Master of Public Health

Applied Practice Experience

by

Kyle J Braun

MPH Candidate

submitted in partial fulfillment of the requirements for the degree

MASTER OF PUBLIC HEALTH

Graduate Committee:
Dr. Mary McElroy
Dr. David Dzewaltowski
Dr. Richard Rosenkranz

Applied Practical Experience Site:
World Organisation for Animal Health (OIE)
May 30, 2018 – August 1, 2018

Applied Practical Experience Preceptor:
Elisabeth Erlacher-Vindel PhD.

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2018

Table of Contents

Chapter 1 - Portfolio Products

The Applied Practice Experience (APE) requires 240 hours of on-site participation in a non-academic setting and is typically completed at the end of the coursework so that a student may apply the knowledge gained from graduate courses. It requires delivery of at least two different portfolio products (poster, brochures, updated learning materials, website; training manuals, etc.) along with a short discussion of at least five of the 22 Public Health Foundational Competencies and how they were utilized during the APE.

BACKGROUND: The World Organisation for Animal Health (OIE) is an intergovernmental organization responsible for improving animal health worldwide. The OIE is member of the Tripartite, which is a collaboration with the other two major international health organizations, World Health Organization and Food and Agriculture Organization. OIE headquarters is located in Paris, France, and currently it is made up of 182-member countries in five OIE regions. The organization has a traditional employee hierarchal structure with a director general and department heads; however, the true authority and control of the OIE is in the delegates appointed for each member country. The job of an employee of the OIE is to implement the resolutions passed by the delegates, and report back to delegates when animal health issues arise. Each year the OIE hold General Session, during which the delegates of all member countries come to the organization to meet and discuss the future of animal health, and a primary focus identified by both the Tripartite organizations and OIE delegates was One Health.

One Health is a movement that is focused around disease prevention by utilizing international organizations in the three major health disciplines. Antimicrobial resistance has been identified by each of these major international health organizations as critical to a One Health approach, as it poses the greatest threat to disease prevention and control in both animal and human populations. The department I worked in was the Science and New Technologies Department, and a main focus of this department was in monitoring the use of antimicrobials intended for animals.

The Science and New Technologies Department has multiple focuses; however, one primary focus is the excessive and inappropriate use of antimicrobials in animals. My work was involved analysis of antimicrobial usage in animals by high and low income OIE member countries within the different OIE regions by creating tables, figures, and reports. The analysis that I ran consisted of compiling basic descriptive statistics on the different member countries, t-

tests on animal biomass within the country, and conducting correlations to test for variable relationships. Descriptions of the analysis, tables, and figures were then written to better explain what the statistics mean to a non-statistician audience. All analysis, tables and figures, and descriptions were then compiled to be considered for the OIE annual report on antimicrobial usage, which is presented to delegates at the General Session.

One key component the department is lacking is a true database software for the OIE annual data collection. The Science and new technologies department currently conducts its data collection through the use of excel templates where member countries fill in information and email their responses back to an OIE employee. A major issue with this form of data management is that all data submitted must be manually checked by an OIE employee for errors rather than with software. This time-consuming process results in data entry errors, as well as affects the ability of employees to work to their fullest extent.

The second project I worked on involved the development of a database software, by which OIE member countries could enter information, view previously entered data, update data if an error occurred, and communicate with OIE staff if questions arose. The Specifications document was completed by working in a team consisting of myself, my mentor Delfy Gochez, and a member of the IT team of the OIE. The document contained a detailed description of the different features the software needs, images of how the software should be structured and viewed from the point of view of the individual entering data, and all previous survey documents and emails related to past data collection. Each time a change was made, the document circulated between all member of our team. This process was key as ideas could be stimulated and built upon between our team as we had very diverse backgrounds in working with databases. By the time I had left, approximately 70% of the information the document needed was entered, with the goal of the document being totally complete by November this year.

Table 1.1 Summary of Portfolio Products

Portfolio Product		Description
#3	Generation of Tables and Figures for the OIE Annual Report on Antimicrobial Resistance	Analyzed data using computer-based software, specifically analyzing the data by high-income and low-income countries within each OIE region.

#4	Generation of Tables and Figures for the OIE Annual Report on Antimicrobial Resistance	Interpreting the tables, and writing reports explaining the tables and figures in a way a non-statistician could understand.
#7	Generation of Tables and Figures for the OIE Annual Report on Antimicrobial Resistance	Statistics ran to create tables and figures were done to assess the state of antimicrobial usage and resistance. A critical component to public health not only in animals but humans and the environment.
#18	Specification document: data submission and analysis program for the OIE annual data collection on antimicrobial agents intended for use in animals	This was done as I was working in a team to create a database software for the OIE. I had to convey the information I was accustomed to in a way that was easily understood by my team members who were unfamiliar with database software and not statistically trained.
#21	Specification document: data submission and analysis program for the OIE annual data collection on antimicrobial agents intended for use in animals	During the creation of the database document, I worked with a member of the IT department as well as a veterinarian who would be using the software. We had to work as a team to identify important needs, and how the project would work.

The products identified above, need to address at least one or more of the competencies chosen for Chapter 2 – Competencies. *One product does not have to satisfy all five of your chosen competencies, but all of the products together must satisfy all five competencies.*

Table 1.2 Portfolio Products and Competency Addressed

Portfolio Product		Number and Competency Addressed	
1	Generation of Tables and Figures for the OIE Annual Report on Antimicrobial Resistance	#3	Analyze quantitative and qualitative data using biostatistics, informatics
		#4	Interpret results of data analysis for public health research, policy or practice
		#7	Assess population needs, assets and capacities that affect communities' health
2	Specification document: data submission and analysis program for the OIE annual	#18	Select communication strategies for different audiences and sectors

	data collection on antimicrobial agents intended for use in animals		
		#21	Perform effectively on interprofessional teams

Chapter 2 - Competencies

Each student should document and address at least five appropriate MPH Foundational Competencies and tell how they were attained and utilized during the APE. One of five must be #21. *Perform effectively on interprofessional teams*.

These competencies are informed by the traditional public health core knowledge areas, (biostatistics, epidemiology, social and behavioral sciences, health services administration and environmental health sciences), as well as cross-cutting and emerging public health areas.

This chapter must contain this following table, in addition to a written detailed explanation of each competency and how it was addressed and/or attained during the APE.

Table 2.1 Summary of MPH Foundational Competencies

Number and Competency		Description
3	Analyze quantitative and qualitative data using biostatistics, informatics	This skill was **attained** by understanding how to apply all of my biostatistics coursework to produce interpretable tables and figures. It was **utilized** in the creation of tables and figures for the OIE's annual report.
4	Interpret results of data analysis for public health research, policy or practice	This skill was **attained** by understanding how to properly interpret the tables and figures and write descriptions about them. This was **utilized** in the creation of a report comparing OIE survey responses and WHO survey responses.
7	Assess population needs, assets, and capacities that affect communities' health	This skill was **attained** by viewing the regions and the income status of countries within the regions. This was **utilized** in finding whether low-income or high-income countries had difficulty in responding to specific survey questions. This was a major need for both the OIE and the private donors to the OIE.
18	Select communication strategies for different audiences and sectors	This skill was **attained** during the process of creating the database software document. Based on my experience with databases and statistics, I understood how the database should be structured and output when an analysis would need to be done. I **utilized** this by communicating to employees at the OIE who had no prior experience with non-Excel databases, and with no detailed statistical background.
21	Perform effectively on interprofessional teams	This skill was **attained** throughout my internship with the OIE. The position required me to learn about veterinary medicine,

		something that I had not studied in depth. This required me to ask questions and work collaboratively with my mentor to better prepare documents. The skill was **utilized** throughout the internship in that I presented to experts in the field of antimicrobial use intended for animals, and also had to work collaboratively with individuals in the creation of the database software specifications document.

Use the number associated with the competencies from the table below when you identify the competencies you are addressing. Note that the competencies are subdivided and grouped by important public health topics.

Below is a list of the 22 Public Health Foundational Competencies, the competency number, the courses in which they are taught to facilitate completing the table above.

Table 2.2 MPH Foundational Competencies Course Mapping

22 Public Health Foundational Competencies Course Mapping	MPH 701	MPH 720	MPH 754	MPH 802	MPH 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 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					

22 Public Health Foundational Competencies Course Mapping	MPH 701	MPH 720	MPH 754	MPH 802	MPH 818
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
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 - Information Needed if Completing a Thesis Only

Students who choose the thesis option for the Integrated Learning Experience (ILE) must complete the table below on their selected emphasis area competencies. This information may be added as a chapter in the thesis or left in this APE report. *All other students address this information in the ILE report as outlined in the ILE template.*

Student Attainment of MPH Emphasis Area Competencies

Each student must document and address how all of the competencies were attained and utilized during the culminating experience. Each emphasis area has five competencies that may be addressed. This explanation should be in the ILE report and oral presentation.

Emphasis area competencies are listed on the MPH website (www.k-state.edu/mphealth). Select "Areas of Emphasis" on the left-hand menu and your emphasis area.

Table 3.1 Summary of MPH Emphasis Area Competencies

MPH Emphasis Area:		
Number and Competency		**Description**
1	Population Health	Rurality is a variable that is key to public health consequences in America. Evaluating rurality in the context of children's physical activity is something that has not been researched extensively. This study evaluated two domains of physical activity (school and outside of school), and one domain of sedentary activity in children.
2	Social, Behavioral and Environmental Influences	This study evaluated school and out of school physical activity, as well as sedentary activities in urban and rural children. This study looked at school socio-economic status, rurality, and gender of the students. The examination of these variables along with building on previous research allows for social, behavior, and environmental factors to be evaluated within our population.

3	Theory Application	This study utilized the socio-ecological model as well as examined social institutions. The socio-ecological model is utilized by looking at the rurality along with the school and out of school environments. By looking at these environments we can then evaluate the interpersonal and individual level factors that could contribute to differences in time spent in physical activity.
4	Developing and Evaluating Interventions	This study used past research to evaluate rurality in the context of physical activity and sedentary activity. Rurality is a multi-faceted variable that was used to study the populations.
5	Support Evidence-Based Practice	This study looked at urban and rural fourth and fifth-grade populations. This study supports public health officials and community partners by looking at key public health variables that have not been extensively researched. As we know physical activity patterns of children tend to carry over to adulthood, it is critically important we identify variables that can contribute to physical inactivity.

The table (above) must be included in the ILE report (either a chapter in the thesis or left in the APE report) and presentation.