

Perceptions of Criticality and Frequency of Tasks by the Public Health Workforce, 2022

Richard S. Kurz, PhD; Allison Foster, MBA; L. Michael Bowen; Kaye Bender, PhD

ABSTRACT

Introduction: Since the occurrence of the COVID-19 pandemic, there has been significant interest in the public health workforce and its development. Substantial emphasis has been placed on the competencies needed for the development of the workforce. As important as this work on competencies is to a competent public health workforce, the certification of public health professionals and the maintenance of their skills and knowledge is of equal importance. The National Board of Public Health Examiners (NBPHE), along with other organizations, plays a key role in this process. Based on the National Board of Public Health Examiner's 2022 JTA, this study investigates the specific tasks that are performed by the public health workforce in each of 10 domains, their criticality and frequency, and the relationship of their criticality to their frequency.

Methods: Using data from the National Board of Public Health Examiners (NBPHE) job task analysis (JTA), the criticality and frequency of tasks and their relationship were investigated through tabular analysis.

Results: Ten tasks were identified as the most critical, focused on the domains of communication, leadership, resource and program management, and law and ethics. The 10 most frequent tasks were the same as the most critical tasks in 8 instances. When the criticality of all tasks was related to their frequency, 12 tasks were found to have high criticality and high frequency, 17 tasks had low criticality and low frequency, and 74 tasks had high criticality and low frequency. In our data, no low criticality tasks were performed frequently.

Discussion: Results are discussed for their relevance to education in public health and practitioner development. A key takeaway is that workforce tasks and competencies appear to provide two different and important ways to analyze workforce activity in future research.

Introduction

With the occurrence of the COVID-19 pandemic, there has been significant interest in the public health workforce and its development. Although staff shortages, including recruitment and retention, were issues before the pandemic, they were exacerbated due to the stresses of pandemic.¹⁻³ Several after-COVID early reports contained recommendations on how to strengthen the public health infrastructure. Many of those reports called for changes in how the public health workforce is supported, with

substantial emphasis placed on the competencies needed for the development of the workforce.⁴⁻¹³ As important as this work is to workforce development, of equal importance is the certification of those public health professionals and the maintenance of their skills and knowledge. The National Board of Public Health Examiners (NBPHE), along with other organizations, plays a key role in this process.¹⁴⁻¹⁷

Since its inception in 2005, the NBPHE has created a standard for the certification of the public health workforce.¹⁸ The NBPHE is a nonprofit entity whose board consists of accomplished public health practitioners and academics in many fields of public health. The standard is set to certify individuals who meet a minimal level of performance for those with a master's degree in public health or mid-level employment. Certification is accomplished through performance on an examination and recertification based on continuing education.

The certification standard for public health, like that of many other professions, is based on the perception of professionals about the frequency and criticality of the tasks that they perform rather than the competencies needed. Professionals' perceptions are assessed

Author Affiliations: University of North Texas School of Public Health (Dr Kurz); National Board of Public Health Examiners (Dr Kurz and Mr Foster); Measure Learning (Mr Bowen); and Mississippi Public Health Association (Dr Bender).

The authors declare no conflicts of interest.

This is an open access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

Correspondence: Richard S. Kurz, PhD, National Board of Public Health Examiners, P O Box 2406, Arlington, VA 22202 (kurzrs@gmail.com).

Copyright © 2024 The Authors. Published by Wolters Kluwer Health, Inc.

DOI: 10.1097/PHH.0000000000002068

through job task analysis (JTA) of the work of professionals in the field. This approach is typical of other health and non-health certification programs.¹⁹⁻²¹

In 2022, the NBPHE conducted a JTA for public health professionals in all fields of practice.²² The JTA provided the basis for the revision of the content outline for the certification examination. The questions for the examination are organized into 10 domains or areas of activity: data analysis and informatics; communication; leadership; law and ethics; disease and injury prevention; community engagement and partnership; program planning and evaluation; program and resource management; policy and advocacy; and equity and social justice.

Based on the NBPHE's 2022 JTA, this study investigates the specific tasks that are performed by the public health workforce in each domain. The JTA gives us an opportunity to consider how the public health workforce views the tasks that they perform regarding their criticality and their frequency. The JTA also provides the field with an opportunity to consider whether the criticality or frequency of these tasks differ according to the background of the professional or the setting in which the task is performed. To accomplish these objectives, this study addresses the following questions: (1) What tasks do public health professionals consider the most critical and perform most frequently? And are these tasks concentrated in any domains (areas) of activity? (2) Does the criticality or frequency of tasks or their relationship differ depending on the demographic characteristics of respondents (race, ethnicity, and gender) or their organizational characteristics (the type of organization in which they work, their level in the organization, the geographic scope of their position, their specialty area, or their CPH status)? (3) Are critical tasks performed frequently or infrequently? And do the domains of critical tasks differ depending on the frequency of their occurrence?

These questions are important for understanding the public health workforce and especially as educators and employers consider workforce training and development.

Methods

The primary method used for data collection and analysis for this study is job task analysis (JTA). JTA is a qualitative and quantitative process for the collection and analysis of information to establish valid content for the certification of members of a profession.²³ The information acquired through the process is the tasks that are typically performed by members of the profession.

Data collection

To collect data for the JTA, the NBPHE created a working group of public health experts in April 2022. Members of the group represented United States health departments, federal agencies, nonprofit organizations, and universities with four individuals from international institutions who provided some input as to whether the tasks performed by public health professionals in the United States were similar to those performed internationally. The role of this group was first to identify the key knowledge and skill areas essential for the performance of entry-level certified public health professionals, translating these into specific task statements. The group began this identification by reviewing the 10 domain categories in the prior JTA conducted by the NBPHE in 2014. After reviewing these domains, the group used a nominal group technique to create 10 new domains which were similar to the initial group. Tasks from the previous JTA were then linked to the domains with revisions and additions as needed to create a set of 103 tasks.

Second, the group conducted a study of the frequency and criticality of tasks as identified by public health professionals working in all areas of the field. This intended audience consisted of professionals from governmental agencies, community-based organizations, nonprofit organizations, private sector entities, academic settings, and research institutes. Scales were created by the group through consensus and input from psychometric experts. Respondents rated the frequency of performing a task on a six point scale ranging from "never" to "daily" (never, every few years, every few months to yearly, every few weeks to monthly, daily) and the criticality of tasks on a five point scale ranging from "not important" to "critically important" (not important, minimally important, moderately important, substantially important, critically important). An additional section of the survey asked respondents to provide background information to ensure a representative response and completion by appropriately qualified individuals. These two activities provided the content validation of the information collected for the JTA.

The sample

The survey was distributed by a link using a commercial survey platform. From the wide distribution, 2091 respondents who completed at least 180 of the 206 survey items (a frequency and a criticality question for each of the 103 tasks) were included in the sample. Not all respondents completed every question resulting in varying response counts for items.

Analysis

The majority of respondents work in the United States (86.4%) and were currently employed in public health (87.1%). A total of 40.9% of respondents stated that they are or have been certified in public health. Of the sample, 71.6% were female, 26.0% were male, and 2.4% indicated some other gender category or did not respond to gender. Respondents in mid-level positions were the most frequent respondents (43.5%) followed by senior-level respondents (23.3%), entry-level respondents (13.8%), and consultants (7.4%). Clinical, student, and other respondents had lower representation, 5.7%, 3.4%, and 2.8%, respectively.

The reliability of the scales was assessed to determine how consistently the survey covered the content area of interest. Reliability was measured by internal consistency using Cronbach's alpha on respondents' ratings of frequency and criticality of each task. The reliability of the frequency and criticality ratings were 0.98 and 0.98, respectively, indicating near perfect agreement among respondents.

Tabular analysis was conducted to identify the most critical and frequent tasks, their domains and average rating. These tables were then prepared with controls for demographic and organizational characteristics. The relationship of criticality to frequency was investigated by establishing high and low levels of criticality and frequency, the association of criticality and frequency, and the tasks in each cell of the four fold table. Controls for the tabular analysis were also conducted using the same controls for demographic and organizational characteristics.

Participant protection

As this article was an analysis of de-identified existing secondary data, no human participant review was required.

Results

What tasks are the most critical and most frequent?

In looking at the rated criticality of tasks, the range of the average of ratings was 3.01 to 4.65; the overall average of all tasks was 3.31. Four of the most critical tasks were in the communication domain, three were in the leadership domain, two were in program and resource management, and one was in law and ethics. The 10 tasks with the highest average ratings in terms of criticality are listed in Table 1.

In looking at the rated frequency of tasks, the range of the average of ratings was 2.38 to 5.59; the overall average of all tasks was 3.43. Four of the tasks were in

the communication domain and four were in the leadership domain with two in the program and resource management domain. The three domains are identical to three of the four that were viewed as most critical. The 10 tasks with the highest average ratings in terms of frequency are listed in Table 2.

Do the most critical and frequent tasks vary with demographic or organizational characteristics?

In general, the most critical and frequent tasks identified by participants do not vary with their demographic or organizational characteristics. Males and females identified the same 10 most critical tasks as all participants and 9 of the 10 most frequent tasks. Whites, Blacks, Asians, and those selecting two or more races again identified the same 10 most critical tasks as all participants with slight variation from this pattern for Alaskan and native Americans and Hawaiian and Pacific Islanders, two very small groups. Regarding frequency, Whites, Asians, and those selecting two or more races identified 9 of the most frequent items; Blacks, Alaskan, and native Americans selected 8 of the 10; and Hawaiian and Pacific Islanders 7 of the tasks. Regarding ethnicity, Hispanics and non-Hispanics identified all 10 of the critical tasks and Hispanics deviated in only one task from the 10 most frequent.

In cases in which participants varied from the top 10 pattern, they often selected tasks in the same domains as those in the top 10 group. None of the ethnicity groups chose other domains outside those of the criticality or frequency top 10 domains; only two of the gender groups chose tasks that were outside the domains for frequency; and for race 7 of the criticality tasks and 10 of the frequency tasks from a total of 60 tasks in each case were in other domains.

For organizational characteristics, there was little difference from the top 10 tasks for criticality or frequency for each position level (entry, mid, and senior levels). There was no difference for senior-level participants regarding criticality, only one variation for mid-level participants in both criticality and frequency, and two variations for entry-level participants in criticality. Regarding the geographic setting (local, regional, national, international), again there was little variation. The national group for criticality and regional group for frequency were identical to the top 10 tasks. Only one variation occurred for local and regional groups regarding criticality and the local and national groups regarding frequency. The international group had two variations in both instances. The type of organization (academic, governmental, not-for-profit, for-profit) also indicated little variation from the top 10 selections. Those in academic settings were identical to the top 10 in criticality and governmental participants in

TABLE 1
Tasks With the Highest Average Criticality Rating

Task	Domain	Rating
Communicate in a responsive, responsible, and professional manner	Communications	4.656
Identify communication needs and gaps	Communications	4.167
Utilize evidence or data to inform decision making and planning	Leadership	4.114
Utilize resources effectively and efficiently	Program and resource management	3.981
Incorporate culturally appropriate approaches into communications	Communications	3.958
Coordinate communication across project team members	Program and resource management	3.881
Apply facilitation skills in interactions with individuals and groups	Communications	3.877
Apply ethical and equitable principles in the collection, maintenance, use, and dissemination of data and information	Law and ethics	3.825
Establish and demonstrate standards of performance and accountability	Leadership	3.792
Develop strategies for collaborative and inclusive problem solving, decision-making, and evaluation	Leadership	3.712

frequency. Governmental and for-profit participants had only one variation regarding criticality and not-for-profit and for-profit participants had only one for frequency. The not-for-profit group regarding criticality and the academic group for frequency each had two variations. Responses based on certification status (CPH or no CPH) also did not differ substantially from the top 10 tasks based on criticality or frequency. All of the tasks selected by the CPH group were in the top 10 of criticality and for the no CPH group, nine were included. For frequency tasks, the CPH group again had all of the top 10 tasks and the no CPH group had nine of them.

Area of specialty has the greatest variation from the top 10 selections but again limited variation occurred. Regarding criticality, three of the 10 specialty areas (health education/health promotion, public health administration, health policy) had 9 of the 10 tasks, four (environmental health, epidemiology, health behavior/health sciences, health care administration) had 8 of the 10 tasks, and three (biostatistics, community health planning, public health nursing) had 6 or 7

of the tasks. Regarding frequency, 3 or the 10 specialty areas (public health administration, epidemiology, health education/health promotion) had 9 tasks in common with the top 10, 6 of the specialty areas (environmental health, health behavior/health science, biostatistics, health care administration, health policy, public health nursing) had 8 in common, and one (community health planning) had 7 in common.

It is important to note that for organizational characteristics the traits that varied from the top 10 in criticality and frequency were typically in the same three or four domains associated with the top 10. For position level and CPH status, no fewer than 9 traits were in the top 10 domains for both criticality and frequency. For geographic setting in only one case (8 traits) was less than 9 traits in the top 10 criticality and frequency domains. For the type of organization, again only in one case was it less than 9 (again 8 traits). For specialty area, a greater number fell outside the three or four domains for criticality and frequency, but this occurred for only 17 of the possible 100 traits for criticality and 11 of the possible 100 traits for frequency.

TABLE 2
Tasks With the Highest Average Frequency Rating

Task	Domain	Rating
Communicate in a responsive, responsible, and professional manner	Communications	5.592
Identify communication needs and gaps	Communications	4.817
Utilize resources effectively and efficiently	Program and resource management	4.701
Utilize evidence or data to inform decision making and planning	Leadership	4.640
Coordinate communication across project team members	Program and resource management	4.427
Apply facilitation skills in interactions with individuals and groups	Communications	4.366
Incorporate culturally appropriate approaches into communications	Communications	4.305
Establish and demonstrate standards of performance and accountability	Leadership	4.249
Motivate others within an organization or community to operate effectively	Leadership	4.096
Encourage innovative solutions to current, persistent, and emerging problems	Leadership	4.095

How does the criticality of tasks relate to their frequency?

The relationship between criticality and frequency was measured by designating tasks as high and low where a rating of 3 or above was viewed as high criticality and four or above was viewed as high frequency. Of the 103 tasks, 74 were rated on average high in criticality and low in frequency, 12 were rated as both high in frequency and criticality, and 17 were rated as low in both criticality and frequency. No tasks were rated as low in criticality and high in frequency.

Table 3 shows the tasks which were rated high in both frequency and criticality. The 12 critical tasks that were frequently performed were largely in the areas of leadership⁵ and communication⁴ with one task in law and ethics. One of the two tasks identified in program and resource management emphasizes coordination of communication. In sum, public health professionals viewed a small number of leadership and communication tasks as critical and performed these frequently.

Table 4 shows the 17 tasks which were rated low in both frequency and criticality, The majority⁷ of these tasks were in the area of policy and advocacy with the remainder spread among the areas of disease prevention and injury reduction,³ data analysis and

informatics,² law and ethics,² program and resource management,¹ leadership,¹ and program planning

TABLE 3
High Frequency and High Criticality

Task	Domain
Communicate in a responsive, responsible, and professional manner	Communications
Apply facilitation skills in interactions with individuals and groups	Communications
Identify communication needs and gaps	Communications
Incorporate culturally appropriate approaches into communications	Communications
Motivate others within an organization or community to operate effectively	Leadership
Encourage innovative solutions to current, persistent, and emerging problems	Leadership
Establish and demonstrate standards of performance and accountability	Leadership
Utilize evidence or data to inform decision making and planning	Leadership
Develop strategies for collaborative and inclusive problem solving, decision-making, and evaluation	Leadership
Apply ethical and equitable principles in the collection, maintenance, use, and dissemination of data and information	Law and ethics
Utilize resources effectively and efficiently	Program and resource management
Coordinate communication across project team members	Program and resource management

TABLE 4
Low Frequency and Low Criticality

Task	Domain
Use informatics principles and methods in the design and implementation of data systems	Data, analysis, and informatics
Recognize when and which statistical packages/software are needed to analyze data (eg, GIS, Stata, SPSS, Tableau, NVivo)	Data, analysis, and informatics
Create teams for implementing community health initiatives	Leadership
Advise on the ethical conduct of public health research, practice, and policy	Law and ethics
Identify the role of international health regulations in promoting and protecting public health	Law and ethics
Identify risk and protective factors for noninfectious environmental hazards and how they affect public health	Disease prevention and injury reduction
Identify risk and protective factors of unintentional and intentional injury and how they affect public health	Disease prevention and injury reduction
Utilize public health emergency management principles to prepare for and respond to public health emergencies	Disease prevention and injury reduction
Develop a community health strategy and plan based on needs and resource assessments	Program planning and evaluation
Implement a community health assessment and community health improvement plans	Program and resource management
Navigate the governmental policy-making process	Policy and advocacy
Establish goals, timelines, funding, and partnerships for the implementation of policy initiatives	Policy and advocacy
Defend existing health policies, programs, and resources	Policy and advocacy
Educate policy and decision makers to improve health, social justice, and health equity	Policy and advocacy
Analyze political, social, and economic policies for their impact on health outcomes at local through global levels	Policy and advocacy
Analyze the feasibility and expected outcomes of policy options (eg, health, fiscal, administrative, legal, ethical, social, political)	Policy and advocacy
Design policies and programs that ensure equitable distribution of health resources with attention to diversity, systemic racism, and discrimination	Policy and advocacy

Downloaded from http://journals.lww.com/jphmp by BhdMf5ePqKav1 zEoum1tQINa4+kLJhEz9pshH04XMI0hCwCX1A WNYQpI/OIH0HD3I3D00R9YVTSFACI3VC1y0abgqZXdwmKZB1wS= on 12/1/2024

and evaluation.¹ In sum, there are a small group of tasks that professionals did not view as critical, and they did not perform them frequently, especially in the area of health policy and advocacy.

A larger group of 74 tasks includes on average tasks that professionals did view as critical but did not perform frequently. The greatest number of these tasks were in the areas of leadership,¹² program planning and evaluation,¹² data analysis and informatics,¹¹ community engagement and participation,⁸ and health equity and social justice.⁸ The remainder were spread across the areas of program and resource management,⁷ communication,⁶ law and ethics,⁵ disease and injury prevention,⁴ and policy and advocacy.¹ These are tasks that professionals viewed as critical but that did not need to be performed frequently or that they lacked the time or personnel to perform them frequently. Table 5 contains 29 of these tasks presented in proportion to their distribution among the 74 total tasks.

High frequency and low criticality

The survey has no tasks on average that are viewed as *low criticality* that are performed frequently. In other words, a task must be viewed as critical by public health professionals to be performed frequently.

Does the relationship of criticality to frequency vary with demographic or setting characteristics?

Finally, it is important to consider if these results varied depending on basic demographic characteristics of respondents (race, ethnicity, and gender) or the organizational setting in which they are performed (private for-profit, private nonprofit, governmental, academic), the position level of the professional (senior, mid-level, entry-level), the geographic scope of their position (local, regional, national, international), the area of specialty (environmental health, epidemiology, health behavior/behavioral science, public health administration, health education/health promotion, biostatistics, community health planning, health care administration, health policy, public health nursing), or CPH status (CPH, no CPH). Tables 3 through 5 were prepared controlling for each of the above variables. These tables demonstrated that there were few differences in the relationship of criticality and frequency regardless of the professional's characteristic on each variable.

Discussion

Although our results provide many insights into the work of public health professionals, they suggest many questions yet to be answered. Our results

indicate that public health professionals view 86 of 103 tasks as critical. This finding appears to indicate that the JTA is addressing the tasks that professionals are performing. It also suggests that public health professionals view the vast majority of the tasks that they perform as important in sustaining and improving the public's health. The vast majority of tasks (91), however, were performed with low frequency. This may indicate that of the many tasks that public health professionals perform, their frequent tasks are concentrated in a few areas.

Tasks that are viewed as most critical and most frequent are largely the same small group of tasks. Professionals may view this small number of tasks as so important that they must perform these frequently. Or it may be that although professionals view many tasks as critical, they lack the time or personnel to perform more of them frequently.

Communication and leadership tasks are the most prominent among the top 10 critical tasks that professionals perform. They are also viewed as the most frequent. Alternatively, advocacy and policy tasks occur most often with low criticality and low frequency. The other low criticality–low frequency tasks are spread across the work of professionals in six other areas, including one leadership task but no communication tasks. Although only performed infrequently, eight health equity and social justice tasks are always viewed as critical.

Educators and professional development personnel may question whether the areas with more critical and frequent tasks should be emphasized in instruction or those with low criticality and frequency, such as advocacy and health policy should be emphasized. If professionals are not performing certain tasks or see them as critical, should curriculum be devoted to other areas? Should ability in the more critical and frequent tasks be emphasized in job descriptions and personnel searches? One might also argue, however, that certain tasks are seen as less critical and performed less frequently because instruction has not prepared workers to do them, and hence, new emphasize should be placed on them. This interpretation is consistent with the results of the Certified in Public Health examinations which indicate that the lowest scores across cohorts occur in the area of advocacy and health policy.²⁴ Schools and programs might try to identify the competencies that are needed to perform these tasks and increase instruction regarding them through capstone courses, practicums, or field work.

Limitations

Although this study provides unique information on the tasks performed by public health professionals, it

TABLE 5
Low Frequency and High Criticality

Task	Domain
Differentiate between primary data and secondary data and their applications	Data, analysis, and informatics
Synthesize information from different sources or studies	Data, analysis, and informatics
Create and interpret data visualizations (eg, graphs, charts)	Data, analysis, and informatics
Identify evidence-based models	Data, analysis, and informatics
Assess health literacy of populations served and apply health literacy concepts	Communication
Develop and implement communication plans	Communication
Use risk communication models/principles to address public health issues, emergencies, crises, and disasters	Communication
Prioritize and justify allocation of resources	Leadership
Develop capacity-building strategies at the individual, organizational, or community level	Leadership
Contribute to the development, implementation, and evaluation of a strategic plan for an organization or with a community in conjunction with key stakeholders	Leadership
Communicate an organization or a community's mission, goals, values, and shared vision to stakeholders	Leadership
Identify regulations regarding privacy, security, confidentiality (eg, personal health information)	Law and ethics
Design and implement strategies to ensure compliance with laws and regulations governing the scope of one's legal authority	Law and ethics
Identify risk and protective factors for modes of transmission for infectious diseases and how they affect public health	Disease and injury prevention
Identify risk and protective factors for noninfectious chronic diseases and how they affect public health	Disease and injury prevention
Identify opportunities to partner across sectors and related disciplines	Community engagement and partnership
Identify and engage key stakeholders in problem solving and policy development	Community engagement and partnership
Identify and engage key stakeholders for the planning, implementation, and evaluation of health problems, policies, and interventions	Community engagement and partnership
Develop and conduct formative, process, and outcome evaluations	Program planning and evaluation
Design public health interventions with a health equity lens (that incorporates such factors as gender, race, socioeconomic status, history, social class, migration, or culture) within public health systems	Program planning and evaluation
Identify and engage appropriate partners for program planning, implementation, and evaluation	Program planning and evaluation
Create SMART objectives and evaluation metrics for program planning, monitoring, and evaluation	Program planning and evaluation
Develop budgets with justifications	Program and resource management
Manage operations and programs with current and forecasted resources (financial, personnel, material, etc)	Program and resource management
Develop proposals to secure financial support	Program and resource management
Use scientific evidence, best practices, stakeholder input, and public opinion data to inform policy and program decision making	Policy and advocacy
Design and conduct culturally appropriate needs or resource assessments for communities or populations	Health equity and social justice
Assess how the values and perspectives of diverse individuals, communities and cultures influence individual and societal health behaviors, choices, and practices	Health equity and social justice
Incorporate culturally appropriate concepts and skills to engage, empower, interact, and collaborate with individuals from diverse backgrounds	Health equity and social justice

has some limitations. First, our sample was not a random selection from the public health workforce. We were dependent on voluntary participation from the field. Enumeration of the population in the workforce has not been accomplished and was beyond the

scope of our JTA. As indicated, a representative diversity of the field was accomplished. Second, our findings were controlled by several important factors which may have affected our results. Other factors may have an effect on our results, but the study was

Implications for Policy & Practice

Our findings may also have implications for the examination process which leads to certification.

- The NBPHE should consider if the more critical and frequent tasks should be given greater emphasis in the construction of examinations. In addition, should CPHs be encouraged to emphasize these tasks in their continuing education for recertification? Or should they emphasize those that are viewed as less critical and frequent under the assumption that it is a lack of skill development regarding these tasks that may be keeping professionals from performing them and hence viewing them as less critical?
- Professionals' views of the most critical and frequent tasks generally do not differ regarding the professionals' basic demographic or organizational characteristics.
- One's background or place in the organization or its setting appear to not influence how public health professionals view their work.
- There also are few differences based on respondents' demographic or organizational characteristics in their responses to the relationship of criticality to frequency of tasks, indicating consistency in the average ratings of tasks categorized as high criticality–high frequency, low criticality–low frequency, and high criticality–low frequency.
- Based on the results of controls in our analyses, it appears that the characteristics of professionals do not extensively affect their views on task criticality or frequency of performance. Hence, academics and trainers can focus on task development for all professionals with less concern for the demographic or organizational characteristics of the participants.
- Much future research is needed regarding the tasks performed by public health professionals. These studies might consider the relationship of task perceptions and performance with the current level of competency among workers in our domain areas. Other work might investigate which factors might influence perceptions of task criticality and frequency beyond those that we were restricted to in our data. Finally, the effect of the pandemic on task perceptions or performance should be considered as many studies have already shown the impact of the pandemic on public health.

limited to those collected through the JTA. An important factor to consider is that the JTA was conducted in 2022, immediately after the height of the COVID-19 pandemic which affected many aspects of public health practice. Finally, our study is based on data from a JTA which utilized items based on the consensus of experts in the field. Other experts might have designated other items or stated the items that were used differently.

References

1. DeSalvo K, Hughes B, Basset M, et al. Public Health COVID-19 Impact Assessment: lessons Learned and Compelling Needs. April 7, 2021. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8406505/>
2. National Academy of Medicine. *Emerging Stronger from COVID-19: Priorities for Health System Transformation*. The National Academies Press; Washington, DC: 2023. doi:10.17226/26657.
3. Kett PM, Bekemeier B, Patterson DG, Schaffer K. Competencies, training needs, and turnover among rural compared with urban local public health practitioners: 2021 Public Health Workforce Interests and Needs Survey. *Am J Public Health*. 2023;113(6):689-699. doi:10.2105/AJPH.2023.307273.
4. Bipartisan Policy Center. Public Health Forward: Modernizing the US Public Health System; 2021. https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2021/12/BPC_Public-Health-Forward_R01_WEB.pdf
5. Glynn MK, Paek M, Radkey C, et al. Strategic development of the public health workforce: a unified logic model for a multifaceted program at the Centers for Disease Control and Prevention. *J Public Health Manag Pract*. 2021;27(1):62-69. doi:10.1097/PHH0000000000000983.
6. Amos K, Levy N, Bialek R, Arana M. Developing complex, cross-cutting skills in the public health workforce: using a crosswalk analysis to map public health competencies to strategic skills for the governmental public health workforce. *J Public Health Manag Pract*. 2022;28(5):536-540. doi:10.1097/PHH.0000000000001532.
7. Morabia A. Public health workforce: retention, enumeration, and safety. *Am J Public Health*. 2024;114(1):42-43. doi:10.2105/AJPH.2023.307524.
8. Zimmel DJ, Kulik PKG, Leider JP, Power LE. Public health workforce development during and beyond the COVID-19 pandemic: findings from a qualitative training needs assessment. *J Public Health Manag Pract*. 2022;28(5 suppl 5):S263-S270. doi:10.1097/PHH.0000000000001524.
9. Leider JP, Yeager VA, Kirkland C, Krasna H, Bork RH, Resnick B. The state of the US public health workforce: ongoing challenges and future directions. *Annu Rev Public Health*. 2023;44(1):323-341. doi:10.1146/annurev-publhealth-071421-032830.
10. Yeager VA, Burns AB, Lang B, et al. What are public health agencies planning for workforce development? A content analysis of workforce development plans for accredited public health departments. *J Public Health Manag Pract*. 2023;29(6):762-774. doi:10.1097/PHH.0000000000001805.
11. Council on Linkages between Academia and Public Health Practice. *Core Competencies for Public Health Professionals*; 2021.
12. Council on Education for Public Health. *Accreditation Criteria: Schools of Public Health and Public Health Programs*; 2021.
13. de Beaumont Foundation. *Adapting and Aligning Public Health Strategic Skills*; 2021.
14. National Board of Public Health Examiners; 2024. <https://www.nbphe.org>
15. National Council for Health Education Credentialing; 2024. <https://www.nchec.org>
16. National Registry of Environmental Professionals; <https://www.nrep.org/certifications>.
17. American College of Health Care Executives; <https://www.ache.org>
18. National Board of Public Health Examiners, Certified in public health eligibility criteria; 2024. <https://www.nbphe.org/eligibility>
19. Certified Association Executives. <https://www.asaecenter.org/programs/cae-certification>
20. Registered Environmental Health Specialists. <https://www.neha.org/rehs-rs-credential>
21. Certified Public Accountant. <https://www.thiswaytocpa.com>
22. National Board of Public Health Examiners. Job Task Analysis; 2022. Accessed April 25, 2024
23. American Educational Research Association, American Psychological Association, National Council on Measurement in Education. *Standards for Educational and Psychological Testing*. Washington, DC: AERA; 2014.
24. Certified in Public Health examination database, National Board of Public Health Examiners; 2024. Accessed April 30, 2024