

Master of Public Health
Applied Practical Experience

by

Mary Trapp

MPH Candidate

submitted in partial fulfillment of the requirements for the degree

MASTER OF PUBLIC HEALTH

Graduate Committee:

Justin Kastner, PhD

Ellyn Mulcahy, PhD, MPH

Kathryn Reif, PhD, MS.P.H.

Applied Practical Experience Site:

Seventy-First Animal Hospital

Fayetteville, North Carolina

September 1, 2022- April 1, 2023

Applied Practical Experience Preceptor:

Julie Papp, Manager, Seventy-First Animal Hospital

KANSAS STATE UNIVERSITY

Manhattan, Kansas

2023

Table of Contents

Chapter 1 - Portfolio Products.....	2
Table 1.2 Portfolio Products and Competency Addressed	4
Chapter 2 - Competencies.....	5
Table 2.1 Summary of MPH Foundational Competencies	5
Table 2.2 MPH Foundational Competencies Course Mapping	7
Application of Systems Thinking Tools to a Public Health Issue.....	9
Chapter 3 - References.....	10

Chapter 1 - Portfolio Products

Introduction:

Vector-borne diseases are a significant global public health threat. In the United States, ticks account for 95% of vector-borne diseases (Rochlin et al. 2020). Out of all 50 states, 49 have reported to a public health department a suspected or confirmed case of a tick-borne disease. Ticks' unique nature makes them the perfect blood-sucking arthropod to spread zoonotic pathogens multiple times in their life cycle. For a tick's survival, a warm, humid/moist, and densely shaded environment is required. North Carolina, located in the southeastern US, provides an ideal environment for tick species that spread tick-borne diseases. Fayetteville, North Carolina, is a growing city known for its diverse population and the home to the army base Fort Liberty, one of the largest military installations in the world. Individuals and animals are constantly coming and going from this area. This has raised significant concern due to the zoonotic nature of tick-borne diseases. Communities are at risk if education is not provided on ticks and how they spread diseases. As a Veterinary Assistant at Seventy-First Animal Hospital in Fayetteville, I see first-hand the threat of tick-borne diseases. Animals are accidental carriers of ticks into individuals' homes. Individuals working in the veterinary field have an essential role in public health to educate the community on the dangers of tick-borne diseases and how individuals can protect themselves and their animals.

During the fall of 2022 and early months of 2023, I completed my Applied Practice Experience (APE) with the Seventy-First Animal Hospital in Fayetteville, North Carolina. This APE allowed me to explore my interest in One Health. For years, I have been working toward my goal to become a mixed animal veterinarian, and one of the main reasons I pursued this field was that I wanted to work with both humans and animals. A veterinarian's work in public health involves being an educator to the community. After discussing my interest with my major professor, Dr. Kastner, in the summer of 2022, I decided to do my field experience on tick-borne diseases. He and I discussed how I might do this with Julie Papp of the Seventy-First Animal Hospital. We agreed that I would become an educator to the hospital staff and the surrounding community. Once this plan was approved by all my committee members and Julie, I began my field study on September 1, 2022. From September 2022 to March 2023, I conducted research

on tick-borne disease to understand the process of how ticks transmit pathogens from one host to another. During those months, while working with Julie Papp, I pursued several learning objectives. These included the following:

1. Better understand the environmental health relationship between animals and humans.
2. Educate my community on the importance of preventing and treating tick-borne diseases.
3. Take the skill sets I have acquired through pursuing my MPH and put them into practice in my community.
4. Become an effective educator to the communities in which I will work.
5. Improve my writing proficiency.

To fulfill these objectives, I created several products during my APE. These products appear in the appendix of my Integrated Learning Experience (ILE), but they are summarized below in Table 1.1.

Table 1.1 Summary of Portfolio Products

Portfolio Product		Description
A.	Social media posts	Five posts about tick-borne diseases were posted on Seventy-First Animal Hospital’s Facebook page. These blogs were used as an educational tool to make clients at Seventy-First Animal Hospital aware of zoonotic tick-borne disease and how to effectively protect themselves and their animals.
B.	Intra-clinic presentation for colleagues	A presentation was prepared and presented to train the staff of Seventy-First Animal Hospital. The training educated the team on how zoonotic tick-borne diseases are a public health concern and can be prevented through good client care and communication.
C.	Educational brochure	An educational brochure was created on tick-borne diseases endemic to North Carolina. The brochure was given to pet owners as a resource to protect themselves and their animals.

While completing these portfolio products, I emphasized specific competencies that are valued by K-State’s MPH program. Of the twenty-two MPH competencies, five (7, 9, 16, 18, 19) were practiced as I completed my APE. Table 1.2 summarizes these competencies; these products appear in the appendix of my Integrated Learning Experience (ILE). In Chapter 2, I provide an additional explanation of how I practiced these competencies.

Table 1.2 Portfolio Products and Competency Addressed

Portfolio Product (Actual products in ILE report appendix)		Number and Competency Addressed	
A	Social media posts	18	Use of a social media platform to educate Seventy-First Animal Hospital clients on tick-borne diseases to reach simultaneously a large and diverse audience
B.	Intra-clinic presentation for colleagues	19	PowerPoint Presentation created that educates the Seventy-First Animal Hospital team on tick-borne diseases. Training provided the team with skill sets for effectively communicating with clients about how zoonotic diseases are a public health concern.
B.	Intra-clinic presentation for colleagues	16	Client education was promoted by training the Seventy-First Animal Hospital team on effectively communicating with clients on how to protect themselves and their animals against tick-borne diseases.
C.	Educational brochure	7	The development of an education program focusing on a sizable military population of new transfers to Fayetteville, North Carolina that accounts for most new pet owners in the Fayetteville, North Carolina area. The brochure is given to new clients to educate them on tick-borne diseases endemic to North Carolina.
C.	Educational brochure	9	Through the educational brochure, Seventy-First Animal Hospital clients are provided with intervention strategies for tick-borne diseases.

Chapter 2 - Competencies

During my APE, I emphasized the following specific competencies (7, 9, 16, 18, 19) through the portfolio products I developed for Seventy-First Animal Hospital in Fayetteville, North Carolina. As listed in Table 2.1, these competencies emphasize communication, leadership, and planning and management to promote health.

Table 2.1 Summary of MPH Foundational Competencies

Number and Competency		Description
18	Communication	Select communication strategies for different audiences and sectors.
19	Communication	Communicate audience-appropriate public health content, both in writing and through oral presentation.
16	Leadership	Apply principles of leadership, governance, and management, which include creating a vision, empowering others, fostering collaboration, and guiding decision-making.
7	Planning and Management to Promote Health	Assess population needs, assets, and capacities that affect communities' health.
9	Planning and Management to Promote Health	Design a population-based policy, program, project, or intervention.

To address competencies 16, 18, and 19 on communication and leadership, I developed two portfolio products. First, I submitted posts to the Seventy-First Animal Hospital's social media platform Facebook to educate clients on tick-borne diseases. Five posts were made to educate owners on the types of tick-borne diseases in southeast North Carolina, preventatives available through the clinic, how to correctly remove a tick, the importance of testing pets for tick-borne diseases, and how to conduct a bodily check for ticks on humans and animals. These posts were liked by multiple Seventy-First Animal Hospital Facebook participants, and these posts communicate audience-appropriate public content, empower others on this content, and guided decision-making on how to respond to tick-borne diseases. The second communication and leadership tool I employed was an Intra-clinic PowerPoint presentation for colleagues at Seventy-First Animal Hospital. On December 14, 2022, the clinic was closed for an hour so I could give a fun and interactive presentation on tick-borne diseases. The presentation

communicated the importance of veterinary workers' leadership role in public health, and how they can effectively communicate with owners about the threats of tick-borne diseases and how they can protect themselves and their animals. The PowerPoint slides allowed staff to engage and interact by answering questions to win prizes. I developed a game called "Who has a tick-borne disease?" played by the staff at the end of the presentation; this enabled the staff to see how easily tick-borne diseases can spread from one host to another. To complete competencies 7 and 9, I created a brochure discussing ticks specific to North Carolina; I titled this brochure "Welcome to Tick-borne North Carolina." This brochure was based on an assessment of the community's needs and is an intervention measure designed to raise the community's awareness of tick-borne diseases. The brochure is distributed to clients at Seventy-First Animal Hospital, many of whom are military families that have recently moved to Fayetteville, North Carolina, and thus are not aware of the tick-borne disease threat. The brochure educates owners on the nature of ticks, how ticks transmit diseases, ticks common to North Carolina that transmit diseases, and common health effects. Owners are also educated on intervention strategies, with the brochure discussing preventative strategies for avoiding a tick bite and correctly removing a tick. The brochure is given to all new clients that are not administering a tick preventative to their pets. Additionally, the brochure has been made a core product of all puppy and kitten books given to owners during their first visit. Thus, the portfolio products discussed enabled me to employ the knowledge I obtained through my MPH courses and emphasize core competencies valued by K-State's MPH program.

MPH Foundational Competencies Course Mapping

Table 2.2 lists the 22 public health foundational competencies addressed in MPH coursework taken at K-State. Note that the competencies are subdivided and grouped by important public health topics, and list the 22 Public Health Foundational Competencies, the competency number, and the courses in which these competencies are taught.

Table 2.2 MPH Foundational Competencies Course Mapping

22 Public Health Foundational Competencies Course Mapping	MP H 701	MP H 720	MP H 754	MP H 802	MP H 818
Evidence-based Approaches to Public Health					
1. Apply epidemiological methods to the breadth of settings and situations in public health practice	x		x		
2. Select quantitative and qualitative data collection methods appropriate for a given public health context	x	x	x		
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming, and software, as appropriate	x	x	x		
4. Interpret results of data analysis for public health research, policy, or practice	x		x		
Public Health and Health Care Systems					
5. Compare the organization, structure, and function of health care, public health, and regulatory systems across national and international settings		x			
6. Discuss the means by which structural bias, social inequities, and racism undermine health and create challenges to achieving health equity at organizational, community, and societal levels					x
Planning and Management to Promote Health					
7. Assess population needs, assets, and capacities that affect communities' health		x		x	
8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs					x
9. Design a population-based policy, program, project, or intervention			x		
10. Explain the basic principles and tools of budget and resource management		x	x		
11. Select methods to evaluate public health programs	x	x	x		
Policy in Public Health					
12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence		x	x	x	
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes		x		x	x
14. Advocate for political, social, or economic policies and programs that will improve health in diverse populations		x			x
15. Evaluate policies for their impact on public health and health equity		x		x	
Leadership					
16. Apply principles of leadership, governance, and management, which include creating a vision, empowering others, fostering collaboration, and guiding decision making		x			x
17. Apply negotiation and mediation skills to address organizational or community challenges		x			
Communication					
18. Select communication strategies for different audiences and sectors	DMP 815, FNDH 880 or KIN 796				
19. Communicate audience-appropriate public health content, both in writing and through oral presentation	DMP 815, FNDH 880 or KIN 796				
20. Describe the importance of cultural competence in communicating public health content		x			x

22 Public Health Foundational Competencies Course Mapping	MP H 701	MP H 720	MP H 754	MP H 802	MP H 818
Interprofessional Practice					
21. Perform effectively on interprofessional teams		x			x
Systems Thinking					
22. Apply systems thinking tools to a public health issue			x	x	

Chapter 3 - References

Rochlin, I., & Toledo, A. (2020). Emerging tick-borne pathogens of public health importance: a mini review. *Journal of Medical Microbiology*, 69(6), 781–791.
<https://doi.org/10.1099/jmm.0.001206>