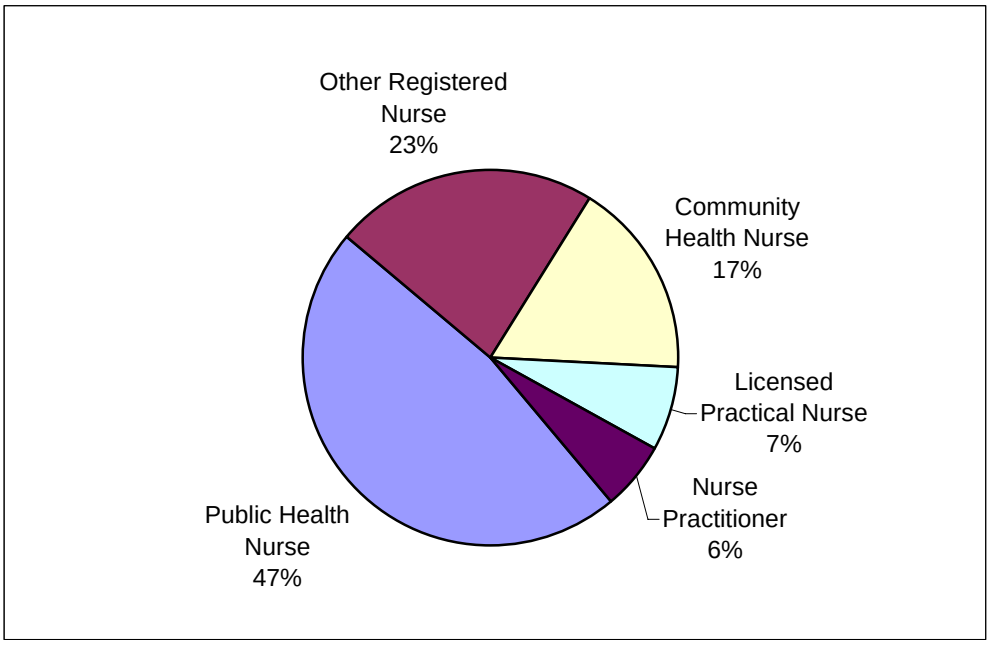
Figure 23: Formal Job Titles of LHD Employees Group (N = 1244)



Nurses most commonly described themselves as Public Health Nurses (47.2%), or Other Registered Nurses (22.8%). Seventeen percent of nurses were Community Health Nurses. Very small numbers reported they were Licensed Practical Nurses (7.3%) or Nurse Practitioners (5.9%).

[9] NACCHO, 2005. National Profile of Local Health Departments, pg. 34.

Figure 24: Specific Job Titles of LHD Employees in Nursing Jobs, New York, 2006 (N = 356)



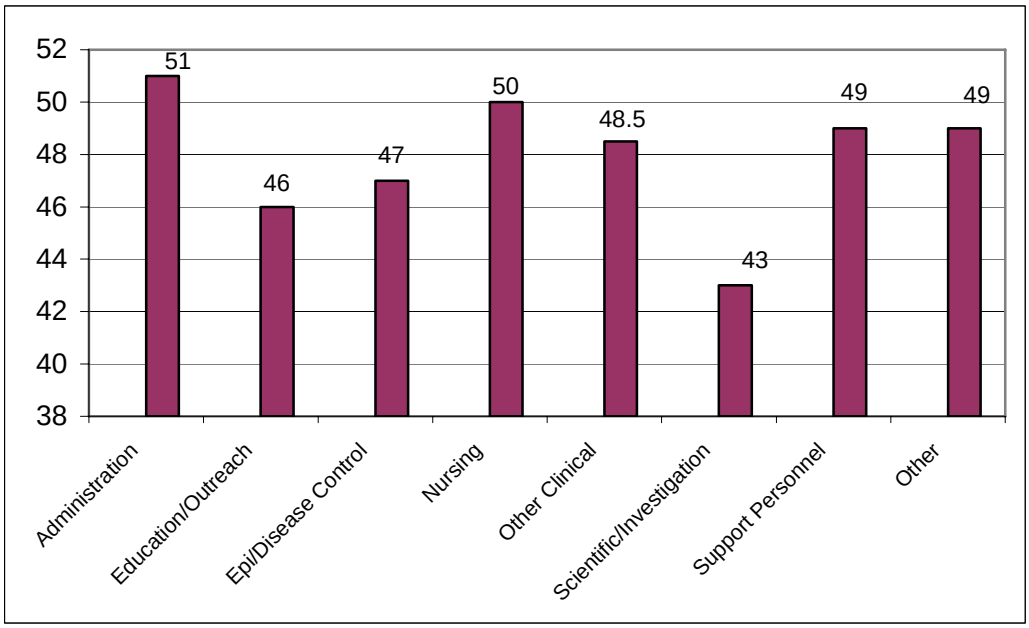
The vast majority of Support Personnel (90%) described themselves as Support Staff, while 5% reported they were Program Aides, and 5% reported they were Public Health Assistants.

Most administrators were either Administrators/Public Health Leaders (39.1%) or Program Coordinators (35.9%), while 10.9% were environmental program managers. Nearly half of those in Scientific/Investigation (42.5%) were Sanitarians.

Staffs with Education/Outreach and Epidemiology/Disease Control titles were the most diverse, (19.1% and 20.8% non-White, respectively). They were also most likely to be bilingual (18.8% and 17.4%, respectively). Women constituted the majority of workers in all job title groups except Scientific/Investigation, which was about 55% male.

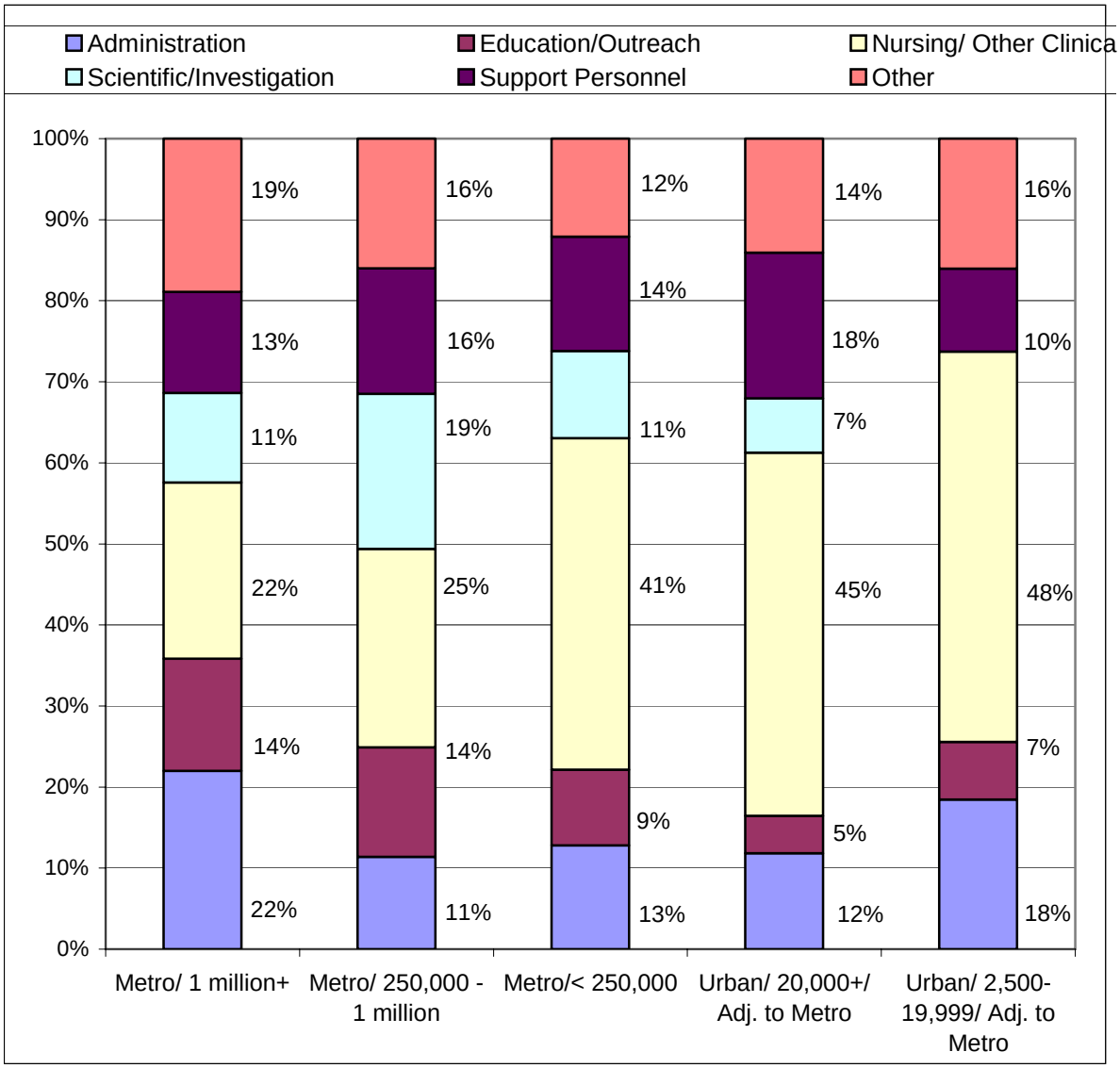
Administrators were among the oldest public health workers, with a median age of 51, followed by nurses with a median age of 50. Workers in Scientific/Investigation titles tended to be the youngest, with a median age of 43.

Figure 25: Median Ages of LHD Employees by Job Title Group, New York, 2006 (N = 1227)



There was some variation in staffing patterns by the size of the county -- smaller, rural LHDs had a greater percent of staff in nursing and other clinical titles compared to larger urban LHDs, and less staff in Scientific/Investigation titles, as shown below in Figure 26.

Figure 26: Staffing Patterns of LHDs by Rural or Urban, New York, 2006 (N = 1225)



Credentials

Many public health workers were licensed or registered by the state as health professionals. Licensed registered nursing was the health profession most commonly found in LHDs. Nearly one-third of LHD employees were registered nurses (RN), although not all reported working in nursing titles. The majority of those holding a RN licenses were in nursing titles (76.9%), while 14.8% were in administrative titles. Other clinical credentials included licensed practical nursing, medicine, nurse practitioner, master or clinical social worker, and registered physician assistant.[10] Nine percent of

[10] For a complete list of specific clinical credentials, see item 9 in the survey instrument in the Appendix.

LHD employees held a clinical credential other than RN,[11] and only 1% of employees were licensed physicians.

Understanding the credentials held by various types of job titles was revealing in terms of the types of opportunities for clinical professionals within LHDs.

- The most common credential held by administrators was licensed registered nurse. Thirty-four percent of those in administration job titles were credentialed as RNs, while 13% reported another specific clinical credential.

- Seven percent of those in Education/Outreach titles were credentialed as licensed RNs, and 20% held another clinical credential.

- Forty-six percent of those in Epidemiology/Disease Control titles were licensed RNs.

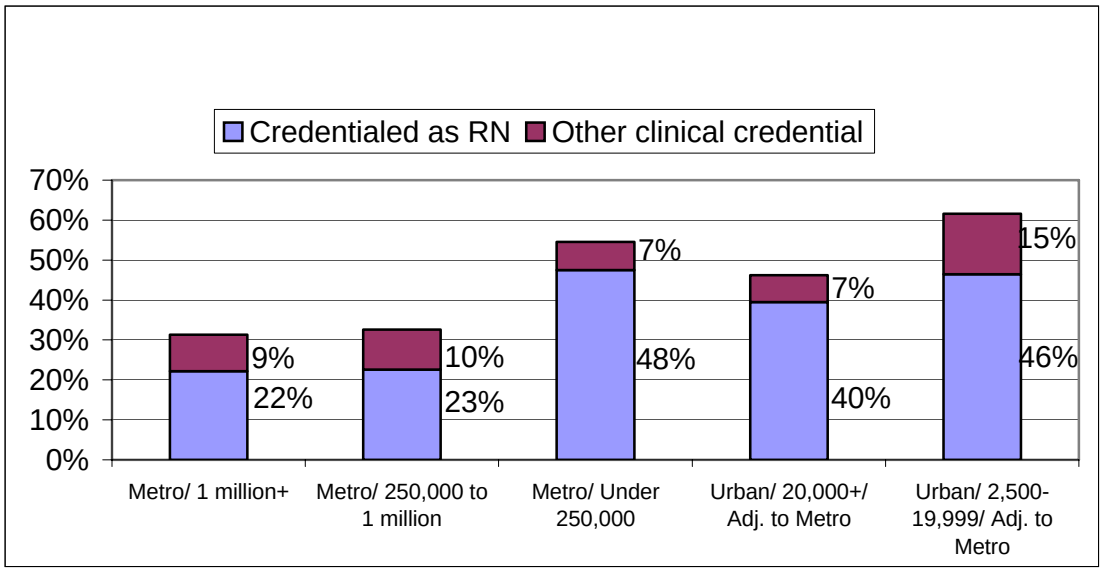
- Those in Other Clinical job titles were most likely to hold a specific clinical credential other than nursing (22%), while 25% reported holding a credential not otherwise specified.

Very few personnel in Scientific/Investigation titles were credentialed as licensed RNs (2%) or held another specific clinical credential (1%).

It is worth noting that RNs were represented in many job titles in all agencies, but this was especially true in smaller, rural counties where 46% of employees were RNs (compared to 33% nationally[12]) and another 15% had another clinical credential. In the larger, urban counties 22% of employees were RNs (consistent with 22% nationally[13]) and 9% had another clinical credential.

[11] "Other clinical credential" was defined here as any specific credential included in Question 9 except for registered nurse and professional engineer. Credentials other than those specified (e.g., write-in responses) were not included.
[12] NACCHO, 2005. National Profile of Local Health Departments, pg. 34. This was based on a somewhat different breakdown of county size: <25,000; 25,000-49,999; 50,000-99,999; 100,000-499,999; and 500,000+.
[13] Ibid

Figure 27: Percent of LHD Employees with RN or Other Specific Clinical Credential, by Rural or Urban Status, New York, 2006 (N = 1480)



Note: A small number of employees were double-counted in this figure, because some RNs also held another clinical credential (amounting to 2% of LHD employees and 7% of all RNs).

Table 3: Percent of Public Health Workers by Job Title Categories With A Bachelor's Degree or Higher, New York, 2006

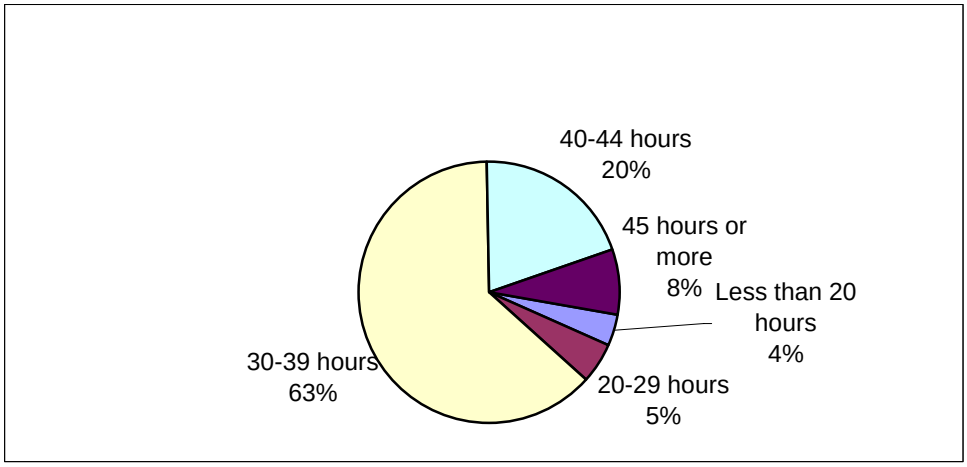
Scientific Investigation	80%
Administration	75%
Epidemiology/Disease Control	69%
Education/Outreach	63%
Nursing	53%
Other	39%
Other Clinical	22%
Support Personnel	18%

Employees in the job categories of Support Personnel, Other Clinical, And Other were the least likely to possess a bachelor's degree or higher. Employees in the categories of Scientific Investigation, Administration, And Epidemiology/Disease Control were the most likely to hold a bachelors degree or higher. Only 2% of public health workers possessed a master's of public health degree, and one-third of them worked in administrator or public health leader positions.

Hours Worked

The median number of hours per week worked by LHD employees was 35. Only 4% worked fewer than 20 hours per week, and another 5% worked 20-29 hours per week. Sixty-three percent worked 30-39 hours, 20% worked 40-44 hours, and 8% worked 45 hours or more.

Figure 28: Average Hours Worked Per Week by LHD Employees, New York, 2006 (N = 1431)



III. FUNCTIONS OF THE WORKFORCE

Respondents were asked to indicate the percent of their time in 10-20% increments in a typical month that they spent on each of 35 responsibilities within 16 public health roles.[14] Unfortunately, the structure of the question was broadly misunderstood by a large number of respondents with many indicating they spent more than 80% of their time on several responsibilities (up to several hundred percent of their time). As a result, actual reports of time spent were deemed unreliable for a substantial portion of respondents. All discussions of roles and responsibilities were based on whether employees reported spending *any* of their time on a given responsibility, rather than the amount of time spent.

The broad nature of duties within a LHD was highlighted by the fact that clerical duties were the responsibility reported by the greatest percent (47%) of LHD employees. This was followed by health education (reported by 42% of LHD employees) and disseminating public health information (reported by 37% of LHD employees).

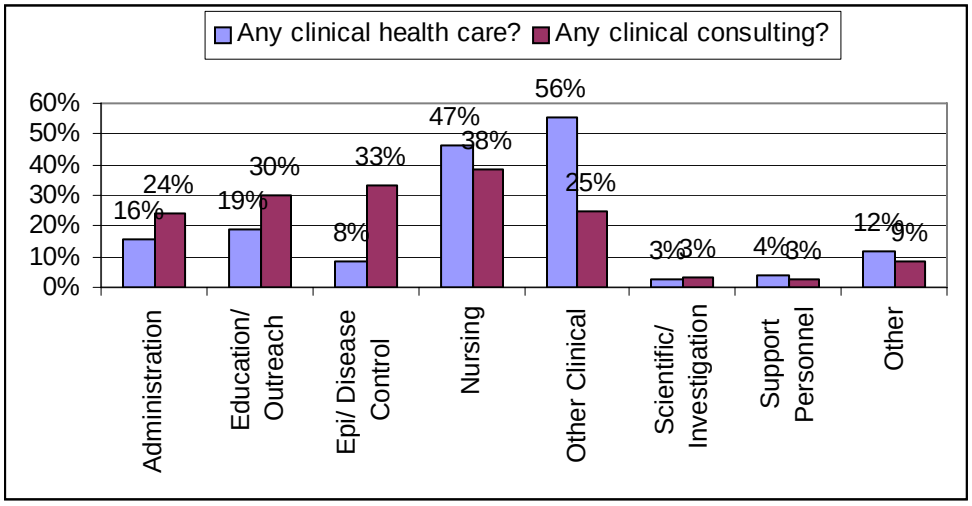
[14] 1-19%, 20-39%, 40-59%, 60-79%, or 80-100%.

Table 4: Percent of LHD Employees Spending Any Time Performing the Following Responsibilities (N = 1456)

Clerical services	47%	Clinical health care	22%
Health education	42%	Information technology	22%
Disseminating information	37%	Disease surveillance	21%
Educ./services to reduce risks	36%	Clinical consulting	21%
Collect and analyze data	35%	Communicate urgent messages	21%
Workforce development/mgmt	34%	Threat response planning	20%
Outreach services	33%	Select PH priorities	19%
Policy analysis	31%	Enforce EH regulations	18%
Communication	31%	Investigating outbreaks	18%
Executive leadership	30%	Use tracking system	17%
Community assessment	30%	Tracking environmental illness	16%
Addressing prevention priorities	29%	Setting environ. health priorities	13%
Environmental health education	27%	Other responsibilities	13%
Program evaluation	26%	Risk communication	12%
Planning for environ. events	24%	Regulate EMS	11%
Monitoring chronic disease	24%	Testing/handling specimens	11%
Reporting notifiable disease	23%	Facility maintenance	9%

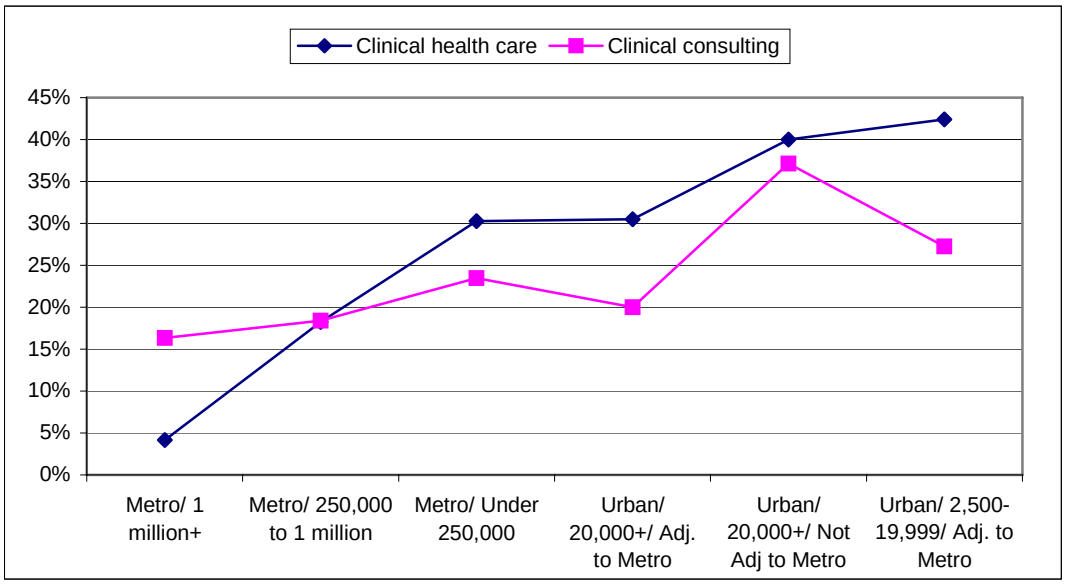
Perhaps the largest differentiation in functions, however, was between clinical and non-clinical functions. Twenty-two percent of LHD employees indicated they spent some time "providing health care services in a clinical setting or on a home visit basis," and 21% indicated they spent some time "providing clinical consultations." The likelihood of providing clinical care varied, however, by both job title and rural or urban context. Those in Nursing and Other Clinical job titles were most likely to provide clinical care, although fewer than half (47%) of those in Nursing titles reported that they did.

Figure 29: Percent of LHD Employees by Job Title Group Performing Any Clinical Function, New York, 2006 (N = 1244)



It was also clear that clinical functions were more common among employees in smaller, more rural LHDs, as shown below in Figure 30.

Figure 30: LHD Employees Performing Clinical Functions by Rural or Urban, New York, 2006 (N = 1424)



The relationship between job titles and job responsibilities varied somewhat by county size. Perhaps the most notable finding was that almost all job titles groups were more likely to report providing clinical care in smaller, more rural counties. Large percentages of employees doing clinical care or consulting implied that rural LHDs were providing different services than were urban LHDs.

Table 5: Percent of Job Titles Group in LHD by Rural or Urban, New York, 2006 (N = 1225)

	Metro/1 million+	Metro/250,000 to 1 million	Metro/Under 250,000	Urban/20,000+/Adj. to Metro	Urban/2,500-19,999/Adj. to Metro
Administration	10%	13%	26%	17%	39%
Education/Outreach	3%	21%	21%	33%	43%
Epi/Disease Control	0%	13%	*	*	*
Nursing	3%	52%	57%	54%	68%
Other Clinical	*	38%	60%	89%	44%
Scientific/Investigation	0%	4%	0%	0%	*
Other	6%	15%	18%	8%	14%

* Data was suppressed because there are fewer than 5 cases.

Sixty percent of those providing clinical care were licensed as RNs, while another 21% held another clinical credential. Still, it was striking to note that 60% of RNs and 55% of those with other clinical credentials did *not* report providing clinical services.

IV. TRAINING NEEDS

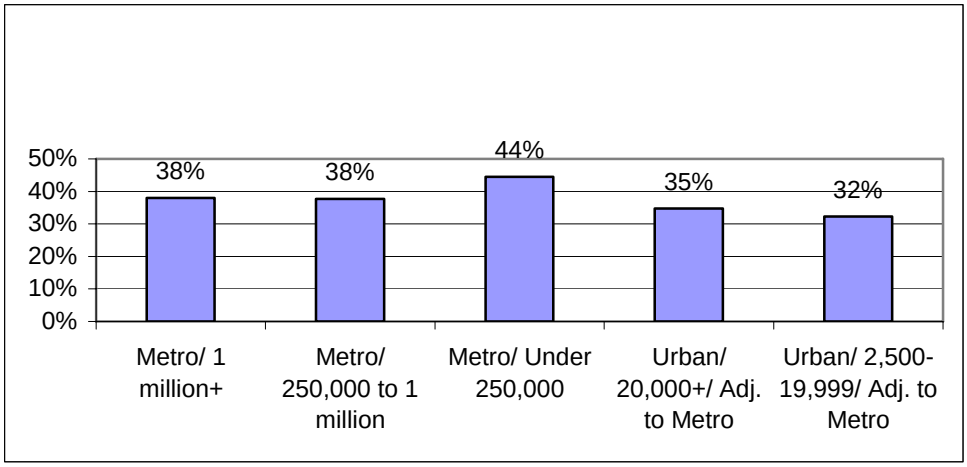
Future Education

Overall, 37% of LHD employees were interested in pursuing an additional educational credential.

- Twelve percent of employees were interested in pursuing another bachelor's degree including three employees (2%) who were interested in public health degrees.
- Eighteen percent of employees were interested in pursuing another master's degree including 27 employees (10%) who were interested in public health related degrees.
- Five percent of employees were interested in pursuing doctoral degrees including 11 employees (15%) who were interested in public health related degrees

There was little systematic variation in interest in pursuing an additional degree. Regardless of rural or urban location, at least one-third of all LHD employees were interested in pursing an additional degree, with the highest percentage ranging from a high of 44% (metro/under 250,000) to a low of 32% (urban/2,500-19,999).

Figure 31: Percent of LHD Employees Interested in Pursuing an Additional Degree by Rural or Urban, New York, 2006 (N = 1480)



The type of degree public health workers were interested in pursuing depended largely upon their current educational attainment. Some of those with high school diplomas were interested in pursing an associate degree (16%), while others were interested in pursuing bachelor's degrees (14%). Similarly, those with a certificate or diploma regarded the associate or bachelor's degree as a possible next step (both 16%). Those who held an associate degree were primarily interested in pursing a bachelor's degree (40%), while those with a bachelor's degree were interested in pursuing a master's degree (36%).

Table 6: Percent of LHD Employees Interested in Additional Education by Their Highest Educational Attainment, New York, 2006 (N = 1480)

	Additional certificate/ diploma	Additional Associate	Additional Bachelor's	Additional Master's	Additional Doctorate	Any additional education
High school diploma	6%	14%	12%	3%	0%	31%
Certificate	5%	16%	16%	*	*	35%
Associate	*	4%	40%	7%	*	43%
Bachelor's	3%	*	5%	36%	3%	41%
Master's	2%	0%	*	17%	18%	34%

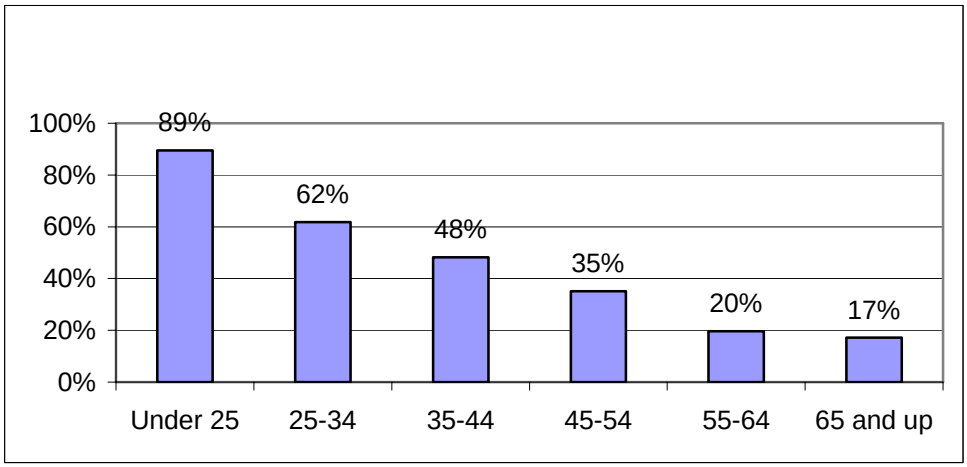
*Fewer than five cases

The likelihood that a LHD employee was interested in pursing an additional degree declined with age, as shown below in Figure 32. A majority of LHD employees younger than age 35 wanted to pursue an additional degree. In addition, two-thirds (66%) of those who were interested in pursuing another degree were between the ages of 35 and 54.

Those with less experience in public health or in their current job were also more likely to want additional education, but this was not surprising given that the less experienced workers also tended to be younger. Employees interested in more education had been at

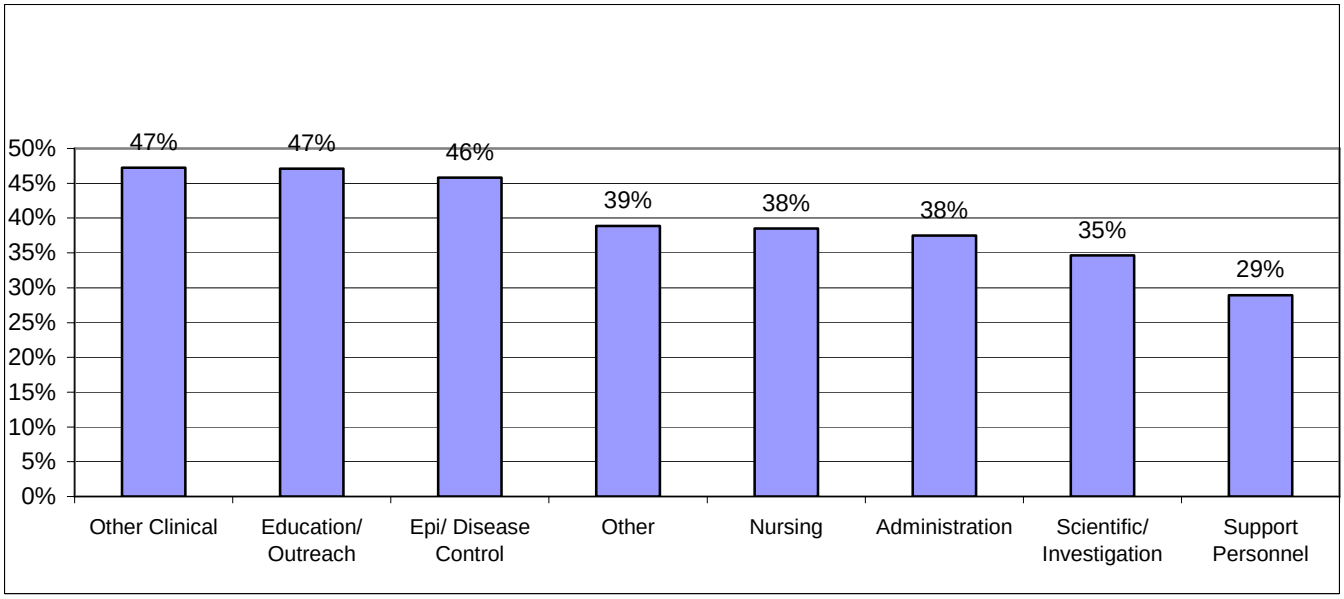
their current jobs for about five years, compared to eight years for those not interested in further education.

Figure 32: Percent of LHD Employees Interested in Pursuing an Additional Degree by Age, New York, 2006 (N = 1480)



A significant percent of employees across all job title groups were interested in pursuing additional degrees. More than 45% of employees in the job title groups Other Clinical, Education/Outreach, and Epidemiology/Disease Control, and more than one-third in all other job groups (except for Support Personnel) were interested in furthering their education.

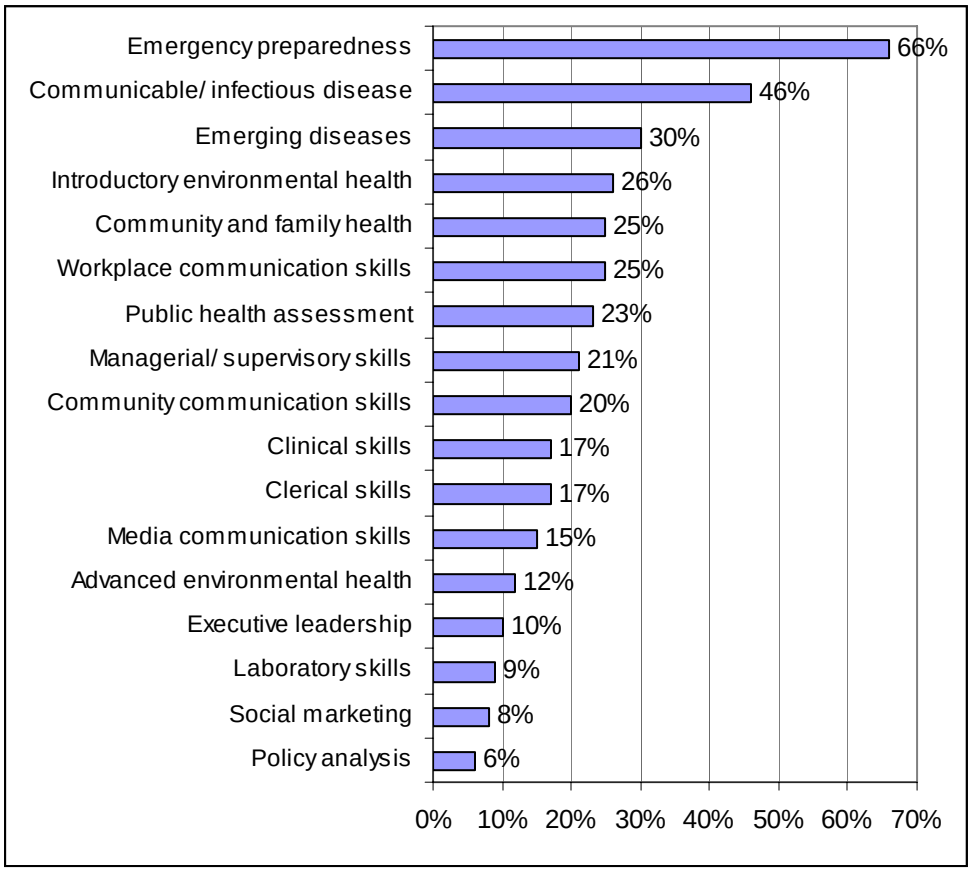
Figure 33: Percentage of LHD Employees Interested in Pursuing Additional Degree by Job Title Group, New York, 2006 (N = 1480)



Continuing Education Received/Desired

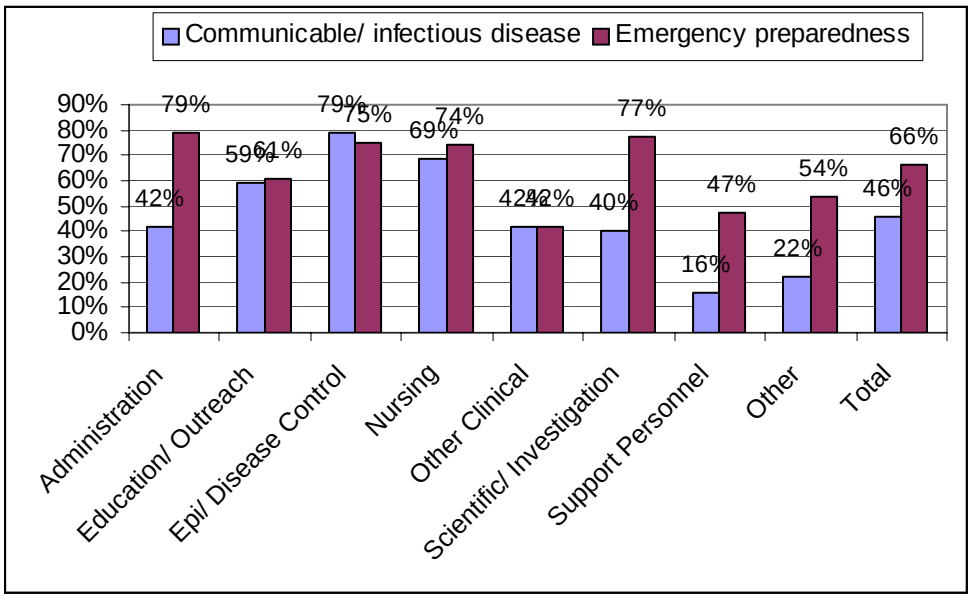
It was clear that emergency preparedness and communicable/infectious disease were the training areas of greatest interest in LHDs. Sixty-six percent of employees reported receiving continuing education (CE) in emergency preparedness, and 46% reported receiving training in communicable/infectious disease. The frequency of both of these types of CE may be influenced by greater funding for and availability of this type of training due to interest generated by current and past issues such as Avian Bird Flu and by mass casualty incidents such as the September 11, 2001 terrorist attacks and the 2005 devastation in New Orleans resulting from Hurricane Katrina.

Figure 34: Areas in Which LHD Employees Have Received Training in the Past Two Years, New York, 2006 (N = 1456)



These were the top areas of CE for employees in all job title groups, although the percent of local public health workers receiving such CE varied by job title. Emergency preparedness CE was most common among those in Administration titles, followed by Scientific/Investigation. Communicable/Infectious Disease CE was most common among those in Epidemiology/Disease Control titles, and those in Nursing titles.

Figure 35: Specific Areas LHD Employees Have Received Training by Job Title Group, New York, 2006 (N = 1480)



The three topics in which public health workers wanted more CE irrespective of whether they had already received training in that area were Emerging Diseases (18%), Managerial/Supervisory Skills (17%), Emergency Preparedness (16%), and Public Health Assessment (16%).

Table 7: Percent of LHD Employees Who Would Like Training In a Role Whether or Not They Had Already Received Training, New York, 2006 (N = 1480)

Would like training in...	Of those who have already received training in this area	Of those who have not yet received training in this area	All
Emerging diseases	26%	14%	18%
Managerial/supervisory skills	17%	17%	17%
Emergency preparedness	16%	16%	16%
Public health assessment	17%	16%	16%
Communicable/infectious disease	18%	12%	14%
Executive leadership	17%	14%	14%
Community and family health	18%	13%	14%
Community communication skills	15%	13%	13%
Policy analysis	10%	13%	13%
Introductory environmental health	14%	12%	13%
Workplace communication skills	9%	13%	12%
Advanced environmental health	21%	11%	12%
Media communication skills	10%	11%	11%
Social marketing	17%	9%	9%
Clinical skills	19%	6%	8%
Clerical skills	13%	4%	6%
Laboratory skills	20%	5%	6%

Many employees performing certain role functions had not received any CE training in that area within the past two years. This was particularly true of those performing policy analysis, clinical roles, and executive leadership functions. Generally, however, public health workers in these roles reported little interest in receiving training in these areas.

Table 8: Percent of LHD Employees Performing Selected Roles Who Have Received Training in the Area of That Role

Role	Have received training in this area	Would like additional training in this area
Executive leadership	20%	25%
Policy analysis	10%	23%
Clerical services	27%	9%
Communication[15]	32%/34%/34%	18%/16%/18%
Management	43%	22%
Public health assessment	36%	21%
Communicable and Infectious Disease[16]	64%/44%	21%/22%
Environmental health[17]	40%/24%	19%/22%
Community and Family Health	38%	20%
Clinical	16%	16%
Laboratory	19%	15%

Mentoring

It was felt that the experience of being mentored or mentoring others was potentially important to ensuring satisfaction and retention of public health employees, and the survey included a question asking about these experiences. The word "mentoring" was intended to connote a formal or informal long-term, one-on-one relationship between a new and an experienced employee in which the experienced employee was personally committed to providing career guidance to the novice. Focus groups with respondents indicated, however, that many respondents interpreted "mentoring" as on-the-job training, which may be both more formal and more short-term than was intended by the use of the word "mentoring" in the survey. Results from the survey question included that:

- Forty percent of employees had been mentored in their public health career;
- Twenty-three percent of employees were interested in being mentored;
- Thirty-eight percent of employees were interested in mentoring others; and
- Forty-seven percent of employees felt a person needs training to be a mentor.
- Thirteen percent of employees did not answer this question.

[15] Trainings related to the communication role were communication skills with the media, in the workplace, and with the community, respectively.
[16] Trainings related to roles in communicable and infectious disease were communicable/infectious diseases and emerging diseases, respectively.
[17] Trainings related to roles in environmental health were introduction/overview and advanced topics in environmental health, respectively.

Having been mentored greatly increased the likelihood that one was interested in mentoring others. Two-thirds (66%) of those who said they were mentored reported interest in mentoring others, compared to only 29% of those who said they were not mentored.

V. RECRUITMENT AND RETENTION

The average LHD employee had worked in their current position for about seven years, and had worked in the agency for about nine years. Sixty-seven percent of LHD employees reported the same amount of time in both their current position and agency, implying that they had not changed jobs. Those who worked in an agency previous to their current position spent about eight years at the previous agency before assuming their current position.

The average LHD employee reported working in public health for about 10 years. Eighty-five percent of employees did not appear to have had prior public health experience before working for their current agency. Those who had worked in public health before their current agency spent about 4.5 years in public health before being hired at their agency.

The majority of LHD employees (68%) reported working in health care other than public health for about six years.

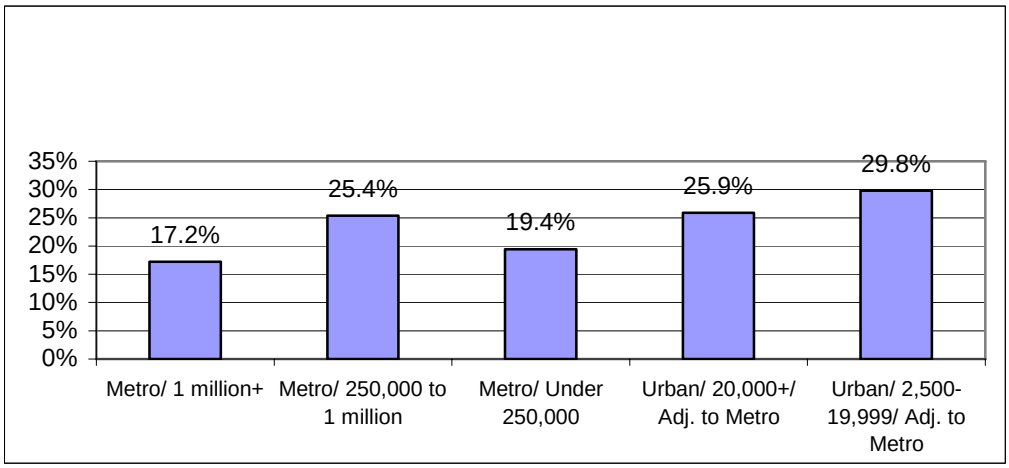
New to the Field of Public Health

Twenty-three percent of public health workers began their careers in public health within the last five years. An additional 25% began employment with their agency in the past five years, while 32% began their current job in the past five years.

Men and women were about equally as likely to report that they were new to public health. Blacks/African-Americans and Asians were much more likely to be new to public health than non-Hispanic Whites (37% and 33%, respectively, versus 22%). Hispanic/Latino public health workers were also more likely to be new than non-Hispanics (29% versus 23%). This suggested that recent recruitment efforts had been more successful at attracting a diverse candidate pool, but may also have indicated that LHDs were not successful at retaining their minority employees. More research is needed on the experiences of minority employees in LHDs.

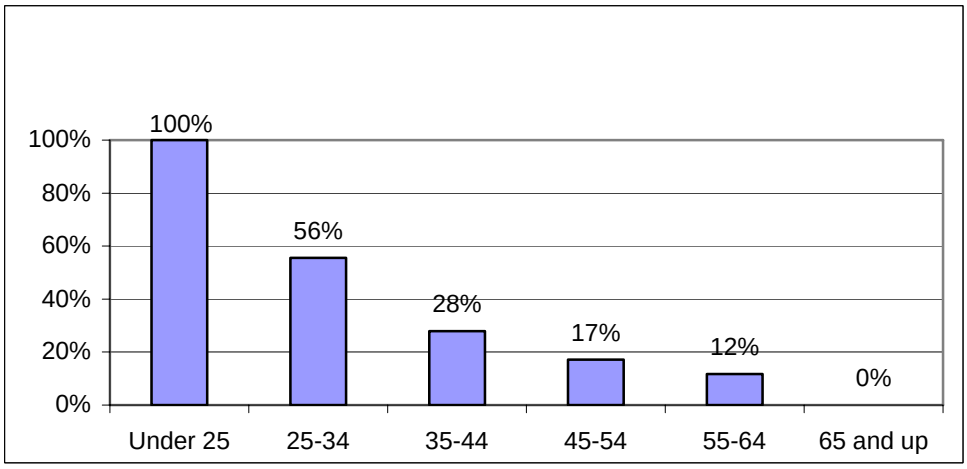
Generally, more rural LHDs tended to have a greater percentage of their workforce as recent recruits into the field of public health than their urban counterparts, as shown below in Figure 36.

Figure 36: Percent of Employee Who Entered Public Health in the Last Five Years by Rural or Urban, New York, 2006 (N = 1355)



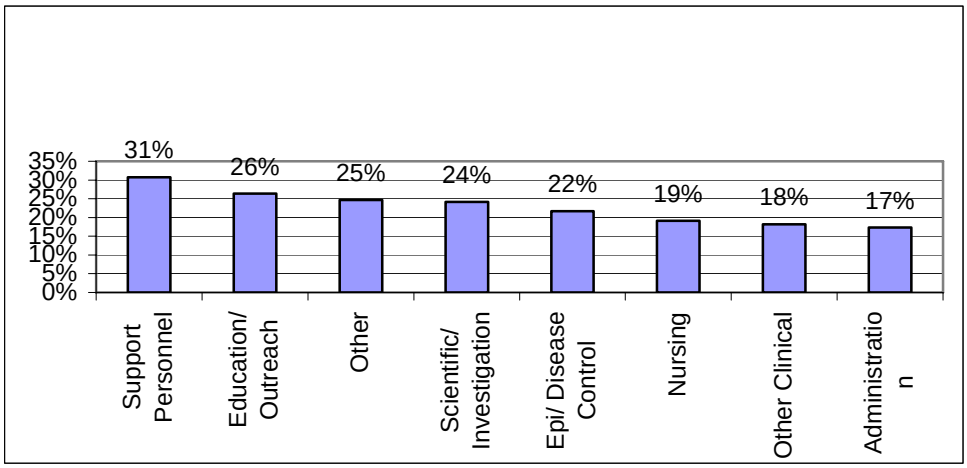
Not surprisingly, recent entry into public health was associated with age -- relatively few public health workers age 45 and older were recent entrants into public health compared to public health workers younger than age 45. It was important to note, however, that while entry into the field of public health appeared more common at younger ages, nearly one in five employees ages 45-54 was new to public health, as was more than one in ten employees ages 55-64. This indicates a potential for the field of public health to recruit workers from other fields as possible second careers.

Figure 37: Percent of LHD Employees Who Entered Public Health Workforce in Past Five Years by Age, New York, 2006 (N = 1361)



Support Personnel and Education/Outreach titles were most likely to be held by people with limited experience in the field of public health, while fewer than one in five LHD employees in Nursing, Other Clinical, or Administration titles were new to public health.

Figure 38: Percent of LHD Employees New to Public Health in Last Five Years, New York, 2006 (N = 1187)

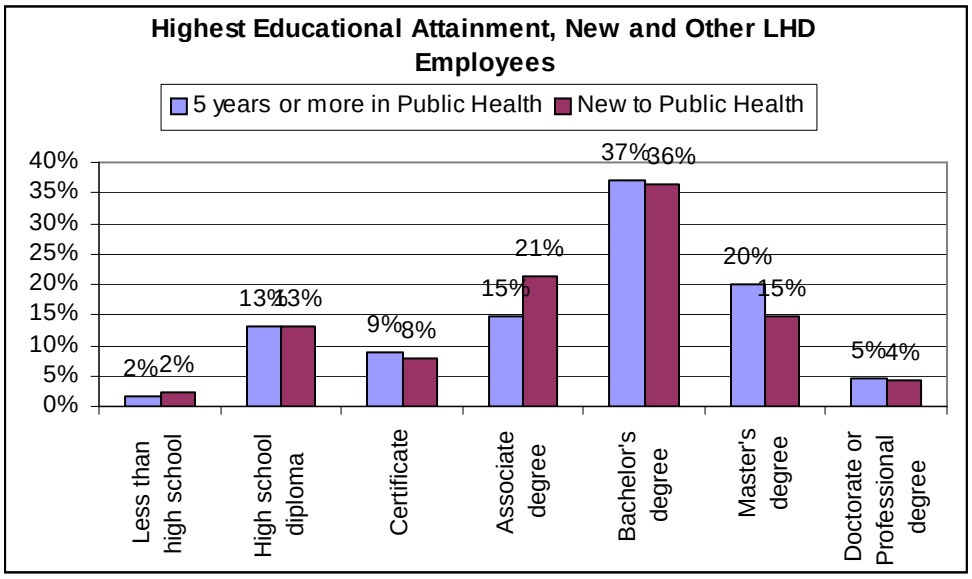


It might be hypothesized that newer entrants to the public health workforce would be better educated than their predecessors, but this proved not to be the case. While there were virtually no differences in the percent holding bachelor's degrees, new entrants were more likely to hold an associate degree and less likely to hold a master's degree as their highest level of education. This varied, however, by job title. New entrants in Education/Outreach titles were actually more likely to hold at least a bachelor's degree[18] (88% versus 73%), but new entrants in Nursing titles were less likely to (46% versus 64%).

This raised the question of whether new entrants to the field of public health today were less educated than new entrants a decade or two ago, or whether LHD employees commonly returned for higher levels of education later in their public health career.

[18] A bachelor's degree is required for health educators as per the State Sanitary Code.

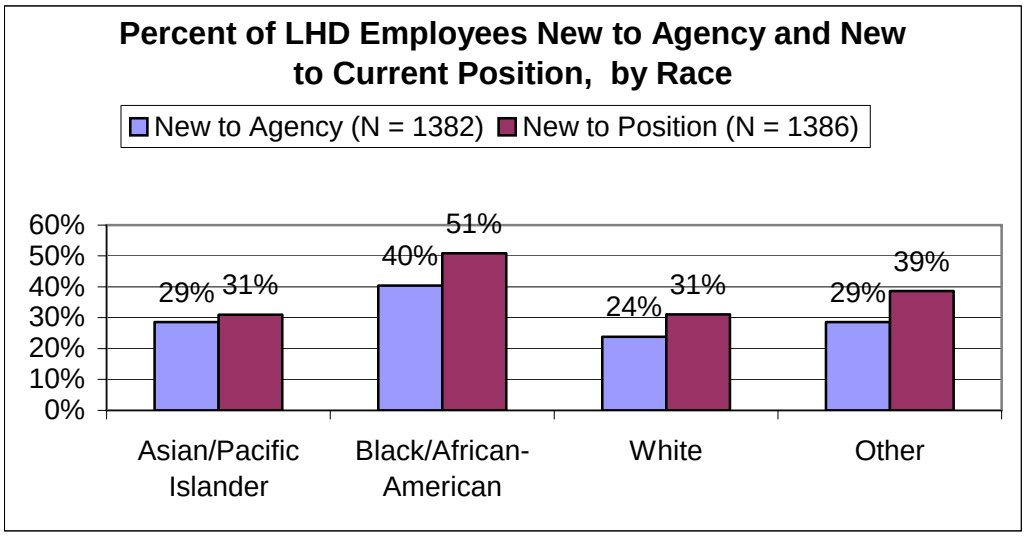
Figure 39: Highest Educational Attainment New and Other LHD Employees, New York, 2006 (N = 1370)



New to Agency and Current Position

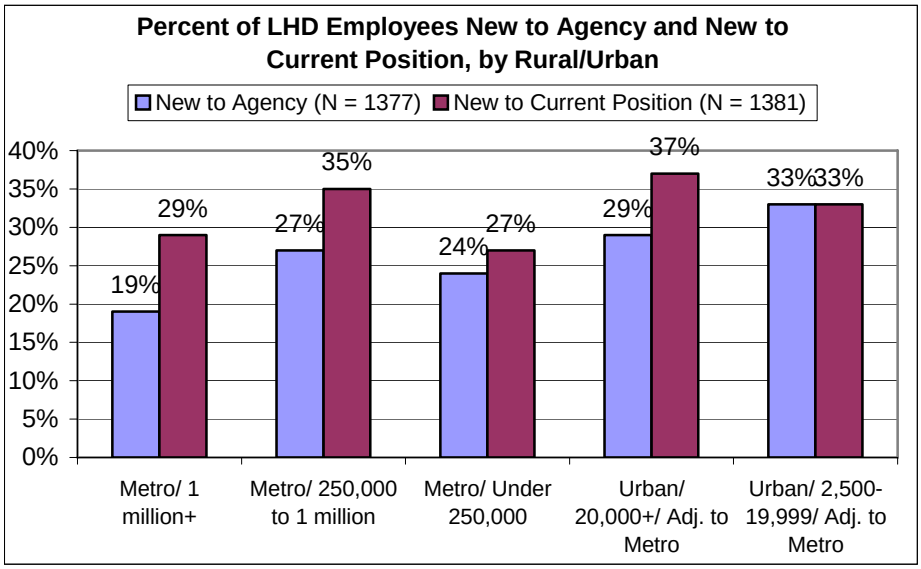
Women were slightly more likely to be new to the agency than men (26% versus 23%), although they were no more likely to be new to their current position. The findings for race were similar to those for recent entry to public health – non-Hispanic Whites were the most likely to have been in their agency and their current job for more than five years, while Asians and those of "other" racial backgrounds were more likely to be new. Black/African-American public health workers were the most likely of any group to be new to their agency and their current position; more than half were in their current position less than five years. As noted earlier, this pattern may have indicated strong recent recruitment of minorities, especially Blacks/African-Americans, but may also have indicated lower retention of minority employees.

Figure 40: Percent of LHD Employees New to Agency and New to Current Position by Race, New York, 2006



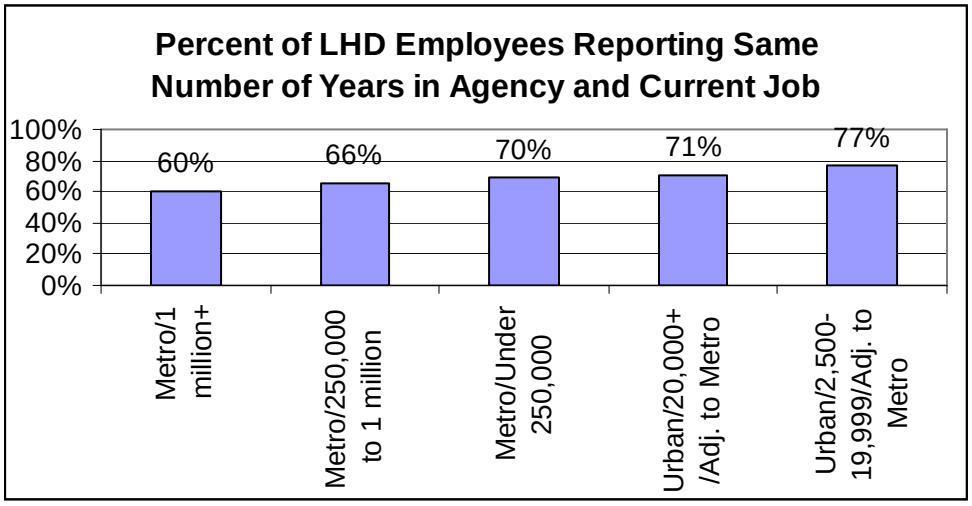
The pattern of new employees by rural or urban location was not completely consistent, and overall it appeared that public health workers in small, more rural LHDs were more likely to be new to their agency than those in larger, more urban LHDs.

Figure 41: Percent of LHD Employees New to Agency and New to Current Position by Rural or Urban, 2006



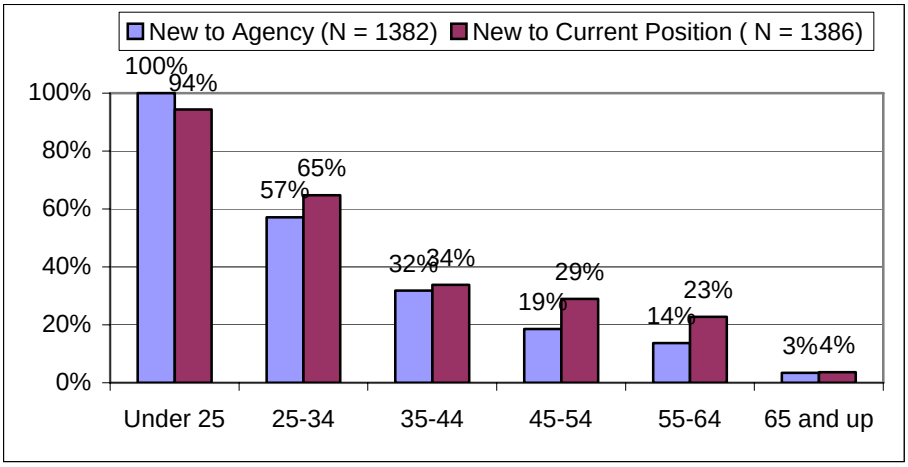
There was a clear pattern, however, of greater mobility within larger, more urban LHDs. In the smaller, more rural LHDs, 77% of public health workers appeared to be in the same job for which they were hired at the agency, compared to only 60% of public health workers in the larger, more urban LHDs.

Figure 42: Percent of LHD Employees Reporting Same Number of Years in Agency and Current Job, New York, 2006 (N = 1380)



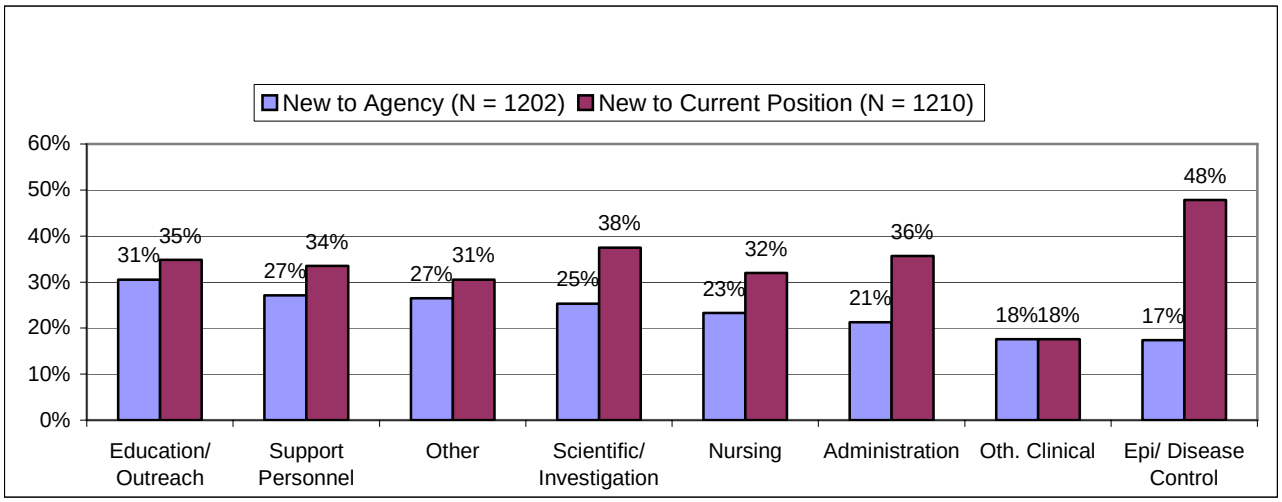
Consistent with the finding of being new to public health, younger LHD employees were much more likely to be new to both their agency and their current job than older employees.

Figure 43: Percent of LHD Employees New to Agency and New to Current Position by Age, New York, 2006



Public health workers in Education/Outreach titles were most likely to be recent hires to their agency (31%), while those in Epidemiology/Disease Control titles were least likely (17%). Interestingly, however, those in Epidemiology/Disease Control titles were most likely to be new to their position (48%). Further analyses found that those in Epidemiology/Disease Control titles were the most likely to have changed jobs within their agency (56%). Public health workers in Other Clinical titles were the least likely to be new to their current position (18%), and also least likely to have changed positions within their agency (9%).

Figure 44: Percent of LHD Employees New to Agency and New to Current Position by Job Title Group, New York, 2006



Retention and Future Plans

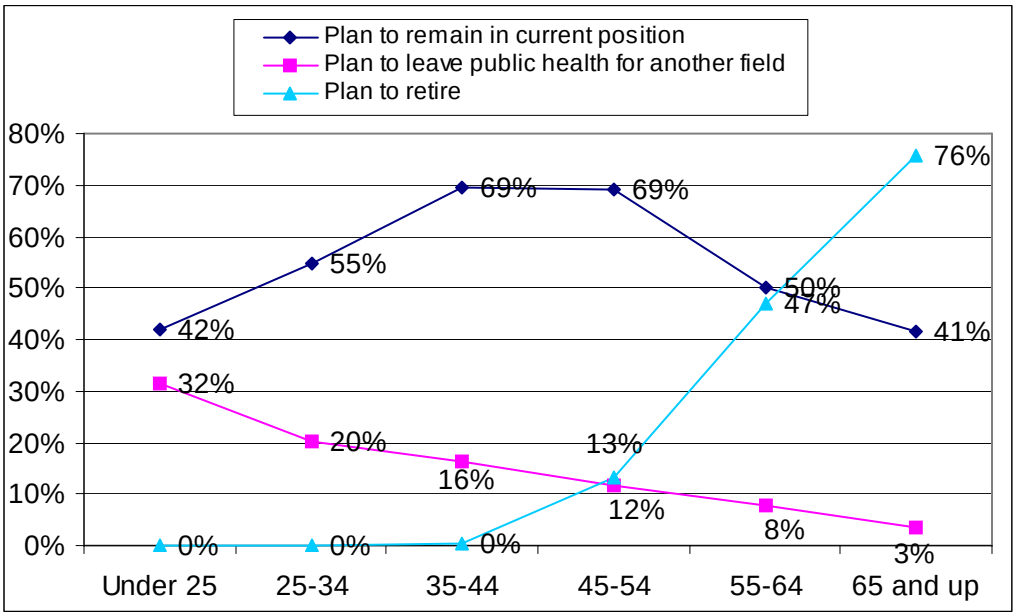
The majority of public health workers (62%) reported plans to stay in their current position for the next five years, although 16% of these workers also indicated interest in seeking a new position within the agency. (Overall, 23% of public health workers reported plans to seek a new position within the agency.)

Twelve percent of public health workers reported plans to seek a new public health position with another agency, and 13% reported plans to leave the field of public health within five years. Eighteen percent planned to retire, and 2% planned to temporarily or permanently leave the labor force.

These plans varied dramatically by age, however. Younger public health workers were the least likely to plan to remain in their current job, although many said they planned to seek a new position within the agency. Still, many young public health workers planned to leave the field of public health altogether to work in another field in the next five years. Five percent of those younger than age 25 reported plans to leave the labor force, perhaps for additional schooling or to raise families. At the other end of the age spectrum, most public health workers older than age 65 (76%) and many between the ages of 55 and 64 (47%) planned to retire. Figure 45 illustrates the potential retention problems at both ends of the age distribution.

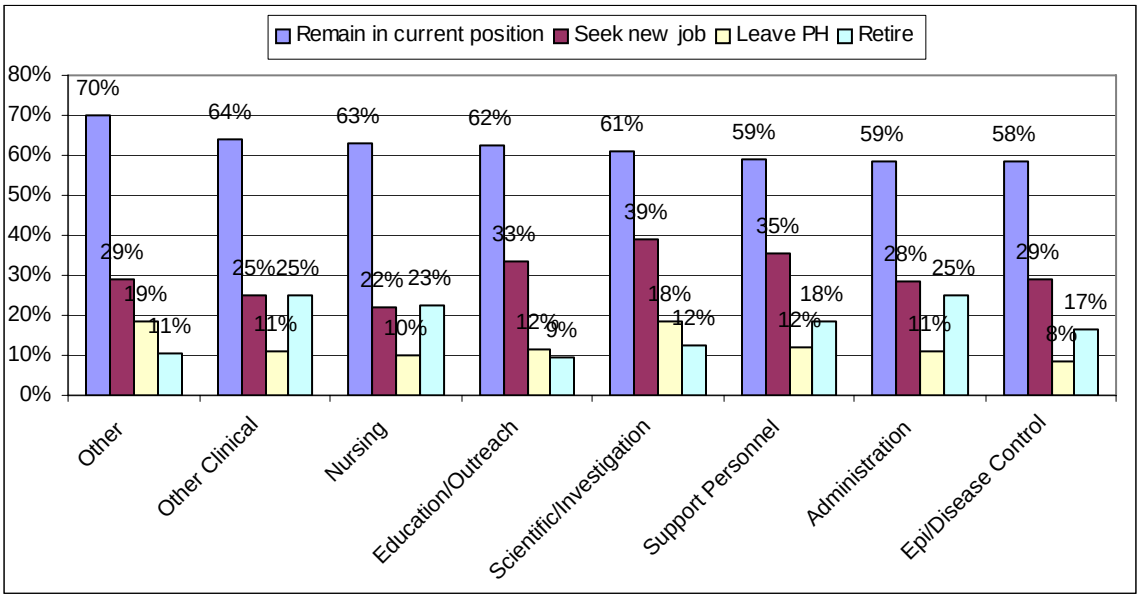
Retention of younger public health workers might have been related to the opportunities for advancement within the agency, but the effect of age on future plans did not systematically vary by the rural or urban status of the county. The rural or urban status of a county was strongly related to advancement opportunities.

Figure 45: Career Plans of LHD Employees in the Next Five Years by Age, New York, 2006 (N = 1428)



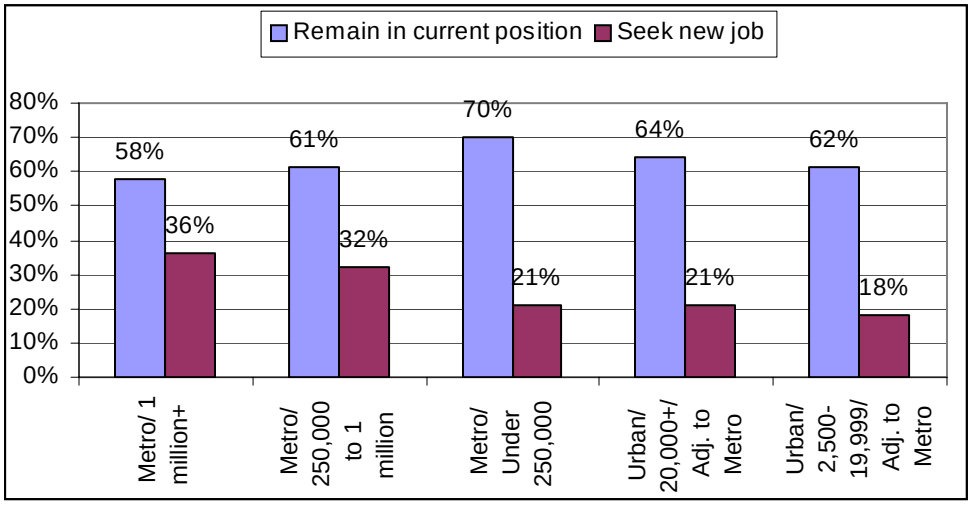
Plans to remain in the current position were highest among those in "Other" job titles (70%), which included such diverse specific titles as architect, attorney, crime analysis, and dog control, but public health workers in these titles were also most likely to plan to leave public health for another field. Plans to remain in current position were lowest among those in Epidemiology/Disease Control titles (58%). Those in Scientific/Investigation titles were most likely to plan to seek a new position (39%). Public health workers in Administration and Other Clinical job titles were most likely to report plans to retire (both 25%).

Figure 46: Career Plans of LHD Employees by Job Title Group, New York, 2006 (N = 1244)



There was little variation in retirement plans or plans to leave public health for another field by rural or urban status of the county. There were, however, some differences in terms of remaining in current job versus seeking a new job. Public health workers in larger more urban LHDs were least likely to report plans to remain in their current position, and most likely to report plans to seek a new job.

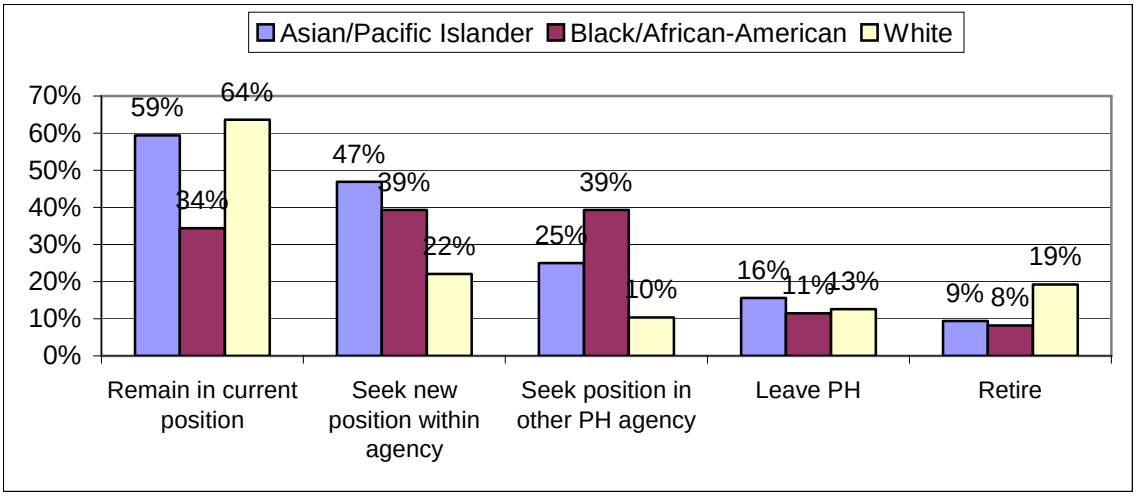
Figure 47: Career Plans of LHD Employees by Rural or Urban, New York, 2006 (N = 1424)



An examination of future plans by race and ethnic background indicated some potential retention problems related to minorities in public health agencies. Black/African-

American public health workers were much less likely than either non-Hispanic White or Asian public health workers to report plans to remain in their current position (34%). While many Black/African-American public health workers planned to seek a new position within their agency (39%), just as many planned to seek a position elsewhere in public health. This was not explained by the younger than average ages of minority employees. Among those younger than age 35, 58% of non-Hispanic White public health workers reported plans to remain in their current job, compared to 23% of Black/African-American public health workers. Asian public health workers were also more likely than non-Hispanic Whites to plan to seek a position elsewhere in public health (25% versus 10%), and were more likely than any other racial group to plan to leave public health (16% compared to 11% of Black/African-American and 13% of non-Hispanic White employees). Plans to retire were highest for non-Hispanic White public health workers.[19]

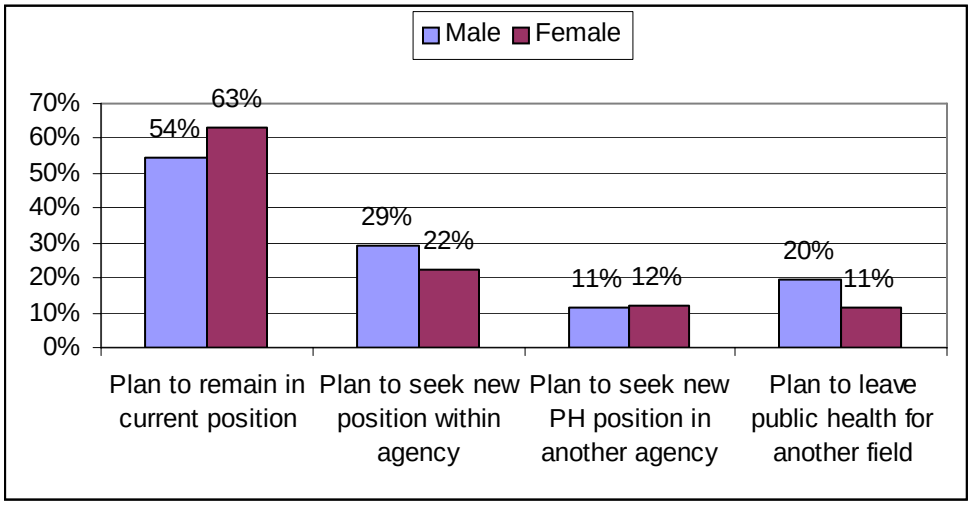
Figure 48: Career Plans of LHD Employees by Race, New York, 2006 (N = 1430)



There were also some gender differences in future plans. Women were more likely to plan to remain in the current position than men, while men were more likely to plan to seek a new position within the agency. Men were also almost twice as likely as women to plan to leave public health for another field (20% versus 11%). There were no gender differences in terms of plans to retire or leave the workforce.

[19] Similar issues were observed in regard to Hispanic versus non-Hispanic ethnicity, with Hispanic public health workers less likely than non-Hispanics to plan to remain in their current position and more likely to plan to leave their agency or leave the field of public health. The number of Hispanic respondents was, however, not sufficient for making inferences about the effect of ethnicity.

Figure 49: Career Plans of LHD Employees by Gender, New York, 2006 (N = 1440)



Future plans did not vary systematically by educational attainment. Public health workers with master's degrees were not more or less likely to plan to stay in their current job. They were slightly more likely than the workforce overall to seek a new job outside of their agency (18% versus 12%), but were slightly less likely to seek a new job within their agency (19% versus 24%). They were not more or less likely to plan to leave the field of public health, but were slightly more likely to plan to retire (23% versus 18%).