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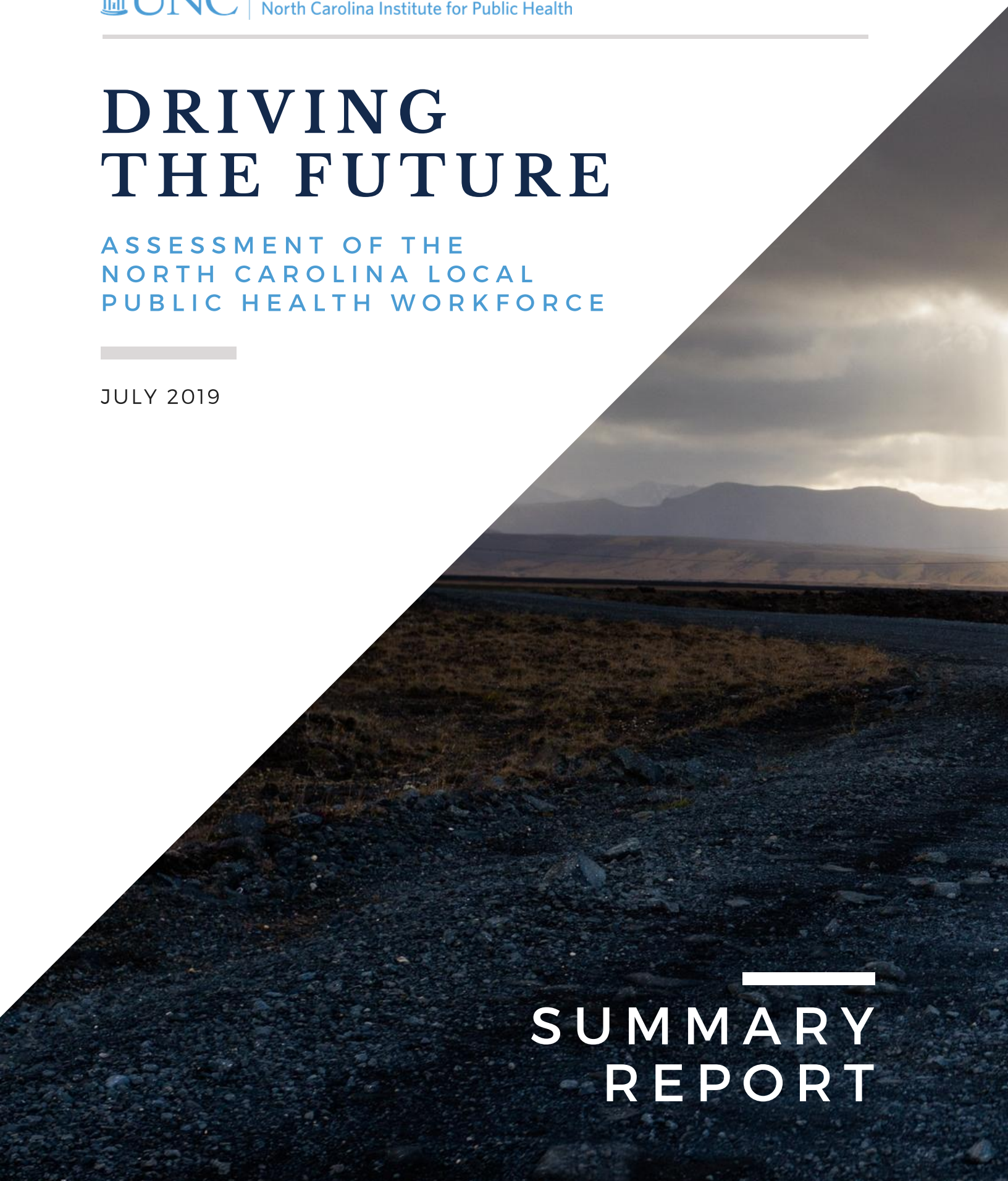
North Carolina Institute for Public Health

DRIVING THE FUTURE

ASSESSMENT OF THE NORTH CAROLINA LOCAL PUBLIC HEALTH WORKFORCE

JULY 2019



SUMMARY REPORT

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KEY FINDINGS

OVERVIEW

"Public health promotes and protects the health of people and the communities where they live, learn, work and play."

- American Public Health Association

Local health departments are a critical component of overall community health. Whether investigating disease outbreaks, inspecting water and waste systems, providing clinical services to populations in need or engaging in community-wide health initiatives, public health professionals in local health departments tackle challenging issues to ensure that all people in their communities have the opportunity to lead healthy lives. To be successful they need a strong and well-trained workforce.

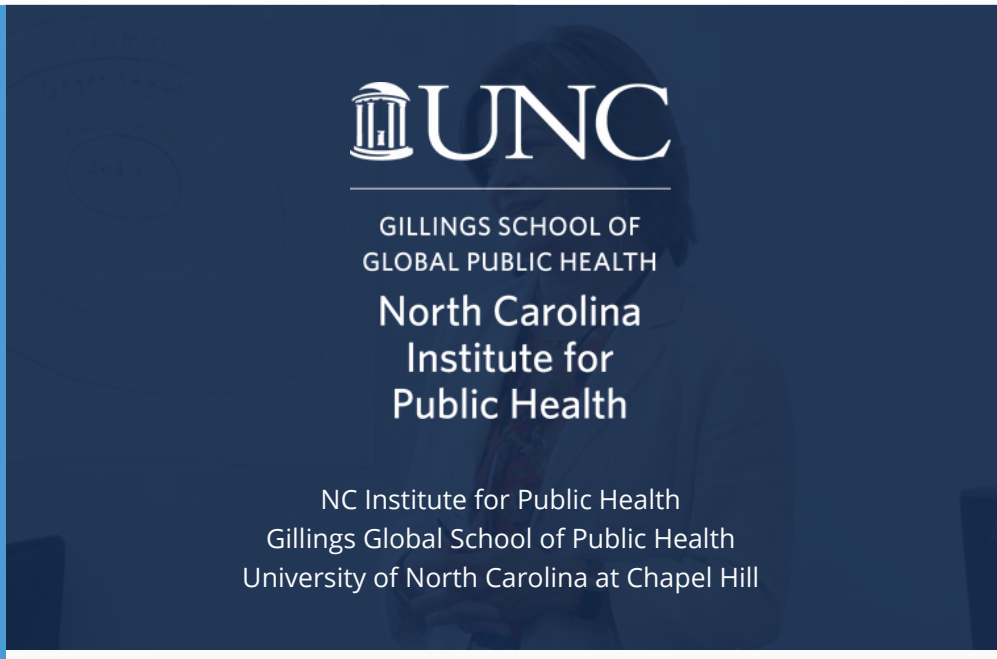
The national Public Health Workforce Interests and Needs Survey (PHWINS) [1] provides data about training needs and trends within the state-level public health workforce in the U.S., including North Carolina, but it doesn't include data about North Carolina's local health departments. There has not been a statewide training needs assessment of the local-level public health workforce in North Carolina since 2013 [2].

Driving the Future was developed with four main goals:

- *To identify current and future critical training needs of North Carolina local health department professionals in traditional public health skill areas and those skills needed to help address larger and complex system-level issues that extend beyond the bounds of traditional public health disciplines;*
- *To collect granular and actionable data and information to help inform the development of learning opportunities;*
- *To aid North Carolina local health departments in identifying staff developmental needs, informing agency training plans and making strategic plans to respond to evolving public health needs; and*
- *To inform professional development organizations in program and education planning.*

THANK YOU TO OUR PARTNERS

In developing *Driving the Future*, the core group of partners reached out across the state (see Appendix) to solicit input into the development of the survey as well as to pilot-test earlier versions of the survey. In addition, the distribution of *Driving the Future* was supported by numerous organizations and individuals who encouraged participation and served as local champions. We are very grateful for their engagement and efforts.



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NC Institute for Public Health
Gillings Global School of Public Health
University of North Carolina at Chapel Hill

NCPH
North Carolina Public Health

Local Technical Assistance and Training Branch
Division of Public Health
NC Department of Health and Human Services

with funding and partnership from the North Carolina AHEC Program

NORTH CAROLINA AHEC

ABOUT THE ASSESSMENT

The ***Driving the Future*** needs assessment was designed to address several areas:

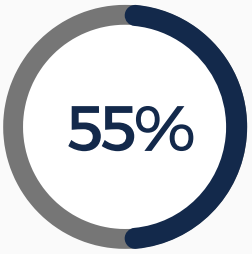
- Identify current and future training needs of the North Carolina local public health workforce in relation to specific occupations and roles;
- Identify training needs around broader cross-cutting strategic skills that will support local public health departments' capacity to engage in multi-sector work using a Public Health 3.0 model [3];
- Identify workforce trends that may influence recruitment and retention of the public health workforce; and
- Gain a better understanding of where/how the local health department workforce prefers to access training and other support tools

Staff from all 84[1] North Carolina local health departments were eligible to participate in *Driving the Future*, which was distributed electronically to agencies and employees through a variety of statewide email listservs and promoted on social media. Communication toolkits were created for agency leaders so they could distribute the survey within their own workforce. The assessment took place over a four-week period from February – March, 2019.

(1) The assessment was conducted between February – March 2019, when there were 84 health departments in North Carolina

There were 2,116 responses to the *Driving the Future* survey, representing over 25% of the 8,308 full-time equivalent staff at North Carolina local health departments (LHDs) [2]. Responses were collected from 82 of the 84 North Carolina local health departments with an average of 14 responses per agency, ranging from 1–63 responses. Among the 2,116 respondents, 55% fully completed the assessment (n=1,158). There were 1,800 informative responses, defined as completion of at least one question in the strategic skills section. All analytic data provided in this report are from the 1,800 informative responses, roughly 85% of the total responses.

82 out of **84**
NC local health departments responded



of respondents
fully completed
the survey

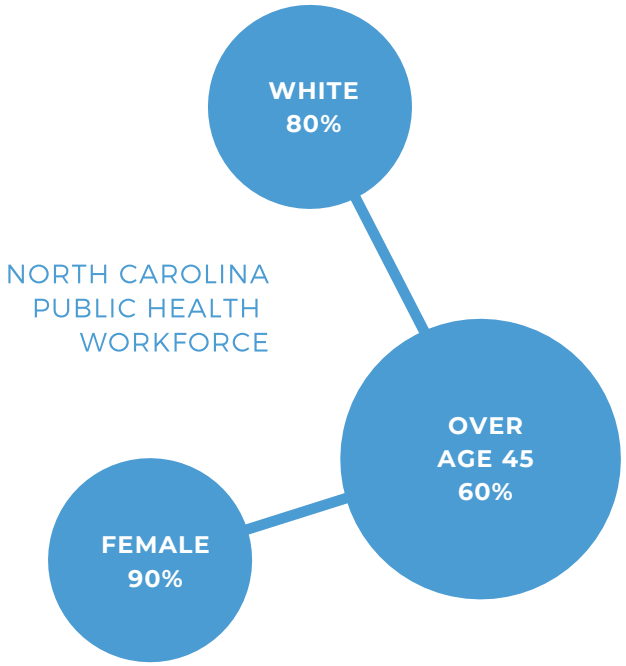
survey reports from
1,800
informative responses

Inferences and interpretations of these data should consider the potential limitations of the data collected, most important of which is the proportion of the workforce who did not respond. While the assessment was distributed to all health departments, electronic dissemination may not have adequately reached clinical, field and other staff with limited access to computers or smartphones. Further, the length of the assessment could have been a substantial barrier to participation among staff who could not devote time to fully complete the assessment. The non-respondents were difficult to quantify, based on the methodology, and the decision was made to use raw, unweighted data that is representative only of those who responded to the assessment. Despite these limitations, clinical, administrative and environmental health staff had some of the highest participation in the *Driving the Future* needs assessment.

KEY FINDINGS

CURRENT WORKFORCE

The survey suggests that the North Carolina public health workforce is predominantly white, older and female with more than 60% of the workforce over age 45.



NORTH CAROLINA EMPLOYED LABOR FORCE DEMOGRAPHICS

Based on North Carolina Employed Labor Force Demographics from the U.S. Census American Community Survey in 2017 [5], the North Carolina workforce is 71% white, 9% Hispanic/Latinx, 51% male and 44% are over age 45.

NORTH CAROLINA
WORKFORCE OVERALL

WORKFORCE SHIFTS

Thirty-two percent of senior leaders say they are planning to retire in the next five years, as do 27% of supervisors and managers. Fewer than half of all respondents can affirmatively say they are not leaving their organization in the next five years.

32%
SENIOR LEADERS

27%
SUPERVISORS/ MANAGERS

Plan to retire in the next five years

KEY FINDINGS

WORKFORCE DEVELOPMENT NEEDS

The following areas are clear starting points for training and development:

STRATEGIC SKILL SETS:

- Policy Engagement
- Change Management
- Data Analytics
- Diversity & Inclusion
- Resource Management

SPECIFIC SKILLS:

- Using economic evaluation methods for public health interventions and programs
- Using problem-solving models
- Assessing external drivers that may influence public health programs and services
- Addressing legal, policy, fiscal and other barriers to collaboration
- Understanding and addressing barriers to implementation of new programs and services

LEADERSHIP SKILLS

There is a very high importance placed on leadership skills across the workforce tiers coupled with perceived low skills for creating vision, modeling and garnering support, motivating others into action and embracing an adaptive approach.

CROSS-CUTTING SKILLS:

Knowledge and awareness around changing Medicaid policies and how to engage clients in those changes.

PUBLIC HEALTH 3.0 AWARENESS

Many of the Public Health 3.0 concepts are new to respondents, but there is agreement across tiers that these concepts are relevant and applicable for both current and future work.

WORKFORCE DEMOGRAPHICS

Overall survey respondents are primarily female (91%), identify as white (81%) and non-Hispanic (94%) and are over the age of 45 (nearly 14% are 60 years or older).

GENDER

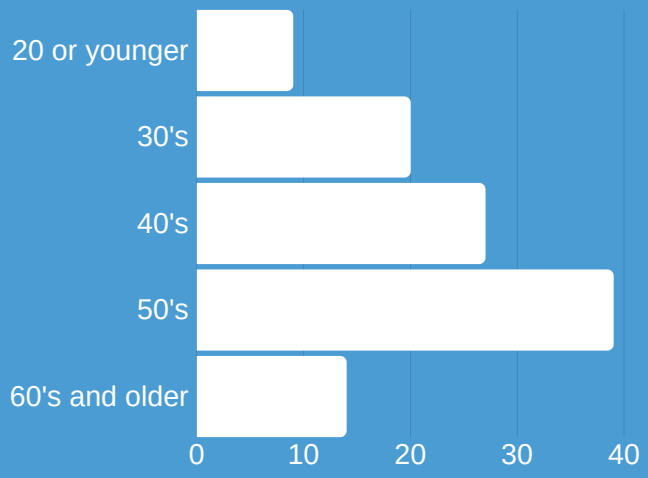
91% Female

9% Male

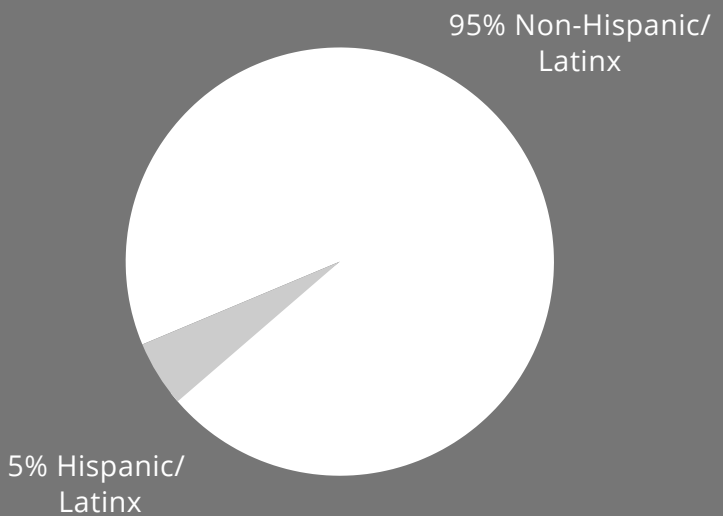
<1% Non-binary

While only 9% of respondents are male, there is a higher proportion of males (21%) in the senior leader/agency lead category.

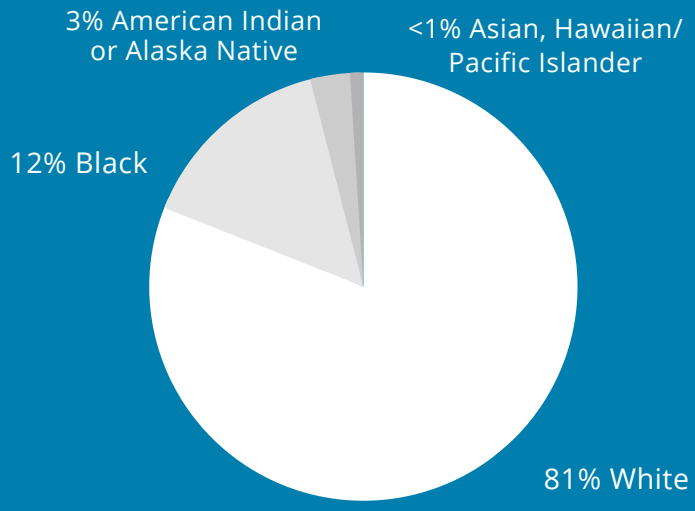
AGE DISTRIBUTION



HISPANIC VS NON-HISPANIC



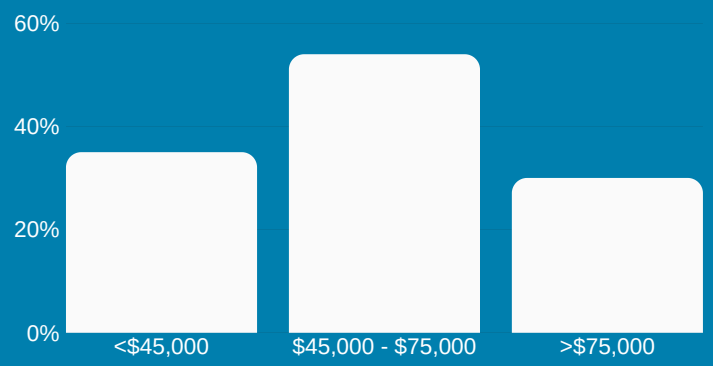
RACE



EMPLOYMENT & SALARY

Overall, more than 95% of respondents are employed full-time at their health department and two-thirds of respondents are salaried employees. While salaries likely vary widely across agencies and counties, it is useful to note that over one-third of the workforce makes <$45,000.

Average Earnings Per Year



Half of respondents have

a bachelor's degree or higher.

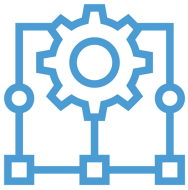
EDUCATION

Overall, almost 70% of the respondents have some occupation-specific degree or certification and half (50%) have a bachelor's degree or higher. As supervisory levels increase, so do the percentages of respondents with a master's degree or higher, ranging from 13% in Tier 1 to 52% in Tier 3. Notably, only 2% (n=28) of all respondents are Certified in Public Health (CPH).

ORGANIZATIONAL ROLE

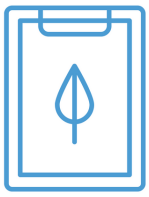
PRIMARY ROLES

NURSE

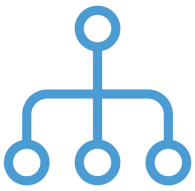


ADMIN SUPPORT

HEALTH EDUCATOR



ENVIRONMENTAL HEALTH WORKER



MANAGEMENT LEADERSHIP

BEHAVIORAL HEALTH

Most respondents' primary roles are in clinical services or administration, but over two-thirds have at least two roles within the agency.

The average number of roles by respondents is 3.7.

SECONDARY ROLES

ACCREDITATION

HEALTH PROMOTION

EMERGENCY PREPAREDNESS

20% of respondents have a secondary role in accreditation, followed by health promotion (16%) and emergency preparedness (16%).

SKILLS IN THE PUBLIC HEALTH WORKFORCE

STRATEGIC SKILL SETS

A section of the assessment asked about *strategic skills*, which go beyond those of traditional public health disciplines and address some of the work the field of public health is increasingly being called on to do. The skills and definitions referenced in the assessment are adapted from *Building Skills for a More Strategic Public Health Workforce: A Call to Action*, a 2017 report issued by the National Consortium for Public Health Workforce Development [6] and supported by the de Beaumont Foundation. This section of the survey also incorporated some of the skills and abilities embedded in *Public Health 3.0: A Call to Action to Create a 21st Century Public Health Infrastructure* [3].

Respondents were presented with a set of questions for each strategic domain based on three levels, or tiers, of employment (non-supervisors, supervisors/managers and senior leaders) and asked to rate their responses based on three questions:

1. *How important is this item in your day-to-day work?*
2. *How important do you think the skill will be for your day-to-day work in 3–5 years?*
3. *What is your current skill level for this item?*

These data were then compared to identify areas with the highest skill gaps — areas identified as high importance but low current skill.

KEY TERMS

SYSTEMS THINKING
Emphasizes looking at patterns and relationships to understand the systems contributing to public health problems and identifying high-impact intervention options.

CHANGE MANAGEMENT
Refers to scaling programs up and down or changing them entirely in response to the environment and identifying core elements to help sustain programs in challenging times.

PERSUASIVE COMMUNICATION
The ability to convey a public health message that resonates with audiences outside of public health.

DATA ANALYTICS
Skills to leverage, synthesize and analyze multiple sources of electronic data and use informatics to identify health priorities, select appropriate evidence-based approaches to address those priorities and determine the effectiveness in reducing costs or improving health outcomes.

PROBLEM SOLVING
A key component of the 10 essential public health services, continuous quality improvement and performance management. It includes the ability to determine the nature of a problem, identify potential solutions, implement an effective solution and monitor and evaluate results.

DIVERSITY AND INCLUSION
Both go hand-in-hand. Diversity reflects the changing demographics of the U.S. population and the public health workforce itself. Inclusion is the effort to fully incorporate workers representing diverse populations into health solutions. Together, they enable agencies to better relate to the populations they serve (including ones at higher risk of adverse health outcomes), provide a larger recruitment pool and improve employee retention.

RESOURCE MANAGEMENT
Skills that are for the acquisition, retention and management of people and fiscal resources.

POLICY ENGAGEMENT
The spectrum of skills needed to address public health concerns and needs of local, state and federal policymakers and partners.

The assessment results vary by workforce tier as shown in the table below. Policy Engagement is a skill gap for all three tiers and Change Management and Data Analytics rank in the top three for two tiers.

HIGHEST SKILL GAP			
RANK	TIER 1	TIER 2	TIER 3
1	Change Management	Resource Management	Data Analytics
2	Policy Engagement	Change Management	Policy Engagement
3	Data Analytics	Policy Engagement	Diversity & Inclusion

Lowest skills ranked by highest importance (per tier).

TIER 1 = 1,289 RESPONDENTS

Tier 1 Professionals have the highest skill gaps in Change Management, Policy Engagement and Data Analytics. They note these skills as very important in their day-to-day work but rate their current skills levels as low.

- Greater than 65% indicate that each of the strategic skill domains are important in their day-to-day work.
- Persuasive Communication is ranked as the most important skill domain for both current and future work but has a lower skills gap.
- Resource Management is ranked as the area with the lowest current skill level.

TIER 2 = 412 RESPONDENTS

Tier 2 Professionals rate Resource Management, Change Management and Policy Engagement as very important in their work but rate their current skill levels as low.

- Greater than 84% indicate that each of the strategic skill domains are important in their day-to-day work.
- Persuasive Communication is ranked as the most important skill domain for current work but has a lower skills gap.
- Problem Solving is ranked as the most important skill domain for future work.
- Diversity and Inclusion is also ranked as highly important in both current and future work.

TIER 3 = 99 RESPONDENTS

Tier 3 Professionals rate Data Analytics, Policy Engagement and Diversity and Inclusion as very important in their work, but current skill levels are rated low compared to other strategic skills.

- Greater than 96% indicate that each of the strategic skill domains are important in their day-to-day work.
- Persuasive Communication is ranked as the most important skill domain for current work.
- Systems Thinking is ranked as the most important skills domain for future work.
- Similar to Tier 2, Diversity and Inclusion are ranked as highly important in both current and future work.

Importance increases for every single domain from current to future work.

INDIVIDUAL STRATEGIC SKILLS

Respondents were also given the opportunity to respond to questions (n=84) related to more specific skills within each strategic domain. These questions were asked irrespective of tier. Responses were rated with the same three questions used for the overarching domains: *(1) How important is this item in your day-to day work (2) How important do you think the skill will be for you day-to-day work in 3–5 years? and (3) What is your current level of skill for this item?* to identify areas of highest skill gap (high importance, low skill).

The overall top 10 areas noted as highly important for current and future work yet currently low in skill level across all domains are shown below. Skill gaps in Change Management, Problem Solving and Data Analysis were highly ranked most frequently.

TOP 10 SKILL GAPS ACROSS ALL STRATEGIC DOMAINS

Rank	Knowledge, Skill or Attribute	Strategic Domain
1	Use economic evaluation methods to identify, measure and value costs, quality and outcomes of public health interventions and programs	CHANGE MANAGEMENT
2	Familiarity with and use of problem-solving models such as design thinking	PROBLEM SOLVING
3	Assess the external drivers in your environment (e.g., physical, political, social, fiscal, etc.) that may influence public health programs and services	CHANGE MANAGEMENT
4	Address legal, policy, fiscal and other barriers to collaboration	SYSTEMS THINKING
5	Understand and address barriers to implementation of new programs and services	PROBLEM SOLVING
6	Monitor and evaluate results of new and ongoing interventions and strategies	PROBLEM SOLVING
7	Access public health data systems	DATA ANALYSIS
8	Document processes for making decisions and taking collective action	PROBLEM SOLVING
9	Identify gaps in data	DATA ANALYSIS
10	Find supportive professional and personal networks	CHANGE MANAGEMENT

These very specific items comprise specific knowledge, skills or attitudes that, in combination, can build towards the more complex skill sets embodied within the strategic skill domains and provide a clearer path towards the development of specific training or supports to address identified needs. Many of these knowledge areas, skills and attitudes draw from disciplines and professions beyond public health such as business, public policy and law. Drawing on those fields and contextualizing content for public health may be an avenue to more quickly identify existing resources.

CROSS-CUTTING & PROFESSION-SPECIFIC SKILLS

CROSS-CUTTING SKILLS

Additional questions related to cross-cutting public health themes, leadership skills and awareness of the Public Health 3.0 [3] model were asked of all respondents irrespective of tier and/or occupation. These skills were rated as highly important yet currently low in skill level. As with the strategic skill domains, respondents rated their responses based on three questions:

1. How important is this item in your day-to-day work?
2. How important do you think the skill will be for your day-to-day work in 3–5 years?
3. What is your skill level for this item?

These data were then compared to identify areas of highest skill gap where there are areas identified as high importance but low skill.

TOP 5 CROSS-CUTTING SKILLS

Over 50% of respondents, across occupation and supervisory status (or tier), indicate the significance of skills related to Medicaid Transformation in North Carolina.

TOP 5 CROSS-CUTTING SKILLS	
RANK	SKILL
1	Knowledge/awareness of changes in North Carolina Medicaid policies
2	Engaging clients under North Carolina Medicaid transformation
3	Knowledge and awareness of North Carolina Local Health Department Accreditation program
4	Navigating difficult conversations with colleagues or clients
5	Understanding of core functions and essential services of public health

TOP 5 LEADERSHIP SKILLS

All ten of the leadership skills are considered important by more than 90% of the respondents, and respondents generally report high proficiency across all skills, with between 73-87% reporting either proficient or expert skill level. Despite the reported high level in leadership skills, respondents report low skill levels, between 15-21%, in areas holding the highest importance shown below:

1 Model for others how to lead in a way that promotes common goals, garners support and motivates others to act

2 Contribute towards and communicate a vision that resonates with others

3 Approach workplace challenges from an adaptable perspective

4 An in-depth understanding of one's own strengths and how these can contribute towards agency goals

5 Build trust with staff, partners and stakeholders

TOP 5 PUBLIC HEALTH 3.0 ITEMS

Across the board, awareness of Public Health 3.0 concepts does not rise above 32% with most responses less than 25%. In addition, more than 57% of the workforce place themselves at unaware/somewhat aware for each item. In contrast, perceived importance is >71% across all items indicating that while North Carolina local health department staff might not have been previously exposed to these concepts, there is a clear consensus that these concepts are relevant and applicable for current work and of increasing importance in the future. Below are the top five Public Health 3.0 related items that were listed as high in importance (in day-to-day work and in 3-5 years) yet low in awareness:

TOP 5 PUBLIC HEALTH 3.0 SKILLS	
RANK	SKILL
1	Utilizing timely, reliable and granular (sub-county level) data and metrics to measure success and impact
2	Enhancing policies, rules and standards (e.g., accreditation) to foster Public Health 3.0 principles
3	Utilizing innovative funding models to support core infrastructure as well as community-level work to address the social determinants of health
4	Forming structured, cross-sector partnerships to foster shared funding, services, governance and collective action
5	Moving towards a direction of assurance of services rather than direct provision of clinical and other services

PROFESSION-SPECIFIC SKILLS

As part of the survey design process, key stakeholders identified additional sets of skills important to specific professional areas. Accordingly, certain professional roles received additional sets of questions. These questions were posed irrespective of tier except for nurses, who received tier-specific questions. The top three skills rated highly important yet low in skill level are listed below by profession:

TOP 3 BEHAVIORAL HEALTH SKILLS	
RANK	SKILL
1	Engage clients under North Carolina Medicaid transformation
2	Participate in disaster/emergency response situations
3	Use appropriate [program] forms and coding

**excluding social workers*

TOP 3 SOCIAL WORK SKILLS	
RANK	SKILL
1	Engage clients under North Carolina Medicaid transformation
2	Participate in disaster/emergency response situations
3	Advocate for public health in the organization and the community

TOP 3 ENVIRONMENTAL HEALTH SKILLS	
RANK	SKILL
1	Participate in disaster/emergency response situations
2	Demonstrate knowledge and understanding of agency and community resources in order to make referrals
3	Advocate for public health in the organization and the community

TOP 3 NURSING (TIER 1) SKILLS	
RANK	SKILL
1	Prevention strategies for substance use
2	Practical strategies to better integrate mental health and behavioral health care with clinical care
3	Engaging clients under North Carolina Medicaid transformation

TOP 3 NURSING (TIERS 2/3) SKILLS	
RANK	SKILL
1	Engaging clients under North Carolina Medicaid transformation
2	Justify non-income producing nursing positions
3	Practical strategies to better integrate mental health and behavioral health care with clinical care

Responses re-emphasize the importance of knowledge and skills related to mental health and behavioral health care. Medicaid transformation also rises to the top among all professions and the emphasis on disaster/emergency response skills likely reflects the role that local public health has played in the hurricanes and flooding in North Carolina in recent years.

TRAINING SUPPORTS & RESOURCES

One section of the survey asked participants about why, how and where they accessed training. Respondents indicate the following:

MOTIVATION

They have high motivation to seek out training (~75%).

The highest motivators are personal growth/interest (77%) and to stay current with new developments in their respective fields (74%).

OPPORTUNITY

Seventy percent of respondents learn about training opportunities from their supervisors, and over half (57%) hear about trainings via North Carolina Division of Public Health announcements.

PROVIDERS

The most familiar training providers include local AHECs (81%) NCIPH (76%), branches/sections within NCDPH (66%) and NCPHA (65%), with other state and national providers having less familiarity.

DELIVERY

Most respondents prefer training delivered via conferences (64%), followed by webinars and webcasts (56%) and online courses (42%).

BARRIERS TO ACCESS

More than 50% of respondents cited cost and difficulty with getting time off work as the most significant barriers to accessing training.

Highest-ranked organizations/agencies where respondents indicated they took a training within the last two years:

AHEC
49%

NCIPH
38%

NON-PH NURSING BRANCHES OF NCDPH
25%

PHNPDU BRANCH OF NCDPH
30%

NCPHA
21%

DRIVING THE FUTURE

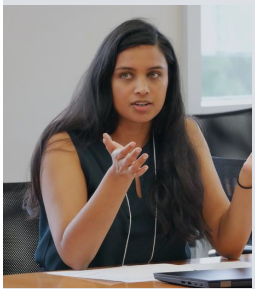
North Carolina local health departments have a significant percentage of workers over the age of 40. In addition, more than half of survey respondents are unsure if they will remain in their jobs in the next five years. Also, while this assessment did not look at gender/race/ethnicity in specific agencies in comparison to the communities they serve, given the high proportion of white/female respondents, it appears that, in aggregate, the workforce is not reflective of the population. These North Carolina data align with national public health workforce data. Recruitment and retention of new, particularly younger, professionals into the workforce is critical, as are issues of diversity and inclusion and the need to strengthen the diversity and cultural competence of the workforce. Considering the rural context of many of our state's local health departments, these issues become even more complex given differing resources in many areas.

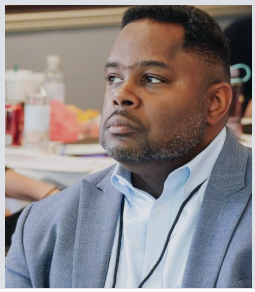
The national underrepresentation of young public health professionals in the local and state governmental public health workforce [7] also puts a focus on intentional pipeline development by those educational institutions that train and certify public health professionals. Moving forward, skills to lead and work effectively within a multi-generational workforce will be key.

Given constant change and shifts in the health landscape and the implementation of Medicaid managed care, the degree of change within North Carolina can generate tremendous pressures on the workforce. Supporting staff with deliberate investments at the leadership level and across the workforce to engage in deliberate change management is important.

DRIVING THE FUTURE

National trends in local public health increasingly encourage health departments to shift their role away from the provision of direct care into an assurance role and to work towards leading strategic initiatives for population health. These initiatives include collaborations around mid-stream factors like housing and transportation and upstream factors like racial equity. In North Carolina, some local health departments are initiating similar innovations but as of yet, these efforts are at the agency level rather than a systems level.





NEXT STEPS

The data from this assessment are a first step in moving forward in a deliberate, strategic way. These data can help inform local health departments as they develop training plans for their staff. Institutions and organizations that engage in workforce development can use this information to guide the design and delivery of training, technical assistance and other supportive measures.

Over the next year, the North Carolina Institute for Public Health and the Local Technical Assistance and Training Branch at the North Carolina Division of Public Health, with support from the NC AHEC Program, hope to convene statewide stakeholders and partners engaged in public health workforce development in North Carolina, including local AHECs, nonprofits, associations, academic institutions and local health departments, to dive deeper into these data and to discuss ways to collectively engage in efforts to develop a systems-level approach to supporting our local health department workforce. Anyone who has questions about these efforts or who is interested in joining the conversation can email nciph@unc.edu, or contact any of the staff listed in the appendix.

APPENDIX

STATEWIDE PARTNERS

Special thanks and acknowledgment for the contributions of the following professional organizations, associations and committees who helped participate in the development of the survey, served as pilot testers and helped to disseminate the survey across the state:

- UNC-Wilmington, Center for Healthy Communities
- North Carolina Environmental Health State of Practice (SOP) Committee
- UNC Gillings School of Global Public Health Ad Hoc Workforce Development Committee
- Public Health Nursing Learning Needs Assessment Advisory Team (L-NAAT)
- NC Area Health Education Center (NC AHEC) Program Office and public health professional development staff from 9 regional AHECs
- NC Public Health Association
- NC Public Health Social Work Continuing Education and Training Advisory Committee (CETAC)
- NC Society for Public Health Education (NC SOPHE)
- NC Association of Local Health Directors
- NC Local Health Department Accreditation Program
- NC HIPAA Alliance

CITATIONS

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APPENDIX

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