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## Consensus on Potential Changes in Public Health Leadership Competencies as a Result of the COVID-19 Pandemic Among Washington State Local Health Jurisdictions

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CONSENSUS ON POTENTIAL CHANGES IN PUBLIC HEALTH LEADERSHIP  
COMPETENCIES AS A RESULT OF THE COVID-19 PANDEMIC AMONG  
WASHINGTON STATE LOCAL HEALTH JURISDICTIONS

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A Thesis

Presented to

The Graduate Faculty

Central Washington University

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In Partial Fulfillment

of the Requirements for the Degree

Master of Public Health

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by

Haley M. Schimmel

May 2023

CENTRAL WASHINGTON UNIVERSITY

Graduate Studies

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## ABSTRACT

# CONSENSUS ON POTENTIAL CHANGES IN PUBLIC HEALTH LEADERSHIP COMPETENCIES AS A RESULT OF THE COVID-19 PANDEMIC AMONG WASHINGTON STATE LOCAL HEALTH JURISDICTIONS

by

Haley M. Schimmel

May 2023

Effective leadership practices among the public health field are critical in the process of influencing positive health outcomes across populations. While many competencies or skill sets that are needed of leaders to promote ideal public health functions have been identified and discussed in previous literature, there has become an arising need for evaluation of potential changes due to the COVID-19 pandemic.

To do this, the Delphi research method was utilized through the implementation of a four-round questionnaire process to gain consensus among participating leaders in ten different Washington State Local Health Jurisdictions. The two main research questions of this study were 1.) What are the public health leadership competencies considered to be most important in Washington State Local Health Jurisdictions? and 2.) Have public health leadership competencies among Washington State Local Health Jurisdictions changed because of the COVID-19 pandemic?

Findings included that the top five ranked public health leadership competencies identified to have changed and/or become more important because of the COVID-19 pandemic were: Communication, Collaboration, Community Partnerships, Strategic Skills, and Being

Flexible/Adaptable. The response rate from Round One to Round Four was 83% while the overall level of consensus among this final list was 80%. In analysis, there have been both changes and increases in importance among public health leadership competencies from before the COVID-19 pandemic to present-day.

Implications for practice largely include the need for training, engagement, and practice among public health leadership surrounding the final five competencies from this study. Future research in this area is suggested to examine singular competencies at a time or use a different study design to understand these competencies further.

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Lastly, I would like to thank my loving family for their unwavering belief in me. My parents, Eric and Lori, have been the biggest motivators and reasons why I decided to pursue this degree. My sisters, Reese and Paige, have allowed me to lean on them in times of difficulty. I cannot thank you four enough for being there for me unconditionally.

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# CHAPTER I

## INTRODUCTION

### **Problem Statement**

Effective public health leadership serves as an essential role in the production of positive health outcomes. Many of the competencies necessary to achieve optimal public health operations have been identified and examined in both previous research and literature (Bleich, 2020; Strudsholm & Vollman, 2021; The Council on Linkages Between Academia and Public Health Practice). However, there is a newfound need for evaluation of possible changes in these leadership skill sets as the COVID-19 pandemic has had numerous effects and impacts throughout the public health field.

### **Background**

#### *Defining Public Health and Governmental Systems*

According to the Washington State Board of Health (2014), public health is defined as “an essential service guaranteed to all residents by state law” (p. 1). This encompasses both health protection and prevention measures across entire populations. The public health field is significant in that 70% of premature deaths result from factors related to behavioral and environmental determinants, 20% are from genetic factors, and 10% account for lack of illness care (Washington State Board of Health, 2014). Governmental public health systems are in place to avoid these occurrences. Within the state of Washington, these include the Washington State Department of Health, the State Board of Health, and Local Health Jurisdictions (LHJs). These organizations have three primary roles of responsibility among their public health operations including assessment, policy development, and assurance. Assessment includes tracking community-based factors such as birth, illness, and death events along with available health

resources, unmet needs, and populations' perspectives on their own health overall. Policy development incorporates the information collected from assessments to create both state and local public health policies. Lastly, assurance involves the translation of policies into services while simultaneously monitoring overall quality as well (Washington State Board of Health, 2014).

### *Public Health Leadership and Competencies*

Leadership in public health is a significant element in the success of health systems, services, and outcomes. According to Subedi et al. (2021), public health leadership is “necessary, relevant and important as it enables the engagement, management, and transformation of complex public health challenges at the national level, as well as collaborating with internal stakeholders to address global public health threats” (p. 1). To operate in a way that achieves optimal public health outcomes, there are several competencies or skill sets required of professionals within this specific area of public health work. Adoption and implementation of these core competencies within public health leadership is leading to both the strengthening and advancing of public health goals, practices, and outcomes (Strudsholm & Vollman, 2021).

Competencies in public health leadership are defined by the Centers for Disease Control and Prevention (2014) in public health law as “The level at which public health practitioners have the skills to access and understand the relevant laws and to actually apply them to given health issues” (sect. 1), or “Observable and measurable knowledge, abilities, skills, and behaviors that must be applied to achieve results aligned with the goals of the organization” (sect. 4). These identified skill sets reflect the ability to transform knowledge into practice (Malmoon et al., 2020). Continual improvements in these core areas through repeated

performance based on informative understanding in practical circumstances leads to enhanced quality assurance.

### *Impacts of the COVID-19 Pandemic*

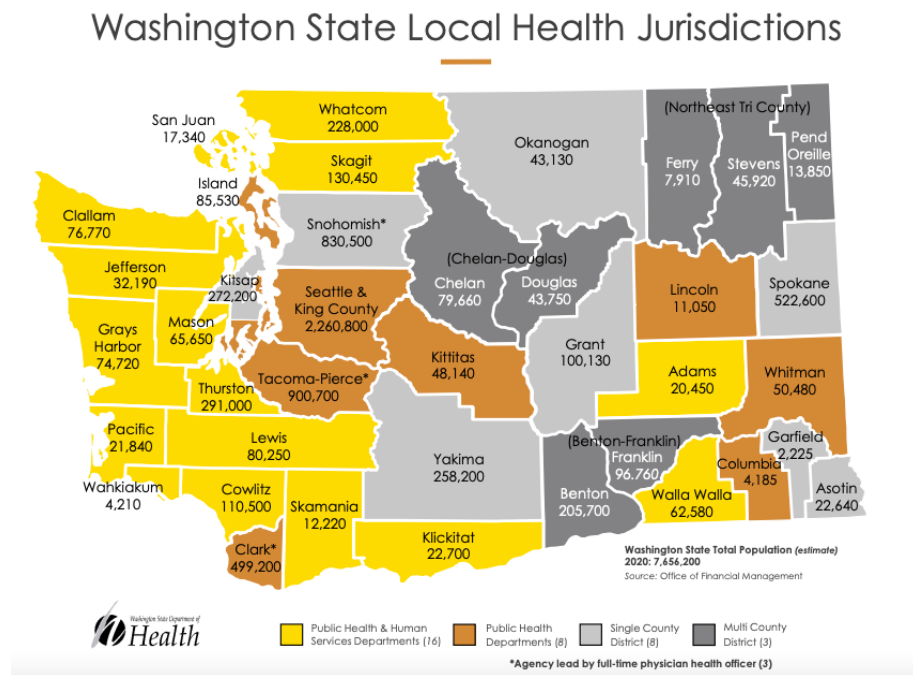
Leadership competencies in public health leadership may have changed because of the COVID-19 pandemic and its related impacts. According to Czabanowska and Kuhlmann (2021), there was a significant disruption of health systems globally due to the exceptional circumstances associated with the COVID-19 pandemic. There are five critical overarching aspects that suggest the altering development of public health leadership competencies throughout the post-COVID-19 pandemic era. (1) In order to work differently, leading and learning must also occur differently. There are newfound leadership qualities, such as empathy and flexibility, that lead to improved communication, innovation, and motivation as well as overall outcomes. (2) There must be a combination of both scientific/evidence-based approaches and understanding. This creates stronger research, critical thinking, relational empathy, ethical action, diversity inclusion, and more. (3) A necessary level of epidemiological competency is required to achieve ideal levels of population health in general. (4) Preparation is a vital aspect in response to public health emergency circumstances. Lastly, (5) there is a need for competencies related to coping mechanisms, foresight, and employability (Czabanowska & Kuhlmann, 2021). In addition, the public health emergency of the COVID-19 pandemic led to significant contributions of other specific public health leadership competencies, including critical thinking and evidence-based decision making (Strudsholm & Vollman, 2021).

### *Washington State Local Health Jurisdictions (LHJs)*

There are 35 LHJs among the 39 counties within Washington state. These are all included within Figure 1 (Washington State Department of Health, n.d.a). According to the Washington

State Board of Health (2014), the public health system— through the implementation of these organizations— maintains its primary responsibility of protecting, promoting, and improving overall population health.

Figure 1: Map of Washington State Local Health Jurisdictions



Source: Washington State Department of Health, n.d.b

### Delphi Method

The Delphi method may be defined as “a group facilitation technique that seeks to obtain consensus on the opinions of experts through a series of structured questionnaires” (Hasson et al., 2000, p. 1009-1010). The aim is to collect professionally held judgements to identify a mutual agreement among the identified participant group (Niederberger & Spranger, 2020). Consensus is defined by the researcher and serves to be the main goal of the research study. In this way, the purpose of this research strategy is to reach a level of consensus through considering all opinions among the group. Further, the Delphi method is also categorized as a credible and detailed systematic qualitative methodology (dell’Olio et al., 2018).

## **Summary**

This chapter identified and outlined prevalent elements to consider in relation to the research study. These included a problem statement, public health and governmental system definitions, public health leadership competencies, impacts and changes due to the COVID-19 pandemic, Washington State Local Health Jurisdictions, and the Delphi method. Chapter II describes and details these components further.

## **CHAPTER II**

### **LITERATURE REVIEW**

#### **Introduction**

This chapter reviewed the literature related to each of the varying aspects regarding this study. These include public health leadership competencies prevalent in the literature prior to the COVID-19 pandemic, COVID-19 as it has impacted public health leadership, the Delphi method as a study design, and Washington State LHJs as qualified participants in this study.

#### **Public Health Leadership Competencies**

There are numerous identified competencies required of public health leaders prior to the COVID-19 pandemic that appear frequently and overlap between and among the literature. These are highlighted and detailed throughout this chapter as they are each repeatedly represented in prior research. Because of this, these 10 specific competencies are suggested to be more important than others mentioned less often in comparison. However, these identified competencies may not be current or satisfactory (Czabanowska & Kuhlmann, 2021). Evaluation processes and possible adjustments might be necessary to ensure accuracy of each of these public health leadership competencies due to effects of the COVID-19 pandemic.

#### *Communication*

As one of the most repetitive core skills noted, communication is vital to public health leadership work. Through both oral and written forms, conversing and sharing information as well as ideas is a significant part of adequate functioning among a group or organization (Malmoon et al., 2020). Also, communication management is important to acknowledge. This involves the structure and process whereby information is shared between individuals or organizations. According to Rowitz (2014), there are multiple specified skills within the



communication process that are necessary for public health leaders. These include “interpersonal communication, active listening, public speaking, interviewing, written communication, computer skills, media advocacy, cultural sensitivity, feedback, delegation, framing, dialogue/discussion/debate, meeting skills, health communications, social marketing, coaching/mentoring/facilitation, conflict resolution, negotiation, storytelling, and journaling” (Rowitz, 2014, p. 354). In addition to these, others that are important to note include fully developing communication skills as part of an ongoing learning strategy, respecting different agendas that others offer to the group, using the primary functions and key services within public health to manage information sharing, and recognizing barriers to communication (Rowitz, 2014).

Certain factors of group or organizational dynamics are critical to analyze in terms of communication measures and methods. According to Wright et al. (2020), the effective implementation and practice of communication by public health leaders must also include team building and work group capacity as well as capability. Further, the creating and implementing of information and communication processes to transpire and facilitate team development is essential (Wright et al., 2020). Other forms of communication possess importance as well, such as those relating to media, promotion, risk, and community.

Communication is known to be a differentiating competency in which strong skills in this area may contribute to success and lack thereof can lead to challenges (Sonnino, 2016). Communication in all forms is used and practiced often within many other competencies and areas of public health leadership work as well. According to Czabanowska et al. (2014), there are numerous focuses when considering communication as a public health leadership competency. Some of these include to demonstrate sufficient written and oral methods, understand and utilize

non-verbal cues, provide information in a responsible manner at different levels within an organization, share perspectives in a receptive and impartial manner, and ensure sensitivity through communicating across varying cultures and disciplines (Czabanowska et al., 2014). Additionally, the ability to communicate clearly and respectfully with all parties involved- such as peers, coworkers, partners, or other leaders- must remain consistent. Means of communication may also work to create important relationships with others while promoting productive experiences among individuals and groups in various settings (Ledlow & Coppola, 2014).

### *Influencing Change*

A major part of public health leadership work incorporates the influencing of change, therefore causing it to reflect as a significant competency. Serving to be an effective change agent as a leader in public health encompasses numerous actions. These are to facilitate learning development, create systems and structures that exhibit transformational change, implement evaluation strategies, provide assessment and planning information, identify emerging issues, utilize specific change theories and models, initiate methods to empower others to take action, exemplifies cultural sensitivity and competence, models application of critical thinking and analysis skills, demonstrates appropriate risk-taking behaviors, and others (Rowitz, 2014). According to Jadhav et al. (2017), this competency also incorporates creating opportunities while simultaneously ensuring continuous quality improvement. Among this area, ongoing development of the group or organization is essential. The domain of influencing change in public health leadership also includes the factor of personal motivation or initiation of change. This refers to the ability to communicate one's vision while persuading others to embrace and implement it as well (Yphantides et al., 2015). Influence also works to create the chance and motivation for leaders in public health to enhance their own relationships outside of the

traditional realm of workplace settings. Therefore, according to Yphantides et al. (2015), leaders in public health are required to employ perspectives and impacts that transcend the limits of any discipline.

Influencing change also means leading change throughout groups or organizations. According to Czabanowska et al. (2014), there are multiple components to this. These include facilitating reassessment and adaptation of mission/vision, managing staff to manage change in an efficient way, employing strategies for change, making evidence-based informed decisions reflecting priorities and resources, communicating updates in system structures as needs and opportunities are identified, and ensuring that practices are aligned with public health system changes (Czabanowska et al., 2014). To be able to have an influence on change, public health leaders must understand complex systems whereby planning skills and adaptation methods throughout such changes are mastered. This creates a drive for execution and continuous improvement in work (Begun & Malcolm, 2014). Execution refers to the implementation of purposeful work in public health that incorporates relevant commitments and plans; continuous improvement reflects constantly inquiring methods that improve processes and outcomes of work in public health.

Among each of these factors, the overall management of change is important as well (Malmoon et al., 2020). This specifically involves processes and techniques of handling change as it affects others within the group or organization. Moreover, this competency of influencing change is essential to advancing the public health field and therefore enhancing its impact (Begun & Malcolm, 2014).

### *Emotional Intelligence*

A pivotal competency to possess in public health leadership is emotional intelligence. This concept correlates with emotional competence as well, being the ability to self-reflect and recognize the feelings of others as well as oneself. Emotional intelligence is considered a trait of awareness and authenticity that has gained wide acceptance (Sonnino, 2016). According to Daire et al. (2014), this concept includes self-awareness, self-confidence, self-management, and self-motivation. Self-awareness revolves around understanding personal attitudes and beliefs as well as portrayed impacts on others; self-confidence concerns acknowledgement of personal strengths and weaknesses while corresponding their actions; self-management deals with handling personally experienced emotions, thoughts, and reactions; self-motivation encompasses the personal commitment to certain actions (Daire et al., 2014). Emotional intelligence can further impact processes of interacting with others involving opportunities to inspire, motivate, mentor, and guide them.

### *Collaboration/Partnership*

Collaboration and partnership are interrelated parts of successful public health leadership work. Collaboration, which assumes building and leading interdisciplinary teams, consists of a few focuses. According to Czabanowska et al. (2014), these are to provide an open and opinion-sharing environment, demonstrate adequate group functioning techniques, model team leadership characteristics, acknowledge and respect expectations, and offer opportunities for collaboration in learning and quality improvement mechanisms. Partnership, which primarily encompasses stakeholder engagement, is essential in this realm of competency (Stephen & Stemshorn, 2016). The acquisition of productive, professional, and mutually rewarding relationships requires time and effort to create and maintain. These collaborative partnerships require diverse stakeholders

or groups across disciplinary and subject boundaries. However, the scope of partnerships largely depends on the willingness and capacity of others in sharing responsibilities and support along with addressing the issues involved to be prioritized. Members of partnerships should mainly include decision-makers, professionals in the field, and communities among varying public health focused areas. Overall, partnerships may offer powerful opportunities for teamwork and can provide unique benefits (Stephen & Stemshorn, 2016).

This area of competency within public health leadership also considered networking and connecting (Day et al., 2014). Through this, the maintenance and development of relationships among individuals and/or groups of all levels may occur. According to Day et al. (2014), maintaining long-term relationships throughout sectors is important for public health practice. Further, developmental opportunities in this realm are informal and take place on an individual basis. Although many public health leaders may not be naturally extroverted or have outgoing personalities, this competency remains prevalent.

Development in terms of collaboration and partnerships within public health leadership work involves the increase and/or enhancement of leadership capabilities, workforce, resources, and knowledge (Jadhav et al., 2017). Major public health problems that transcend beyond the capacity of a singular group or unit requires leaders to perform effective organizational boundary skills, known as trans-organizational practices (Wright et al., 2020). Community engagement is another important aspect in association of collaborative partnerships that includes the involvement and participation with others in pursuit of addressing issues that impact all groups or individuals involved (Rowitz, 2014).

## *Systems Thinking*

The attributes of systems thinking as it corresponds to public health leadership as a competency includes numerous areas. This skill is a component of cognitive intelligence as it considers the impacts of pattern recognition as well as the practice of understanding various relationships and intersecting areas within a sector (Daire et al., 2014). Systems thinking, in terms of leadership, involves conviction and commitment that may work towards improving health outcomes and strengthening health systems (Savingy & Adam, 2009). Further, the practice of effective systems thinking includes a few capabilities including to explore issues from a general standpoint, demonstrate possible solutions that may work across disciplines, support dynamic networks of various stakeholders, promote learning, and transpire planning and evaluation (Savingy & Adam, 2009). Systems thinking also utilizes four primary elements including (1) systems organizing, (2) systems networking, (3) systems dynamics, and (4) systems knowledge. Systems organizing is managing and leading a group or organization; systems networking is acknowledging and managing stakeholders among the group or organization; systems dynamics is modeling and understanding dynamic change within the group or organization; systems knowledge is facilitating and managing content and resources for use by the group or organization (Savingy & Adam, 2009).

This area of public health leadership competency also incorporates transformation in the way that critical and analytical thinking processes are employed leading to vision planning and strategic assessment (Wright et al., 2020). According to Czabanowska et al. (2014), there are multiple focuses within this competency of public health leadership. These include understanding current issues in public health while working to address them, share and implement differing perspectives for the best interest of the group or organization, recognize and

utilize adaptive leadership in applicable circumstances, and others (Czabanowska et al., 2014). Systems thinking also embodies strategic thinking. This involves primary skills such as anticipating and planning to overcome challenges as well as identifying resources to implement initiatives (Ledlow & Coppola, 2014).

### *Conflict Management*

A seemingly under-estimated yet highly prevalent domain in public health leadership work is conflict management. According to Smiley (2018), conflict management involves decreasing negative outcomes and increasing positive experiences through circumstances of conflict. Despite that conflict inevitably occurs throughout daily tasks and regular interaction, it can result in resolution and improved productivity of the group or organization when managed both effectively and efficiently. The ability of public health leaders to manage conflict as it arises amongst groups or organizations is critical to the overall success of those involved (Smiley, 2018). Additionally, negotiation seems to play a major role in conflict management. This is a core skill that is useful in practice of this competency (Malmoon et al., 2020; Sonnino, 2016).

### *Ethical Standards*

The factors regarding values and professionalism are important within ethical standards as a competency of public health leadership. This is a highly rated and relevant competency within the public health field and work (Jadhav et al., 2017). The domain largely encompasses cultural competency which is critical within many others as well (Rowitz, 2014). Cultural competency includes both awareness and sensitivity factors surrounding the backgrounds and lived experiences of others among a group or organization. Values must be integrated in leaders as they provide foundational support in achieving personal and organizational visions and missions (Yphantides et al., 2015). Further, values should include the motivation for

improvements and efforts in making necessary change, decision-making that embodies evidence-based approaches, and techniques to impact various levels of behavior. Professionalism, on another hand, contains multiple components. According to Czabanowska et al. (2014), these are adhering to the ethical and legal standards, encouraging high levels of commitment to the goals of the organization, creating a statement of potential conflicts of interest that may impact one's work while taking appropriate action to minimize it, respecting diverse cultures while promoting diversity, practicing accountability and responsibility, and working towards reducing inequalities to public health. Each of these elements within ethical standards highlighting values, professionalism, and cultural competency are critical throughout public health leadership work.

### *Mentoring*

Among public health work, mentoring is a critical competency in guiding practice. This process occurs whereby an individual of a higher positional status with more experience offers help and support to an individual of a lower status and less experience (Rowitz, 2014). Throughout this specific type of relationship, there is a continual process of learning and growing that occurs. According to Rowitz (2014), there is a responsibility of previously mentored professionals to offer their learnings to upcoming individuals in the field. There are positive impacts on all parties involved when this process is implemented and maintained successfully, including the larger group or organization itself. Additionally, mentoring includes coaching and training (Malmoon et al., 2020; Rowitz, 2014). Nurturing is another aspect of mentoring that has a significant effect. According to Day et al. (2014), this embodies committing to professional welfare, welcoming environments, and building networks.



### *Advocacy*

An impactful public health leadership competency for utilization in practice is advocacy. This can be conducted through a variety of formats such as writing, speaking, interviewing, and others (Day et al., 2014). In each of these settings, credibility is frequently a significant predictor of effectiveness as it is predominantly achieved by practice in public health. Additionally, advocating for the role of public health is essential in this realm (Jadhav et al., 2017). According to Yphantides et al. (2015), “the more that public health is recognized as a discipline, the more influence and power public health professionals can be expected to have” (p. 2). This is pivotal in the work of promoting and enhancing public health as a whole, specifically among the leadership realm.

### *Business Skills/Knowledge*

Lastly, a crucial component to public health leadership work is skills and knowledge in business. According to Sonnino (2016), this is considered within the area of task-oriented knowledge. Business skills require the ability to plan, budget, coordinate and monitor services (Daire et al., 2014). Finances and economics are important to note as differentiating core skills as well (Sonnino, 2016). The role of administration plays a factor in the business realm, too. Therefore, leaders in public health must follow administrative directives and standards throughout operations while aiming to achieve high success rates. Accountability of administrative levels is typically among multiple authorities, such as regional or national departments (Daire et al., 2014).

### *Changes in Public Health Leadership Competencies due to the COVID-19 Pandemic*

There is limited prior research and literature concerning this specific area, because COVID-19 pandemic is a recent event as it was declared a pandemic in March 2020 (Cucinotta

& Vanelli, 2020). The existing literature primarily focuses on emerging lessons of the COVID-19 pandemic, suggestions for requirements of public health leaders, and framework for public health leadership competencies (Bashkin et al., 2022; Jaeger, 2021; Czabanowska & Kuhlmann, 2021). However, there is an evident gap in the research and literature concerning identified changes in public health leadership competencies because of the COVID-19 pandemic.

## **COVID-19**

Due to the COVID-19 pandemic, there has been an increase in uncertainty surrounding public health leadership competencies amid a global public health emergency (Czabanowska & Kuhlmann, 2021). This seems to stem from the significant stress on the global public health system which exposed gaps in healthcare (Benjamin, 2020). However, there has been minimal research or literature regarding potential changes in public health leadership competencies because of the COVID-19 pandemic and its related impacts.

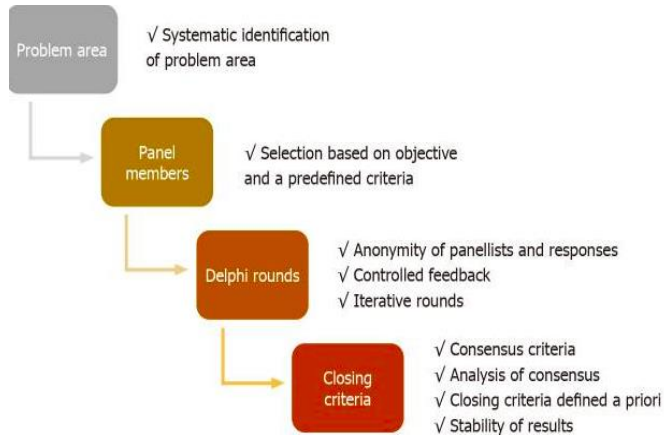
## **Delphi Method**

### *The Process and Purpose*

The Delphi method of research involves surveying expert participants through a series of at least two or more rounds to reach a level of consensus among the group (Czabanowska et al., 2014). The Delphi method serves as a multistage process designed to integrate opinions into consensus on an identified topic or issue (Hasson et al., 2000). The Delphi method is also categorized based on four main features as well. These include anonymity of participants, iteration, controlled feedback, and statistical stability of consensus (Skulmoski et al., 2007 and Nasa et al., 2021). This study design is known to be a continuous and repetitive process in which the aim is to gain consensus in a way that allows participants to receive and provide timely feedback while considering opinions of others at the same time (Bhandari et al., 2020). A visual

representation of the Delphi method structure and system is shown in Figure 2 (Nasa et al., 2021, p. 119).

*Figure 2: Delphi Method Process*



Source: Nasa et al., 2021, p. 119

Additionally, there are noteworthy advantages of using the Delphi method. According to Akins et al. (2005), these include:

- the ability to involve varying geographic locations without requiring participants to physically meet,
- time and cost efficiency,
- identification and discussion of complex issues,
- the ability for participants to communicate in an abstract way that addresses an issue as a group,
- response rates are at the convenience of participants,
- documentation of group interaction that can be later reviewed,
- opportunity to express opinions in an anonymous format, and
- proven effectiveness in a variety of fields.

Moreover, the Delphi method is a research method that works to efficiently moderate a structured sequence of questions throughout the group while prompting individuals to consider and provide feedback concerning aspects of a complex issue (Nasa et al., 2021).

### *Selection of the Sample*

In this step of identifying participants for inclusion among use of the Delphi technique, there is not a standardized number of participants (Nasa et al., 2021). Appropriate sample size may be determined based on the prevalence of the issue, whether the panel is homogeneous or heterogeneous, and/or access to necessary resources. Further, previous research and literature suggests a wide variety of practices concerning the exact number of experts to recruit on a panel (Okoli & Pawlowski, 2004). More importantly, however, the main requirements for identified expertise of participants are defined in four main areas. These include “(1) knowledge and experience with the issues under investigation, (2) capacity and willingness to participate, (3) sufficient time to participate in the Delphi, and (4) effective communication skills” (Skulmoski et al., 2007, p.4).

### *Informing Participants and Gaining Informed Consent*

In this step of the study, design is critical in both preparation and employment of the intended research. Participants must become informed on their exact role and responsibility within the study, the expected time and effort commitment necessary for inclusion, and how the information provided may be used beyond the research before agreeing to participate in the study overall (Hasson et al., 2000). Additionally, ensuring that all participants understand the purpose or goal of the study along with the methods of the study supports the research relationship likely leading to high response rates throughout each of the study rounds.

### *Data Collection*

Within this element of the study design, the two main guiding factors are the discovery of opinions and determining the most critical issues (Hasson et al., 2000). In discovery of opinions, it is critical to know when to stop the process of rounds. If not, too soon may lead to meaningless results and too late may cause sample fatigue and resources. In this way, consensus is advised to be equated to 51%, however 70% or greater is recommended (Hasson et al., 2000). While determining the most important issues, each round presents a differing format. The first round begins with a broad, yet clearly worded, question to initiate the thoughts and opinions of all participants. The second round states a reflection on all responses from the first round and asks for further ideas and if there are any changes to original ones by participants. The third round aims to achieve a final level of consensus amongst the majority, if not all, of participants.

### *Data Analysis*

Through this component of the study design, the major leading factor is the managing of opinions (Hasson et al., 2000). In managing opinions, data is analyzed in a way that converges similar ideas and opinions. However, this tactic of grouping must be verified to validate that data is fairly represented throughout all rounds within the study. In addition, wording used by the participants must remain consistent with minor editing and no items may be added during this part of the research (Hasson et al., 2000). Between each round, the researcher conducts analysis of data collected and acts as the main guide of the study.

### **Washington State Local Health Jurisdictions**

The Washington State Department of Health oversees 35 local health departments and local health districts that work to serve all 39 counties within the state. Washington's public health system also includes the State Board of Health, tribal governments, and other partners

(Washington State Department of Health, n.d.a). More specifically, Washington State Local Health Jurisdictions include “30 county health departments, three multi-county health districts, and two city-county health departments” (Washington State Department of Health, n.d.a). These organizations each operate to provide numerous opportunities and initiatives that work to promote overall health as well as prevent illness and disease (Washington State Department of Health, n.d.a).

### **Summary**

This chapter reviewed pertinent literature related to each component of this research study including public health leadership competencies represented in the literature prior to the COVID-19 pandemic, COVID-19 factors that have had effects on public health leadership, the Delphi method, and Washington State Local Health Jurisdiction information as it relates to this study. Chapter III discusses proposed methods for use in this research study.

## **CHAPTER III**

### **METHODS**

#### **Introduction**

The purpose of this study was to gain consensus amongst Washington State Local Health Jurisdictions regarding potential changes in public health leadership competencies due to the COVID-19 pandemic. The scope of this study included an intended sample of all 35 Washington State Local Health Jurisdictions. Additionally, this research study received approval from the Central Washington University Human Subjects Review Council (HSRC).

#### **Study Aim and Research Questions**

The aim of this study was to gain consensus on public health leadership competencies that may have changed because of the COVID-19 pandemic among Washington State Local Health Jurisdictions. The research question(s) of this study were:

1. What are the public health leadership competencies considered to be most important in Washington State Local Health Jurisdictions? and
2. Have public health leadership competencies among Washington State Local Health Jurisdictions changed because of the COVID-19 pandemic?

#### **Methodology**

##### *Delphi*

The Delphi method was implemented and utilized in this study to gain consensus on public health leadership competencies that have potentially changed because of the COVID-19 pandemic among Washington State Local Health Jurisdictions. The intended sample of all 35 Washington State Local Health Jurisdictions was selected to include as many participants in the study as possible. Additionally, this was determined by prior research and literature using the

Delphi method study design (Akins et al., 2005; Bhandari et al., 2020; Nasa et al., 2021). The literature suggests that a sample size may begin with a somewhat larger number of panelists than those who showed to be respondents (Akins et al., 2005). All qualified experts among the identified population were recruited for participation in this study. In this way, the intended number of study participants is 35 but less– or about half– was expected.

The main inclusion criteria for participants of this study involved individuals in leadership positions among Washington State Local Health Jurisdictions. All Washington State LHJs were contacted via email and/or phone to provide them with both the purpose of the study and informed consent to gain their committed participation. The researcher contacted individuals within leadership positions of all Washington State LHJs in the following order, if necessary, including the Director/Administrator, Assessment Coordinator, and/or Epidemiologist. This initial email sent to all potential participants included the Introductory Email to Participants (See Appendix A) and Research Participant Informed Consent (See Appendix B). After informed consent of participation in the study was received, participants were then sent Demographic Questions (See Appendix C) along with the first round. The study further involved four rounds of questionnaires while utilizing the Delphi method design. Each of the subsequent rounds, referred to as Rounds 1-4 (See Appendix D), were administered in separate emails throughout the duration of the study that each consisted of a two week– or 14 day– time period. The first 10 days allowed for the participants to submit their responses and the last four days allowed for the researcher to manage the data collected. A confirmation email was sent to participants if or when their responses were received for each round, titled Receipt of Submission Email to Participants (See Appendix E). Also, if needed, a reminder email was sent to participants if or when their



responses had not been received after eight days each round, labeled Reminder Email to Participants for Rounds 1-4 (See Appendix F). The description of all four rounds is as follows.

- Round 1: Asked for each participant to brainstorm the current most important public health leadership competencies.
- Round 2: Sent a compiled list of all reported public health leadership competencies and asked each participant to select and rank their top ten.
- Round 3: Sent a ranked list of the top 10 public health leadership competencies and asked each participant to identify which ones have changed or become more important because of the COVID-19 pandemic.
- Round 4: Sent a final list of public health leadership competencies that have been impacted by the COVID-19 pandemic and asked each participant to select and rank their top five.

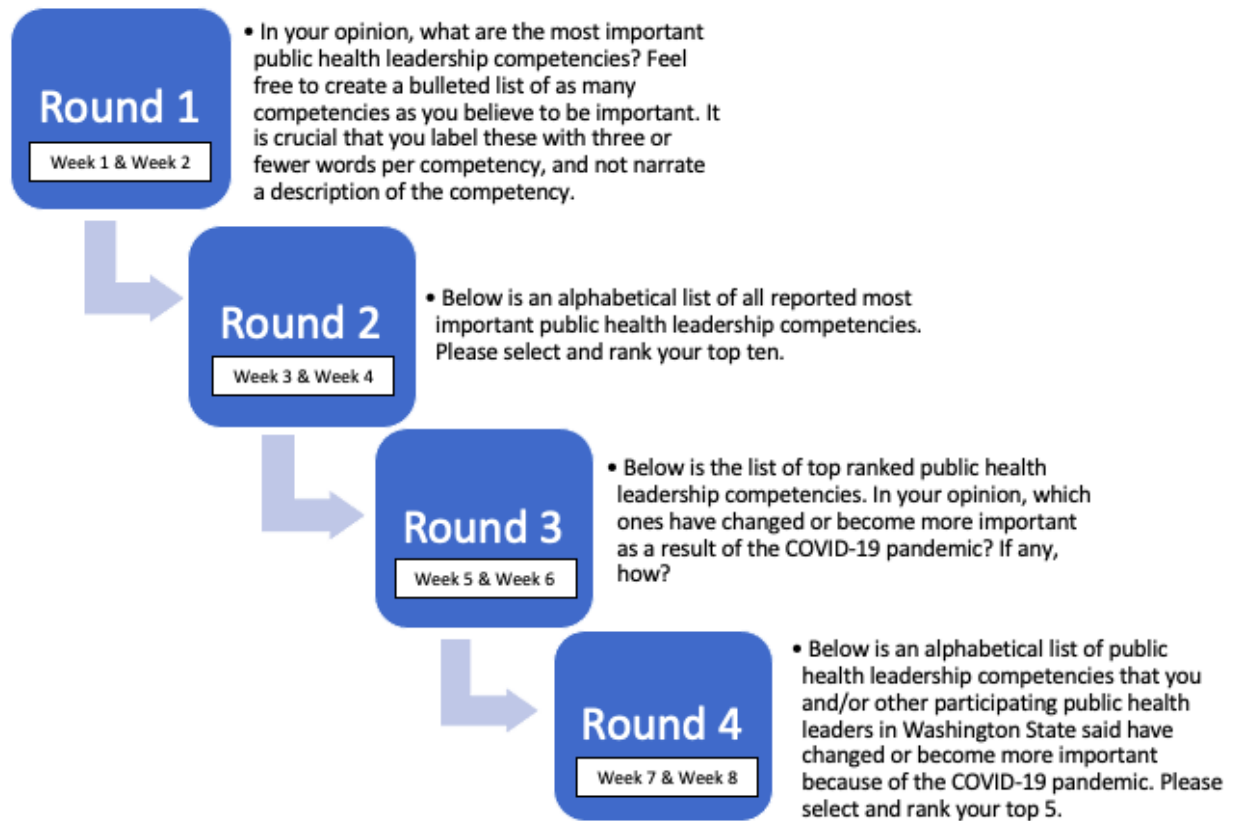
This process is illustrated in detail within Figure 3 as well.

All described rounds of the survey process were distributed through use of email addresses obtained from each Washington State Local Health Jurisdiction. The goal for both the response rate and level of consensus was 70% in aim to uphold the rigor of this research technique (Akins et al., 2005; Hasson et al., 2000; Rodríguez-Feria et al., 2021). This specified level within these areas was also determined based on prior research and literature using this Delphi method study design. While this is ideal in theory, receiving a somewhat lesser rate was anticipated to be reality.

As data were collected, the researcher combined interchangeable characteristics into a single competency to avoid repetition. The revised list of total public health leadership competencies was sent to participants. After they were asked to select and rank their top 10, the

researcher reverse-coded the ranked characteristics by assigning a 1–10-point value for the top 10 characteristics. The revised rank was then sent back to participants.

*Figure 3: Process of Study Rounds and Timeline*



## Summary

The purpose of this study was to gain consensus amongst Washington State Local Health Jurisdictions regarding potential changes in public health leadership competencies because of the COVID-19 pandemic. The main research questions were 1.) What are the public health leadership competencies considered to be most important in Washington State Local Health Jurisdictions? and 2.) Have public health leadership competencies among Washington State Local Health Jurisdictions changed because of the COVID-19 pandemic? The Delphi method was used in the conduction of this study whereby four rounds of a questionnaire process among Washington State Local Health Jurisdictions. To maintain the rigor and sufficiency of this

research technique, both the response rate and consensus level aimed to be 70% or greater.

Chapter IV identifies and explains the results and findings of this completed study.

## **CHAPTER IV**

### **RESULTS**

#### **Introduction**

This Delphi study worked to identify and understand changes in public health leadership competencies due to the COVID-19 pandemic and involved four subsequent rounds throughout the process. The first round asked participants their opinion on public health leadership competencies in general; the second round asked participants to prioritize the top 10 most important public health leadership competencies from those reported; the third round asked participants to identify and describe potential changes in the top ranked public health leadership competencies due to the COVID-19 pandemic; and the fourth round asked participants to prioritize the top five most important public health leadership competencies from those indicated to have changed and/or become more important because of the COVID-19 pandemic.

#### **Introductory Email and Research Participant Informed Consent**

Initially, the researcher sent the Introductory Email to Participants, which included the Research Participant Informed Consent form as an attachment, to individuals in leadership positions among all 35 Washington State Local Health Jurisdictions. If participants had not responded to this inquiry within eight days, the researcher sent the Reminder Email to Participants for Introductory Email and Research Participant Informed Consent (See Appendix G). A total of 10 respondents completed the process and continued their participation within the study, therefore n=10.

#### **Round One**

In the first round of the study, participants were provided a set of demographic questions and then asked their opinion on public health leadership competencies in general. They were

instructed to answer these prior to creating an unlimited list of competencies that they believed to be considered important. Participants were advised to label these responses with three or fewer words per competency rather than narrate a description of each competency. The researcher managed the data received in a way that combined like-characteristics to avoid unnecessary repetition.

### *Demographic Information*

There were 60% women and 40% men as well as 90% Public Health Directors and 10% Assessment Coordinators that participated throughout the study. The longest length of time in a participant's public health leadership position within Washington state was over 25 years while the shortest was less than one year, which is detailed in the graph for Length of Time in Public Health Leadership Position Within Washington State (See Appendix H). Half of all participants had completed some sort of leadership skill training prior to the study. The educational degrees obtained by participants included a ranging variation as well and are described in the chart for Educational Degrees Obtained (See Appendix I).

### *Sample Size*

The included sample size of this study was 10 participants out of the 35 Washington State Local Health Jurisdictions. This is representative of approximately 29% of the identified population.

### *Combining Like-Characteristics and Coding*

Throughout Round One, the researcher worked to combine interchangeable or like-characteristics into a single competency to avoid repetition after data was collected. The full list displaying how like-characteristics were combined can be viewed in Table 1. The bolded competencies are those that were utilized in the study and represent the bulleted ones beneath.

*Table 1: Combined Like-Characteristics of Public Health Leadership Competencies Reported for Round One*

<b>Coaching/Teaching/Mentoring</b> <ul style="list-style-type: none"> <li>● Coaching/Teaching</li> </ul>	<b>Collaboration</b> <ul style="list-style-type: none"> <li>● Collaborative Leadership</li> </ul>
<b>Communication</b> <ul style="list-style-type: none"> <li>● Communication Across Boundaries</li> <li>● Communications</li> <li>● Effective Communication</li> <li>● Excellent Communication Skills</li> <li>● Excellent Verbal/Written Communications</li> <li>● Interpersonal Communication</li> </ul>	<b>Curiosity</b> <ul style="list-style-type: none"> <li>● Being Inquisitive</li> </ul>
<b>Fiscal Management</b> <ul style="list-style-type: none"> <li>● Finance</li> <li>● Management and Finance</li> </ul>	<b>Leading Change</b> <ul style="list-style-type: none"> <li>● Setting Direction/Leading Change/Advocacy</li> </ul>
<b>Listening Skills</b> <ul style="list-style-type: none"> <li>● Good Listening Skills</li> </ul>	<b>Policy Development</b> <ul style="list-style-type: none"> <li>● Policy Development and Leadership</li> </ul>
<b>Political Astuteness</b> <ul style="list-style-type: none"> <li>● Political Savvy</li> </ul>	<b>Professionalism and Ethics</b> <ul style="list-style-type: none"> <li>● Ethics</li> </ul>
<b>Social/Emotional Intelligence</b> <ul style="list-style-type: none"> <li>● Emotional Intelligence</li> </ul>	<b>Visioning</b> <ul style="list-style-type: none"> <li>● Develops a Shared Vision</li> </ul>

During Round One, the researcher coded for competencies based on responses that were inappropriately reported by a participant's response as they were narrations instead of a list of three or fewer words per competency. This was completed in aim to align responses with the format of the study while managing the data. The full list detailing how these responses were coded can be viewed in Table 2. The bolded competencies are those that were utilized in the study and represent the bulleted ones beneath.

*Table 2: Coded Public Health Leadership Competencies for Round One*

<p><b>Public Health Knowledge</b></p> <ul style="list-style-type: none"> <li>● “Well informed of public health issues.”</li> </ul>	<p><b>Treatment and Prevention Practice Knowledge</b></p> <ul style="list-style-type: none"> <li>● “Knowledgeable on treatment and prevention practices.”</li> </ul>
<p><b>Communication</b></p> <ul style="list-style-type: none"> <li>● “A patient listener who is also able to communicate complicated issues in layman's terms.”</li> </ul>	<p><b>Visioning</b></p> <ul style="list-style-type: none"> <li>● “Able to look at/ keep in mind the larger picture.”</li> </ul>
<p><b>Cultural Competency</b></p> <ul style="list-style-type: none"> <li>● “Considerate of cultural and socioeconomic diversity.”</li> </ul>	<p><b>Responsive/Timely</b></p> <ul style="list-style-type: none"> <li>● “Able to respond to situations in a timely manner.”</li> </ul>

A total of 63 public health leadership competencies were reported in Round One. See Table 3.

*Table 3: Public Health Leadership Competencies Reported for Round One*

<b>Public Health Leadership Competencies Reported for Round One</b>			
Active Listening	Creativity	Humility	Professionalism and Ethics
Advocacy	Critical Analysis	Humor	Providing Constructive Feedback
Agency-Level Budgeting	Cultural Competency	Interpersonal Skills	Public Health Knowledge
Anti-Racism	Curiosity	Lead By Example	Responsive/Timely
Being Flexible/Adaptable	Data Analytics	Leading Change	Self-Awareness
Being Present and Available	Depth of Knowledge	Listening Skills	Social/Emotional Intelligence
Calm/Thoughtful/Decisive	Environment	Lived Experience in Public Health	Strategic Skills
Change Management	Fiscal Management	Management	Systems Thinking
Coaching/Teaching/Mentoring	Funding in Public Health	Managing Remote Employees	Time Management
Code Interpretation	Goal Setting	Organizational Planning	Treatment and Prevention Practice Knowledge
Code Writing	Government Structure of Public Health	Passion to Serve	True Mission of Public Health
Collaboration	Grant Management	Personal Stress Management	Understand Community
Communication	Grant Writing	Personnel Management	Understanding of Legal Mandates
Community Partnerships	HIPAA	Policy Development	Understanding Power Dynamics
Conflict Resolution	How Public Health Works with Their Commissioners	Political Astuteness	Visioning
Contacts- Who and When	How to Use Funding in a Way that Aligns with Community and Not State	Priority Setting	



### *Level of Consensus*

The level of consensus among the competencies reported was calculated by dividing the number of participants who listed a particular competency by the number of total participants involved in the study (n=10). The full description of consensus rates for each reported competency from Round One can be viewed in Table 4, Table 5, Table 6, and Table 7.

*Table 4: Public Health Leadership Competencies that Had a 90% Consensus Rate for Round One*

<b>Public Health Leadership Competencies that Had a 90% Consensus Rate</b>	
Communication	

*Table 5: Public Health Leadership Competencies that Had a 30% Consensus Rate for Round One*

<b>Public Health Leadership Competencies that Had a 30% Consensus Rate</b>	
Collaboration	Social/Emotional Intelligence
Political Astuteness	Systems Thinking

*Table 6: Public Health Leadership Competencies that Had a 20% Consensus Rate for Round One*

<b>Public Health Leadership Competencies that Had a 20% Consensus Rate</b>	
Advocacy	Fiscal Management
Change Management	Humility
Coaching/Teaching/Mentoring	Policy Development
Conflict Resolution	Professionalism and Ethics
Curiosity	Visioning

*Table 7: Public Health Leadership Competencies that Had a 10% Consensus Rate for Round One*

<b>Public Health Leadership Competencies that Had a 10% Consensus Rate</b>			
Active Listening	Cultural Competency	Humor	Priority Setting
Agency-Level Budgeting	Data Analysis	Interpersonal Skills	Providing Constructive Feedback
Anti-Racism	Depth of Knowledge	Lead By Example	Public Health Knowledge
Being Flexible/Adaptable	Environment	Leading Change	Responsive/Timely
Being Present and Available	Funding in Public Health	Listening Skills	Self-Awareness
Calm/Thoughtful/Decisive	Goal Setting	Lived Experience in Public Health	Strategic Skills
Code Interpretation	Government Structure of Public Health	Management	Time Management
Code Writing	Grant Management	Managing Remote Employees	Treatment and Prevention Practice Knowledge
Community Partnerships	Grant Writing	Organizational Planning	True Mission of Public Health
Contacts- Who and When	HIPAA	Passion to Serve	Understand Community
Creativity	How Public Health Works with Their Commissioners	Personal Stress Management	Understanding of Legal Mandates
Critical Analysis	How to Use Funding in a Way that Aligns with Community and Not State	Personnel Management	Understanding of Power Dynamics

## **Round Two**

In the second round of the study, participants were provided the alphabetical list of all important public health leadership competencies reported by respondents. They were instructed to select and rank their top 10 competencies among those listed. As data was collected, the researcher performed reverse-coding.

### *Reverse-Coding*

This process involved assigning point values of one to 10 to each reported public health leadership competency based on its rank by respondents. In this way, the first ranked competency received 10 points, the second ranked competency received nine points, the third ranked competency received eight points, etc. The list of top 11 ranked public health leadership competencies that scored the highest number of points from Round Two is shown in Table 8.

*Table 8: Top 11 Ranked Public Health Leadership Competencies and Number of Points Earned for Round Two*

<b>Ranked Public Health Leadership Competencies</b>	<b>Number of Points Earned</b>
1. Being Flexible/Adaptable	40
2. Communication	33
3. Community Partnerships	27
4. Social/Emotional Intelligence	27
5. Collaboration	24
6. Conflict Resolution	24
7. Fiscal Management	18
8. Humility	15
9. Lead By Example	15
10. Personal Stress Management	15
11. Strategic Skills	15

This list resulted in including the 11 public health leadership competencies due to ties in number of points scored among the last four in the ranking.

### *Level of Consensus*

In analysis of consensus for Round Two, the top 11 ranked public health leadership competencies showed varying rates of consensus across the participants (n=10). Being

Flexible/Adaptable had a 50% consensus rate; Communication had a 50% consensus rate; Community Partnerships had a 50% consensus rate; Social/Emotional Intelligence had a 40% consensus rate; Collaboration had a 30% consensus rate; Conflict Resolution had a 50% consensus rate; Fiscal Management had a 30% consensus rate; Humility had a 20% consensus rate; Lead By Example had a 20% consensus rate; Personal Stress Management had a 20% consensus rate; and Strategic Skills had a 30% consensus rate. Further description including indication of each participant’s selections are shown in Table 9.

*Table 9: Analysis of Consensus for Round Two*

	Being Flexible/ Adaptable	Communication	Community Partnerships	Social/ Emotional Intelligence	Collaboration	Conflict Resolution	Fiscal Management	Humility	Lead By Example	Personal Stress Management	Strategic Skills
Participant 1		X		X	X			X			X
Participant 2			X				X				
Participant 3	X			X	X			X		X	
Participant 4	X	X		X					X		X
Participant 5	X		X			X					
Participant 6						X					X
Participant 7	X		X			X	X		X		
Participant 8		X	X			X	X				
Participant 9		X		X		X				X	
Participant 10	X	X	X		X						

**Round Three**

In the third round of the study, participants were provided the list of top ranked public health leadership competencies and asked to identify potential changes in these competencies due to the COVID-19 pandemic. More specifically, they were instructed to indicate which competencies have changed and/or become more important because of the COVID-19 pandemic, if any, and describe how. Participants identified all 11 public health leadership competencies to have changed and/or become more important because of the COVID-19 pandemic. They also

included explanations of how each of these competencies have been important and impacted in further detail. These narratives along with the ranked public health leadership competencies can be viewed in Table 10.

*Table 10: Public Health Leadership Competencies that Were Indicated to Have Changed and/or Become More Important Due to the COVID-19 Pandemic and Narratives*

<b>Competency</b>	<b>Narrative</b>
Being Flexible/Adaptable	<p>“...In the early stages of the [COVID-19] pandemic, we were getting new information weekly and sometimes daily. This was consistently altering our practices, guidance, and public messaging. The [public health] directors/administrators that were able to be flexible and adaptable were one step ahead.”</p> <p>“This competency became more critical during the pandemic given our changing understanding of the disease/transmission and the associated political context.”</p> <p>“With so many unknowns, this [competency] was required throughout the pandemic.”</p>
Communication	<p>“Throughout the pandemic, communication was the most important component of the public health response...[The] primary role [of communication during the COVID-19 pandemic] was to share information and resources, defend public policies involving isolation, quarantine and non-pharmaceutical interventions to minimize new cases.”</p> <p>“With things changing rapidly, constant communication was crucial...Now with the damaged reputation of public health, we will need to be able to increase our communication and outreach.”</p> <p>“[Communication] was particularly important for the public health community to align our messages, as conflicting messages from different levels- local, state, and federal- and even within our organizations, served to threaten public trust.”</p> <p>“[Communication] has become more important and has changed to more virtual and less in-person communications.”</p> <p>“A significant change occurred in the resilience of our communications abilities for, to, and with the public...We have benefited a lot by investing in communication staffing, equitable strategies to reach people, onboarding new technologies for a broader spectrum of access options to our content, and</p>

	developing communication plans for being better prepared.”
Community Partnerships	<p>“Engaging partners early and often was crucial in [the COVID-19 pandemic] response...Now that we need to rebuild public trust, our partners are going to be very important in spreading good information.”</p> <p>“[Our public health department] relied on community partnerships for every aspect of our response. Some of those relationships were previously existing while others were formed as part of the response.”</p> <p>“...Community partnerships have become slightly more important because we learned that our community partners can be there for us when we really need them, and they can provide important help, especially for reaching at-risk populations.”</p> <p>“Community partnerships became more important during the pandemic...When responding to the pandemic, especially in addressing inequities, partnerships with CBOs- including BIPOC organizations were essential (government public health could not respond on its own).”</p> <p>“Our collaborations with community partners gained much more depth and we developed a different kind of alliance on one another’s expertise and ability to show up and ‘help out’ with responding to a crisis that impacted everyone.”</p>
Social/Emotional Intelligence	<p>“[The importance of Social/Emotional Intelligence] increased during the [COVID-19] pandemic. For example, when attacked- which was common- public health leaders needed to be aware of their emotions and self-regulate, especially in public settings.”</p>
Collaboration	<p>“[Collaboration] has increased in importance, getting many agencies and departments to collaborate to dispense vaccines, for example.”</p> <p>“This [competency] speaks to internal management techniques. Having a collaborative structure that involves not just management but also employees help to build a responsive trusted agency...The pandemic highlighted and sharpened this.”</p> <p>“Collaboration competencies in working with schools, healthcare providers, and long-term care facilities were essential [during the COVID-19 pandemic].”</p>
Conflict Resolution	<p>“This [competency] will continue to be important as [public health leaders] try to bridge the gap between social and political divides.”</p> <p>“Conflict resolution has become more important because our society has become more polarized, thus leading to more conflict. Resolving conflicts is</p>

	<p>essential in order to seek common understandings if possible.”</p> <p>“This [competency] continues to be an issue for multiple entities. Conflict resolution was encouraged part way through the pandemic but now it feels that no one can come to a consensus.”</p>
Fiscal Management	<p>“While [this competency is] important, the pandemic did not lend itself to thoughtful fiscal planning. Actions were needed, in many circumstances, without a sound fiscal plan established in advance.”</p> <p>“[Fiscal management] is also a team effort. [Our department] faced challenges in obtaining and using available funding sources.”</p>
Humility	<p>“[Humility] is always important in building trust, more so during emergencies.”</p>
Lead By Example	<p>“[Public health] leaders who ask their communities to make sacrifices need the ability to lead by example, whether it be physical distancing, masking, getting vaccinated, etc.”</p> <p>“At times, [our department] had to be scrappy to get things done, but at all times we have led by example by being present, transparent, inclusive of differing opinions, flexible with the concept of our services provisions, and modeling compassion in service to our residents.”</p>
Personal Stress Management	<p>“[This competency] remained essential during the pandemic.”</p> <p>“Personal stress management has become more important... Burnout is high, employee turnover is high, and those add to the stress of a politically charged and polarized environment. If you cannot take care of yourself, you will not last long taking care of others.”</p> <p>“No one should enter the upper levels of management in public health who cannot actively manage the incredible stresses.”</p>
Strategic Skills	<p>“The future of this [competency] is in trying to repair the public health perception and prepare for the next major obstacle/challenge while also managing the day-to-day realities of post-pandemic leadership.”</p> <p>“Strategic skills are always necessary but become more so during a pandemic in developing strategies within a challenging political context.”</p>

*Level of Consensus*

In analysis of consensus for Round Three, there were slight changes seen among the public health leadership competencies as participants identified them to have changed and/or become more important because of the COVID-19 pandemic or not (n=10). Being

Flexible/Adaptable had a 50% consensus rate; Communication had a 80% consensus rate; Community Partnerships had a 80% consensus rate; Social/Emotional Intelligence had a 30% consensus rate; Collaboration had a 50% consensus rate; Conflict Resolution had a 60% consensus rate; Fiscal Management had a 40% consensus rate; Humility had a 20% consensus rate; Lead By Example had a 40% consensus rate; Personal Stress Management had a 50% consensus rate; and Strategic Skills had a 30% consensus rate. Further description including indication of each participant’s selections are shown in Table 11.

*Table 11: Analysis of Consensus for Round Three*

	Being Flexible/ Adaptable	Communication	Community Partnerships	Social/ Emotional Intelligence	Collaboration	Conflict Resolution	Fiscal Management	Humility	Lead By Example	Personal Stress Management	Strategic Skills
Participant 1	X	X	X	X	X	X	X	X	X	X	X
Participant 2			X			X				X	
Participant 3	X	X									
Participant 4	X	X	X	X	X	X	X	X	X	X	X
Participant 5		X			X	X			X		
Participant 6		X	X						X		
Participant 7			X			X				X	
Participant 8		X	X				X				
Participant 9	X	X	X	X	X	X	X			X	X
Participant 10	X	X	X		X						

**Round Four**

In the fourth round of the study, participants were given the list of public health leadership competencies that have been reported to have changed and/or become more important due to the COVID-19 pandemic and then asked to prioritize them. They were instructed to select and rank their top five for this final round. Additionally, participants were prompted within Round Four to notify the researcher if they were interested in receiving the results of the study. If so, they were then sent the list of the final five public health leadership competencies that were



indicated to have changed and/or become more important because of the COVID-19 pandemic along with the associated narratives of each. A total of four participants wished to receive the study results. This is further detailed in the Results of the Study Email to Participants (See Appendix J).

*Reverse-Coding*

Again, in this round as well, reverse-coding was performed by the researcher. Public health competencies were assigned point values of one to five based on their rank by respondents. The first ranked competency received five points, the second ranked competency received four points, the third ranked competency received three points, the fourth ranked competency received two points, and the fifth ranked competency received one point. The list of top five public health leadership competencies that participants said have changed and/or become more important because of the COVID-19 pandemic is depicted in Table 12. This list is the final results and findings of the study.

*Table 12: Top Five Ranked Public Health Leadership Competencies That Have Changed and/or Become More Important Due to the COVID-19 Pandemic and Number of Points Earned for Round Four*

<b>Top Five Ranked Public Health Leadership Competencies that Have Changed and/or Become More Important Due to the COVID-19 Pandemic</b>	<b>Number of Points Scored</b>
1. Communication	33
2. Collaboration	25
3. Community Partnerships	20
4. Strategic Skills	16
5. Being Flexible/Adaptable	15

*Level of Consensus*

In analysis of consensus for Round Four, there are differing consensus rates among the following public health leadership competencies reported by respondents (n=10).

Of the top and final five public health leadership competencies that participants said have changed and/or become more important because of the COVID-19 pandemic, four either met or exceeded the goal for the level of consensus to be 70% or higher. Communication had a 80% consensus rate; Collaboration had a 70% consensus rate; Community Partnerships had a 60% consensus rate; Strategic Skills had a 70% consensus rate; and Being Flexible/Adaptable had a 70% consensus rate.

Of the other six public health leadership competencies that participants said have changed and/or become more important because of the COVID-19 pandemic, none met or exceeded the goal for the level of consensus to be 70% or higher. Social/Emotional Intelligence had a 30% consensus rate; Conflict Resolution had a 30% consensus rate; Fiscal Management had a 30% consensus rate; Humility had a 0% consensus rate; Lead By Example had a 10% consensus rate; and Personal Stress Management had a 50% consensus rate. Further description including indication of each participant’s selections are shown in Table 13.

*Table 13: Analysis of Consensus for Round Four*

	Being Flexible/ Adaptable	Communication	Community Partnerships	Social/ Emotional Intelligence	Collaboration	Conflict Resolution	Fiscal Management	Humility	Lead By Example	Personal Stress Management	Strategic Skills
Participant 1		X	X	X	X						X
Participant 2		X	X			X				X	X
Participant 3	X	X	X							X	X
Participant 4	X	X		X			X				X
Participant 5	X	X	X		X				X		
Participant 6					X	X	X			X	X
Participant 7	X	X			X		X			X	

Participant 8	X	X	X		X						X
Participant 9	X			X	X	X				X	
Participant 10	X	X	X		X						X

*Analysis of Results*

The most important public health leadership competency that changed and/or became more important because of the COVID-19 pandemic was Communication as it scored the greatest number of points- 30- by respondents and received the highest consensus rate- 80%- among others. Collaboration is the second most important competency as it scored 25 points and had a 70% consensus rate. Community Partnerships is the third most important competency as it scored 20 points and had a 60% consensus rate. Strategic Skills is the fourth most important competency as it scored 16 points and had a 70% consensus rate. Lastly, Being Flexible/Adaptable was the fifth most important competency as it scored 15 points and had a 70% consensus rate. Further, four out of these five top public health leadership competencies had received a consensus rate of 70% or greater, therefore the overall level of consensus among this final list was 80%.

**Additional Emails Sent to Participants**

Throughout the duration of the study, several other emails were sent to participants based on the timing of their responses. As participants submitted their responses for each round, the researcher replied with Receipt of Submission Emails to Participants. When participants had not responded to each round within the designated eight days, the researcher sent Reminder Emails to Participants for Rounds 1-4. For Round One, five participants were sent a reminder email; for Round Two, five participants were sent a reminder email; for Round Three, four participants were sent a reminder email; and for Round Four, five participants were sent a reminder email. Additionally, in the case that participants had not responded to each round and necessary

reminder email, the researcher sent a Second Reminder Email to Participants for Rounds 1-4 (See Appendix K). For Round One, no participants were sent a second reminder email; for Round Two, two participants were sent a second reminder email; for Round Three, two participants were sent a second reminder email; and for Round Four, one participant was sent a second reminder email.

### **Response Rate**

There are two different response rates to identify among this study. Prior to the start of Round One, 12 participants responded to the introductory email with their signed research participant informed consent form in agreement to participate in the study out of those sent to all 35 Washington State Local Health Jurisdictions. However, after sending out Round One, 10 participants responded with their submissions to the prompt and continued their participation throughout the entirety of the study. Therefore, the response rate prior to Round One was 34% and the response rate from Round One until the end of the study was 83%.

As identified in the methods of this study, the goal for the response rate was 70% or higher in an aim to uphold the rigor of the Delphi method (Akins et al., 2005; Hasson et al., 2000; Rodríguez-Feria et al., 2021). However, a somewhat lesser rate was expected to possibly occur.

### **Conclusion**

This Delphi study included a process of four rounds in which demographic information of participants was obtained, like-characteristics were combined as data was managed, reverse-coding was performed, and the level of consensus was calculated by the researcher. Chapter V includes the discussion of findings, justification of sample size, level of consensus analysis, limitation of the study, implications for practice, and direction for future research.

## **CHAPTER V**

### **DISCUSSION**

#### **Introduction**

The purpose of this study was to gain consensus amongst public health leaders in positions across Washington State Local Health Jurisdictions regarding potential changes in public health leadership competencies due to the COVID-19 pandemic. The Delphi study design was used to conduct a four-round questionnaire that aimed to answer two main research questions. These were 1.) What are the public health leadership competencies considered to be most important in Washington State Local Health Jurisdictions? and 2.) Have public health leadership competencies among Washington State Local Health Jurisdictions changed because of the COVID-19 pandemic? While previous research and literature have indicated many important competencies needed to produce public health leadership practices, there is a recent need for the identification of potential changes in these skills due to the COVID-19 pandemic and its related impacts (Bleich, 2020; Strudsholm & Vollman, 2021; The Council on Linkages Between Academia and Public Health Practice). This study aimed to identify and understand public health leadership competencies that have potentially changed and/or become more important because of the COVID-19 pandemic.

#### **Discussion of Findings**

##### *Changes in Public Health Leadership Competencies Pre- and Post- COVID-19*

Prior to the start of the COVID-19 pandemic in March 2020, the literature revealed 10 important public health leadership competencies: Communication, Influencing Change, Emotional Intelligence, Collaboration/Partnership, Systems Thinking, Conflict Management, Ethical Standards, Mentoring, Advocacy, and Business Skills/Knowledge (Czabanowska et al.,

2014; Daire et al., 2014; Day et al. 2014; Jadhav et al., 2017; Ledlow & Coppola, 2014; Malmoon et al., 2020; Rowitz, 2014; Savingy & Adam, 2009; Smiley, 2018; Sonnino, 2016; Yphantides et al., 2015). Results of this study suggest that there are changes among the competencies reported from previous literature. The findings of this study confirmed earlier research whereby Communication, Emotional Intelligence, and Collaboration/Partnership competencies have all remained relevant and of importance within public health leadership work. However, competencies such as Influencing Change, Systems Thinking, Conflict Management, Ethical Standards, Mentoring, Advocacy, and Business Skills/Knowledge have possibly become less important within the field.

#### *Current Most Important Public Health Leadership Competencies*

Communication has remained of high importance prior to, during, and after the COVID-19 pandemic. This competency may be utilized to provide information or resources, build relationships among different sectors, and more. The implementation and practice of communication is necessary through a consistent approach. Collaboration has increased in importance through the practice of multiple departments and agencies combining efforts throughout the COVID-19 pandemic. Internally, management structures that incorporate this competency into practice creates a responsive and trusted culture among employees as well. Community Partnerships have improved and developed in part of the COVID-19 pandemic as well. This competency involves continuous partner engagement that enhances the production of public health provision. Strategic Skills include a range of capabilities. As a result of the COVID-19 pandemic, however, this competency now heavily focuses on rebuilding public trust while preparing for the next major health issue in addition to managing daily tasks. Strategic Skills also require principles in management of political contexts. Lastly, Being

Flexible/Adaptable evolved throughout the COVID-19 pandemic. The continuous receipt of new information had implications on practice, guidance, and messaging of public health leaders.

#### *Current Less Important Public Health Leadership Competencies*

Considering both implications due to the COVID-19 pandemic and the findings of this study, there are public health leadership competencies that have potentially decreased in level of importance within the leadership field. These include Influencing Change, Systems Thinking, Conflict Management, Ethical Standards, Mentoring, Advocacy, and Business Skills/Knowledge as they lacked selection and involvement by participants in comparison to others throughout the study. While these may still hold importance in other areas of public health, they are considered to be less important in relation to public health leadership after experiences of the COVID-19 pandemic.

#### *Public Health Leadership Competencies Throughout the Study*

Throughout the study, public health leadership competencies were both self-reported and self-defined by participants. The narratives provided in Round Three may have shown some overlap between and among the competencies. In this way, competencies may have shared similarities within these descriptions that could be interpreted as pertaining to more than just one.

#### **Justification of Sample Size**

Several previously published Delphi studies help identify a justifiable sample size for use in Delphi methodology. According to Nasa et al. (2021), “There is no standard size of the panel members and varies from 10 to 1000, typically between 10 and 100, in published studies” (p. 118-119). Instead, an appropriate number of participants to include within a Delphi method study is dependent on the significance of the issue at hand, similarities and differences of the participant group, and access to necessary resources. Atkins et al. (2005) further states that “...

there are no standards established in any methodologically acceptable way” (p. 2). Rather, the present literature shows only justified decisions concerning sample sizes among Delphi studies made by individual researchers. Ogbeifun et al. (2016) confirms that “The size of a Delphi panel may be as small as three members and as large as 80” (p. 2006). Additionally, it is more important that participants are knowledgeable in the topic area of study and can commit to the entire questionnaire process concerning the same topic. Taylor (2019) also supports the claim that the Delphi method sample size may be between three to 11 participants. Further, the authors claim that other studies have suggested that between 10 to 15 respondents is sufficient in this way (Taylor, 2019). Based on these sources, the inclusion of 10 participants throughout this study was credible and validated.

### **Level of Consensus Analysis**

The goal for the level of consensus to be attained was 70%, however receiving lower rates was anticipated. Despite this, there is no clear definition of consensus in the Delphi methodology and instead the existing literature supports that rates of 50% and higher are widely considered to be consensus (Nasa et al., 2021). Additionally, consensus may be determined based on the opinion of the group, unanimity of a common view, or even complete agreement on judgements of participants (Nasa et al., 2021).

Within this study, the public health leadership competencies had varying rates of consensus which appeared to change throughout the multiple study rounds. Among the top five reported public health leadership competencies that were indicated to have changed and/or become more important because of the COVID-19 pandemic, there are observed increases as well as decreases in consensus rates throughout the four rounds of the study. Communication started at 90% and ended at 80%, Collaboration started at 30% and ended at 70%, Community



Partnerships started at 10% and ended at 60%, Strategic Skills started at 10% and ended at 70%, and Being Flexible/Adaptable started at 10% and ended at 70%. This is shown in Table 14.

*Table 14: Changes in Consensus Rates Among Top 5 Public Health Leadership Competencies Throughout All Four Rounds*

<b>Competency</b>	<b>Round One</b>	<b>Round Two</b>	<b>Round Three</b>	<b>Round Four</b>
Communication	90%	50%	80%	80%
Collaboration	30%	30%	50%	70%
Community Partnerships	10%	50%	80%	60%
Strategic Skills	10%	30%	30%	70%
Being Flexible/Adaptable	10%	50%	50%	70%

*Reverse-Coding and Consensus Comparison*

The utilization of both reverse-coding and consensus analysis within this study was to determine and understand which public health leadership competencies were most important throughout each of the four rounds. In this way, the competencies that had more points scored in the reverse-coding process and had more frequent selection in the level of consensus analysis are identified as more important in comparison to others reported. The combination of these two practices allowed the researcher to identify the most important public health leadership competencies by examining both rankings of competencies listed by respondents as well as the consistency of competencies reported by participants.

**Limitations of the Study**

This study was limited by a few factors. One of the top five public health leadership competencies- Community Partnerships- did not meet the goal for level of consensus as it was 10% below. However, the other four out of five final competencies either met or exceeded the goal of achieving a consensus rate of 70% or greater. In addition, the response rate prior to

Round One was 36% below the goal of attaining a response rate of 70% or higher. However, the response rate from Round One to Round Four was 13% greater than the goal for this part of analysis. There was a small sample size declared in this study which included 10 participants. While this is accepted and practiced among other Delphi studies, it is only representative of 29% of the total population which poses a bias. There was also only one coder, the researcher, who worked to manage the data when necessary during the study. This presents a level of bias as well. Another drawback was utilizing email as the only form of communication between the researcher and participants throughout the study. This presented the need for reminder emails to be incorporated, however respondents persisted throughout each round of the study. There were nine Public Health Directors and one Assessment Coordinator who participated in the study, which created a lack of diversified opinions across varying leadership positions within each Washington State Local Health Jurisdiction. In general, the Delphi method has a low level of rigor in comparison to other research techniques. As a result, expert opinion was received by participants however this does not indicate factual evidence. Despite this, the Delphi method was suitable and valuable for use within this research area. Lastly, the results and findings of this study do not allow for generalization to all Washington State Local Health Jurisdictions or other public health organizations.

### **Implications for Practice**

Based on the results and findings of this study, public health leaders need training, engagement, and practice surrounding the following five competencies: Communication, Collaboration, Community Partnerships, Strategic Skills, and Being Flexible/Adaptable. This is because each of these have been identified and described to have changed and/or become more important as a result of the COVID-19 pandemic. Moving forward, implementations and

initiatives surrounding these skill sets in practice must be pursued through public health work among post- COVID-19 circumstances. Within the scope of this study- considering the local level among Washington State Local Health Jurisdictions- about 29% of the total population was represented. These specific competencies are also considered to be the most important in which public health leaders within these positions and among this level need to have.

### **Direction for Future Research**

Further studies concerning the importance and value of public health leadership competencies may consider several recommendations. Continued research in this realm should employ a more intensive focus on an individual competency among the top five identified through this study. Other studies could utilize a different research method or technique in an aim to discover and understand these competencies more. Additionally, researchers might work to expand their pool of potential participants among a population to increase the response rate and degree of involvement. As this was an exploratory or pilot study, results and findings may also support the development of quantitative research surrounding public health leadership competencies post-COVID-19 pandemic. Lastly, further research should conduct similar studies within other public health related sectors, such as healthcare settings (i.e., hospitals or clinics).

### **Conclusion**

In discussion of this study, there were multiple domains to assess. There have been changes in the identified public health leadership competencies of importance from before the COVID-19 pandemic in 2020 to now in 2023. While certain competencies have remained or increased in importance, others have become less important in comparison. The utilized sample size within this study has been justified and accepted among previously published Delphi studies (Nasa et al., 2021; Taylor, 2019). Both the level of consensus and response rate shared the goal

to achieve 70%, however there were differences among these. The overall level of consensus of the top five public health leadership competencies was 80% while the response rate throughout the rounds of the study was 83%. Limitations of this study, however, included a few varying factors that involved utilization of email as the only form of communication along with the low level of rigor that the Delphi method presents. Implications for practice primarily incorporate the need for training, engagement, and practice among public health leadership surrounding the final five competencies from this study: Communication, Collaboration, Community Partnerships, Strategic Skills, and Being Flexible/Adaptable. Future research in this area of interest is directed to repeat this study in approximately five years to see potentially continued changes that may occur over time in addition to multiple other recommendations as well.

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## Appendixes

### Appendix A: Introductory Email to Participants

Dear [Participant Name],

My name is Haley Schimmel and I am a second-year Master of Public Health (MPH) student at Central Washington University. The COVID-19 pandemic has affected the lives of millions of people around the world. Public health has also been impacted, but how? I am interested in understanding potential changes in public health leadership competencies because of the COVID-19 pandemic among leaders/administrators within Washington State Local Health Jurisdictions. I would value your participation in this study as you are in a leadership role, and your experiences as well as opinions matter.

If you choose to participate, you will receive an email approximately every two weeks with a simple question/task related to public health leadership competencies. It should take no more than 10 minutes to complete, and you will receive four emails spread over a two-month time period.

FAQ:

- How much time will it take?

You will receive four separate emails spread over a two-month time period. Each email should only take approximately 10 minutes to complete.

- Why are you asking me?

You are in a public health leadership position, and your experiences and opinions matter!

- Has this study been approved?

This study has been approved by the Central Washington University Human Subjects Review Council (HSRC). You can contact their office by phone (509-963-3115) or email ([hsrc@cwu.edu](mailto:hsrc@cwu.edu)).

- How do I sign up?

By signing the attached Research Participant Informed Consent document and returning it to me via email at [haley.schimmel@cwu.edu](mailto:haley.schimmel@cwu.edu) within 10 days or by February 16, 2023.

Feel free to reach out with any questions or concerns you may have. Thank you very much for your time and consideration!

Best,

Haley Schimmel ([haley.schimmel@cwu.edu](mailto:haley.schimmel@cwu.edu))

## **Appendix B: Research Participant Informed Consent**

### **Central Washington University**

#### **Research Participant Informed Consent**

**Study Title:** Consensus on Potential Changes in Public Health Leadership Competencies as a Result of COVID-19 Among Washington State Local Health Jurisdictions

**Principal Investigator:** Haley Schimmel

**Co-Investigators:** Dr. Melody Madlem, Dr. Amie Wojtyna, Dr. Katarina Mucha

**24-hour Emergency Contact:** Haley Schimmel ([haley.schimmel@cwu.edu](mailto:haley.schimmel@cwu.edu)) or Dr. Melody Madlem ([melody.madlem@cwu.edu](mailto:melody.madlem@cwu.edu))

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#### **What Should You Know About This Study?**

This study will solicit the opinions of leaders among Washington State Local Health Jurisdictions concerning current public health leadership competencies. The study will occur between the timeframe of January 2023 and May 2023. It will include qualitative research by utilizing the Delphi method. This process involves four rounds of questionnaires which may be expected to take approximately 10 minutes per round.

#### **What is The Purpose of This Study?**

The purpose of this study is to gain consensus among Washington State Local Health Jurisdictions regarding potential changes in public health leadership competencies because of the COVID-19 pandemic.

#### **Who Can Participate in This Study?**

Identified individuals of public health leadership positions among Washington State Local Health Jurisdictions.

### **What Will Happen If You Join This Study?**

If you choose to join this study, you will be asked in each of the four rounds questions to share your thoughts and opinions surrounding public health leadership competencies.

You will be provided the results of the study once it is completed.

### **What Are the Risks of This Study?**

There are no risks to participating in this study.

### **What Are the Benefits of This Study?**

The benefits to participating in this study are: discerning your thoughts and opinions on relative public health leadership competencies, accessing the perspectives of your counterparts, working towards arriving at a consensus, and contributing to the understanding of potential changes in public health leadership competencies because of COVID-19 in Washington State.

### **What Information About You Will Be Kept Private and What Information May Be Given Out?**

All identification and personal information as needed throughout this study will be kept confidential (e.g. participant names, email addresses, local health jurisdiction affiliations, etc.). Results and findings of this study will be included in the analysis and discussion and may be reported in the aggregate (e.g., shared opinions on public health leadership competencies, etc.).

### **How Will Confidentiality Be Maintained?**

Although there is a risk of breach of confidentiality through using electronic means to gather data and communicate with participants, this will be mitigated by securing/protecting data collected in a password-locked file on the researcher's own

private/password-locked computer. After the completion of the study, all received emails will be erased. Only aggregate data will be reported.

**What Does Your Signature on This Consent Form Mean?**

By signing this document, you are providing your informed consent and agree to participate in this study.

**Who Can You Contact for More Information?**

For more information or to ask any questions regarding this study, please contact Haley Schimmel ([haley.schimmel@cwu.edu](mailto:haley.schimmel@cwu.edu)) or Dr. Melody Madlem ([melody.madlem@cwu.edu](mailto:melody.madlem@cwu.edu)). You can also contact the Central Washington University Human Subjects Review Council by phone (509-963-3115) or email ([hsrc@cwu.edu](mailto:hsrc@cwu.edu)).

Participant's Name (print): \_\_\_\_\_ Date: \_\_\_\_\_

Participant's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Email: \_\_\_\_\_

Signature of Investigator: \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix C: Demographic Questions

- What is the title of your current position within the Local Health Jurisdiction?

(Administrator? Epidemiologist? Assessment Coordinator? Etc.?)

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- How long have you been in a leadership position within Local Health Jurisdictions in Washington State?

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- Have you completed leadership skills training specific to your role as a leader in public health in Washington State?

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- What is the title of your educational degree(s)?

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## **Appendix D: Rounds 1-4**

### *Round One:*

Dear [Participant Name],

Thank you for your commitment to participate in this study about potential changes in public health leadership skills/competencies because of the COVID-19 pandemic among Washington State Local Health Jurisdictions. In this first round, you are asked your opinion on public health leadership competencies in general. Further rounds will delve into changes in these skills because of COVID-19. Please respond to the following prompt:

- In your opinion, what are the most important public health leadership competencies? Feel free to create a bulleted list of as many competencies as you believe to be important. It is crucial that you label these with three or fewer words per competency, and not narrate a description of the competency.

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Please respond with your answers to the prompt within 10 days, or by February 26, 2023. You will receive a reminder email if your response has not been received after eight days. Thank you for your participation, I look forward to hearing from you soon!

Best,

Haley Schimmel

### *Round Two:*

Dear [Participant Name],

Thank you for your response to Round 1, where you were asked to list the most important public health leadership competencies in your opinion. In this second round, you are provided the list of

all public health leadership competencies reported by other participating public health leaders in Washington State and asked to prioritize them. Please note that interchangeable or like-characteristics have been combined into a single competency to avoid repetition. Please respond to the following prompt:

- Below is an alphabetical list of all reported most important public health leadership competencies. Please select and rank your top ten.

Active Listening  
Advocacy  
Agency-Level Budgeting  
Anti-Racism  
Being Flexible/Adaptable  
Being Present and Available  
Calm/Thoughtful/Decisive  
Change Management  
Coaching/Teaching/Mentoring  
Code Interpretation  
Code Writing  
Collaboration  
Communication  
Community Partnerships  
Conflict Resolution  
Contacts- Who and When  
Creativity  
Critical Analysis  
Cultural Competency  
Curiosity  
Data Analytics  
Depth of Knowledge  
Environment  
Fiscal Management  
Funding in Public Health  
Goal Setting  
Government Structure of Public Health  
Grant Management  
Grant Writing  
HIPAA

How Public Health Works with Their Commissioners  
How to Use Funding in a Way that Aligns with Community and Not State  
Humility  
Humor  
Interpersonal Skills  
Lead By Example  
Leading Change  
Listening Skills  
Lived Experience in Public Health  
Management  
Managing Remote Employees  
Organizational Planning  
Passion to Serve  
Personal Stress Management  
Personnel Management  
Policy Development  
Political Astuteness  
Priority Setting  
Professionalism and Ethics  
Providing Constructive Feedback  
Public Health Knowledge  
Responsive/Timely  
Self-Awareness  
Social/Emotional Intelligence  
Strategic Skills  
Systems Thinking  
Time Management  
Treatment and Prevention Practice Knowledge  
True Mission of Public Health  
Understand Community  
Understanding of Legal Mandates  
Understanding Power Dynamics  
Visioning

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

Please respond with your answers to the prompt within 10 days, or by March 12, 2023. You will receive a reminder email if your response has not been received after eight days. Thank you for your participation, I look forward to hearing from you soon!

Best,

Haley Schimmel

*Round Three:*

Dear [Participant Name],

Thank you for your response to Round 2, where you were provided the list of all reported important public health leadership competencies by other participating public health leaders in Washington State and then asked to prioritize them. In this third round, you are given a list of top ranked public health leadership competencies and asked to **identify potential changes due to the COVID-19 pandemic**. Please respond to the following prompt:

- Below is the list of top ranked public health leadership competencies. In your opinion, which ones have changed or become more important as a result of the COVID-19 pandemic? If any, how?
  1. Being Flexible/Adaptable
  2. Communication

3. Community Partnerships
  4. Social/Emotional Intelligence
  5. Collaboration
  6. Conflict Resolution
  7. Fiscal Management
  8. Humility
  9. Lead By Example
  10. Personal Stress Management
  11. Strategic Skills
- 

Please respond with your answers to the prompt within 10 days, or by March 26, 2023. You will receive a reminder email if your response has not been received after eight days. Thank you for your participation, I look forward to hearing from you soon!

Best,

Haley Schimmel

*Round Four:*

Dear [Participant Name],

Thank you for your response to Round 3, where you were given the list of top ranked public health leadership competencies reported by other participating public health leaders in Washington State and asked to identify potential changes due to the COVID-19 pandemic. In this fourth and final round, you are provided the list of public health leadership competencies that have been reported as changed or more important due to the COVID-19 pandemic and asked to prioritize them. Please respond to the following prompt:

- Below is an alphabetical list of the public health leadership competencies that you and/or other participating public health leaders in Washington State said have changed or

become more important because of the COVID-19 pandemic. Please select and rank your top 5.

- Being Flexible/Adaptable
- Collaboration
- Communication
- Community Partnerships
- Conflict Resolution
- Fiscal Management
- Humility
- Lead By Example
- Personal Stress Management
- Social/Emotional Intelligence
- Strategic Skills

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

This is the last round of the study. Please respond with your answers to the prompt within 10 days, or by April 9, 2023. You will receive a reminder email if your response has not been received after eight days. Thank you for your participation, I look forward to hearing from you soon!

**If you would like to receive the results of this study, please let me know.**

Best,

Haley Schimmel

## **Appendix E: Receipt of Submission Email to Participants**

Dear [Participant Name],

This is your receipt of submission for Round [1-4] in the research study regarding potential changes in public health leadership competencies throughout Washington State due to the COVID-19 pandemic. Thank you very much for your continued participation!

Best,

Haley Schimmel

## **Appendix F: Reminder Email to Participants for Rounds 1-4**

Dear [Participant Name],

This is your gentle reminder to submit your response for Round [1-4] by [Date] for inclusion in the study: Consensus on Potential Changes in Public Health Leadership Competencies as a Result of COVID-19 Among Washington State Local Health Jurisdictions. Your continued participation in this study is both appreciated and necessary. Thank you very much!

Best,

Haley Schimmel



## **Appendix G: Reminder Email to Participants for Introductory Email and Research**

### **Participant Informed Consent**

Dear [Participant Name],

This is your gentle reminder to submit the Research Participant Informed Consent form by [Date] to participate in the study: Consensus on Potential Changes in Public Health Leadership Competencies as a Result of COVID-19 Among Washington State Local Health Jurisdictions.

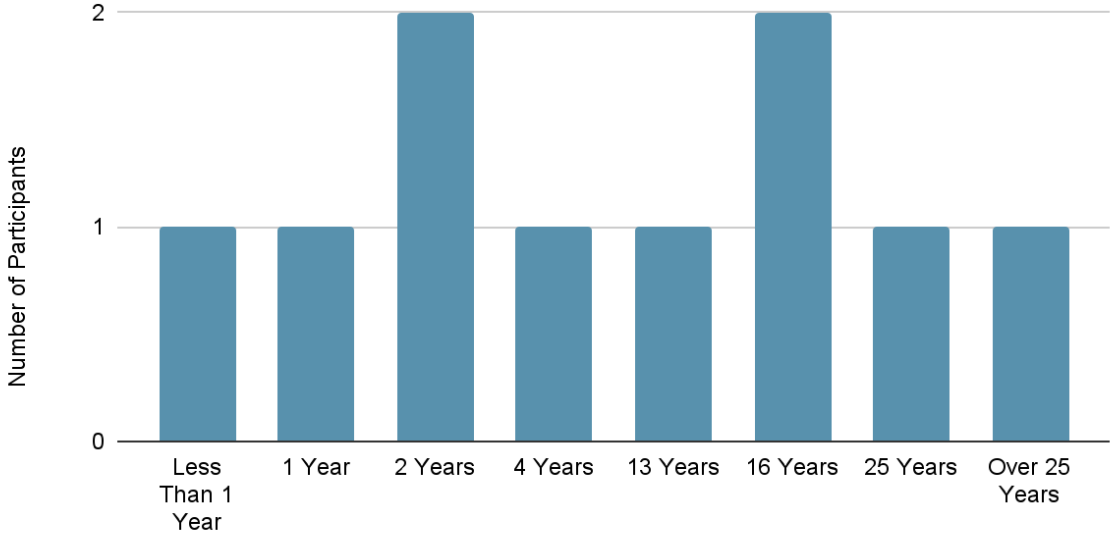
Your participation in this study is both appreciated and necessary. Thank you very much!

Best,

Haley Schimmel

**Appendix H: Length of Time in Public Health Leadership Position Within Washington State**

**Length of Time in Public Health Leadership Position Within Washington State**



## Appendix I: Educational Degrees Obtained

<b>Title of Educational Degree</b>	<b>Number of Participants</b>
Associate Degree in Nursing (ADN Reg. Nurse)	1
Bachelors of Science in Applied Ecology	1
Bachelors of Science in Biology	1
Bachelors of Science in Environmental Studies	3
Bachelors of Science in Nursing	1
Masters of Business Administration (MBA)	1
Masters of Public Affairs (MPA)	1
Masters of Public Health (MPH)	3
Masters of Science in Management and Leadership	1
Masters of Science in Urban Studies	1
Doctor of Medicine (MD)	2
Doctor of Philosophy in Public Health (PhD)	1
Certified in Public Health (CPH)	2

## **Appendix J: Results of the Study Email Sent to Participants**

Dear [Participant Name],

Thank you very much for your time and efforts in participating throughout my study. I wanted to take this opportunity to provide you with the results and findings. Below are the final five ranked public health leadership competencies that were indicated by you and nine other participating leaders among Washington State Local Health Jurisdictions to have changed or become more important because of the COVID-19 pandemic. In addition, the inserted quotes from participants explain how each of these competencies have been impacted in further detail.

### *1. Communication*

“Throughout the pandemic, communication was the most important component of the public health response...[The] primary role [of communication during the COVID-19 pandemic] was to share information and resources, defend public policies involving isolation, quarantine and non-pharmaceutical interventions to minimize new cases.”

“With things changing rapidly, constant communication was crucial...Now with the damaged reputation of public health, we will need to be able to increase our communication and outreach.”

“[Communication] was particularly important for the public health community to align our messages, as conflicting messages from different levels- local, state, and federal- and even within our organizations, served to threaten public trust.”

“[Communication] has become more important and has changed to more virtual and less in-person communications.”

“A significant change occurred in the resilience of our communications abilities for, to, and with the public...We have benefited a lot by investing in communication staffing, equitable strategies to reach people, onboarding new technologies for a broader spectrum of access options to our content, and developing communication plans for being better prepared.”

### *2. Collaboration*

“[Collaboration] has increased in importance, getting many agencies and departments to collaborate to dispense vaccines, for example.”

“This [competency] speaks to internal management techniques. Having a collaborative structure that involves not just management but also employees help to build a responsive trusted agency...The pandemic highlighted and sharpened this.”

“Collaboration competencies in working with schools, healthcare providers, and long-term care facilities were essential [during the COVID-19 pandemic].”

### 3. *Community Partnerships*

“Engaging partners early and often was crucial in [the COVID-19 pandemic] response...Now that we need to rebuild public trust, our partners are going to be very important in spreading good information.”

“[Our public health department] relied on community partnerships for every aspect of our response. Some of those relationships were previously existing while others were formed as part of the response.”

“...Community partnerships have become slightly more important because we learned that our community partners can be there for us when we really need them, and they can provide important help, especially for reaching at-risk populations.”

“Community partnerships became more important during the pandemic...When responding to the pandemic, especially in addressing inequities, partnerships with CBOs-including BIPOC organizations were essential (government public health could not respond on its own).”

“Our collaborations with community partners gained much more depth and we developed a different kind of alliance on one another’s expertise and ability to show up and ‘help out’ with responding to a crisis that impacted everyone.”

### 4. *Strategic Skills*

“The future of this [competency] is in trying to repair the public health perception and prepare for the next major obstacle/challenge while also managing the day-to-day realities of post-pandemic leadership.”

“Strategic skills are always necessary but become more so during a pandemic in developing strategies within a challenging political context.”

### 5. *Being Flexible/Adaptable*

“...In the early stages of the [COVID-19] pandemic, we were getting new information weekly and sometimes daily. This was consistently altering our practices, guidance, and

public messaging. The [public health] directors/administrators that were able to be flexible and adaptable were one step ahead.”

“This competency became more critical during the pandemic given our changing understanding of the disease/transmission and the associated political context.”

“With so many unknowns, this [competency] was required throughout the pandemic.”

Please feel free to let me know if you have any questions regarding this information. Again, I appreciate your commitment and contributions to this study as it has helped me pursue my public health research interests while earning my Master of Public Health degree.

Best,

Haley Schimmel

**Appendix K: Second Reminder Email to Participants for Rounds 1-4**

Dear [Participant Name],

I hope you are well! I wanted to provide you one last gentle reminder to submit your response for Round [1-4] by [Date] for inclusion in the study: Consensus on Potential Changes in Public Health Leadership Competencies as a Result of COVID-19 Among Washington State Local Health Jurisdictions. I can imagine your schedule is very busy, but I greatly appreciate your time and effort in this process. This round should take you no more than 10 minutes to complete.

Thank you very much!

Best,

Haley Schimmel