

Master of Public Health
Applied Practice Experience

***Veterinarian and Para- Veterinarian Perceptions on Canine Hookworms and
Riley County's Community Health Improvement Plan Assessment***

by

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MASTER OF PUBLIC HEALTH

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Chapter 1 - Portfolio Products and APE Timeline

I divided my applied practice experience (APE) into two different projects; my first project concentrated on U.S. veterinarian and para-veterinarian knowledge of hookworms, and my second project involved the Riley County Health Department and their Community Health Improvement Program (CHIP) project.

My first project involved working with U.S. veterinarians and para-veterinarians on their knowledge of hookworms. My preceptor, Dr. Jeba Jesudoss Chelladurai, and I developed a cross-sectional study to determine different veterinarians' courses of treatment and prevention for their patients as well as education for their clients about hookworms in their area. We created a survey that included questions on these topics as well as others. Throughout my experience, I learned how to fill out IRB forms, develop online surveys, and interpret data, in addition to learning an immense amount of different methods of canine hookworm treatment and preventions. After collecting and interpreting data, I presented a poster at the annual American Association of Veterinary Parasitologists (AAVP) meeting. I had two products for this project: a veterinarian and para-veterinarian online survey and my poster presentation at the AAVP conference.

My second project involved being part of a team at the Riley County Health Department working on the county's CHIP project. The CHIP project is a strategic plan that outlines the priority health issues in the local county and addresses these issues by implementing new strategies or measures to improve the overall health in the county. This process takes a great extent of time and people to organize and is repeated every five years with updates and changes to fit the current community needs. Throughout my experience, I worked under my preceptor, Ms. Shanika Rose, and with an MPH intern, Ryan Allen. Ryan and I were in-charge of organizing stakeholder meetings, advertising community input meetings and other processes of the CHIP project. For this project, I had two products: a power-point presentation (and supplementary handouts) for the Spanish speaking community input meeting and advertisement for social media for the Riley County community input meetings.

In summary of my two projects, I completed four products for my portfolio. These include: veterinarian and para-veterinarian online surveys, AAVP poster, Spanish speaking community input meeting power-point and documents, and social media content for advertising the local community input meetings. The specific portfolio products will be featured in my ILE report.

Table 1.1 Summary of Portfolio Products

Portfolio Product		Description
A	Veterinarian & Para-Veterinarian Hookworm Survey	The survey allowed us to gain veterinarian and para-veterinarian knowledge about hookworms in these topics: demographics, general hookworm knowledge, diagnostics, treatment and resistance, and education.
B	AAVP Annual Meeting Poster	A poster was presented at the annual AAVP meeting in Snowbird, Utah. The poster showed results of the veterinarian hookworm survey.
C	Riley County Community Input Meeting support in Spanish	A Spanish power-point and supplementary handouts were created for a community input meeting via zoom to educate the audience about Riley County and seek their opinion in how to better the community.
D	Riley County advertisement & Social media content	Social media posters were created to advertise the upcoming community input meetings and invite as many people to the event.

Table 1.2 Portfolio Products and Competency Addressed

Portfolio Product		Number and Competency Addressed	
A	Veterinarian & Para-Veterinarian Hookworm Survey	2,3,4,7	Select quantitative and qualitative data collection methods appropriate for a given public health context; Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate; Interpret results of data analysis for public health research, policy or practice; Assess population needs, assets and capacities that affect communities' health
B	AAVP Annual Meeting Poster	2,3,4	Select quantitative and qualitative data collection methods appropriate for a given public health context; Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate; Interpret results of data analysis for public health research, policy or practice
C	Riley County Community Input Meeting support in Spanish	6,7,18,19	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; Assess population needs, assets and capacities that affect communities' health; Select communication strategies for different audiences and sectors; Communicate audience-appropriate

			public health content, both in writing and through oral presentation
D	Riley County advertisement & Social media content	14,18,21	Advocate for political, social or economic policies and programs that will improve health in diverse populations; Select communication strategies for different audiences and sectors; Perform effectively on interprofessional teams

Timeline

Week 1 (Oct. 1-2, 2021): When looking for my first project, I emailed Dr. Jamie Retallick, director of Kansas State Veterinary Diagnostic Laboratory (KSVDL), to see if she knew of any professors who had a project that would fit my interests and my applied practice experience. Not too long after emailing her, Dr. Chelladurai reached out to me and said she had a project in mind she had been wanting to do. This project would be beneficial to both of us by being my graduate project and expanding her knowledge of veterinarians' perceptions on canine hookworms.

Week 2 (Oct. 3-9, 2021): On October 6th, I had my first meeting with Dr. Chelladurai and she expanded on the project she had in mind about canine hookworms. I expressed my interest in the project and accepted it as my applied practice experience. On October 8th, I had a meeting with my committee for approval of my hookworm project with Dr. Chelladurai. I mentioned the thought of having a second project in conjunction with the hookworm project. This second project involves the Riley County Health Department's CHIP program. My committee liked the idea of having a second project.

Week 3 (Oct. 10-16, 2021): On October 15th, I had a meeting with Dr. Kastner (my major professor), and we discussed project updates and finalized spring and summer courses. I also had a meeting with Dr. Chelladurai, and we talked about IRB training courses I needed to take in order to start the project process.

Week 4 (Oct. 17-23, 2021): On October 19th I completed all of my IRB training, and the required training courses were from the Collaborative Institutional Training Initiative, also known as CITI. These courses included: Export Compliance, Human Subjects Research (HSR) – IRB researchers and personnel on IRB protocols, HSR – Internet Research, and responsible Conduct of Research (RCR). On the same day, I had a zoom meeting with Shanika Rose, Health Educator/Accreditation Coordinator for the Riley County Health Department. We introduced ourselves and discussed Riley County as a community and the current CHIP project in process. I accepted the internship and would start interning at the Health Department at the end of January.

Week 5 (Oct. 24-30, 2021): I met with Dr. Chelladurai for our weekly meeting and further discussed the public health issue associated with canine hookworms. She assigned articles to read to gain more insight about the canine hookworm's history and evolution.

Week 6 (Oct. 31-Nov.6, 2021): On November 5th, I met with Dr. Chelladurai for our weekly meeting, and we revised my APE form before submission. On November 9th, I submitted my APE form to the graduate school.

Week 7 (Nov. 7-13, 2021): On November 12th I met with Dr. Chelladurai for our weekly meeting, and we began compiling potential questions for our survey and looking at other surveys to help better create appropriate questions. Dr. Chelladurai gave me more canine hookworm articles to read. I created two separate documents (one for veterinarian survey questions and another for para-veterinarian survey questions), and I categorized them based on demographics, general hookworm knowledge, diagnostics, treatment and resistance, and education.

Week 8 (Nov. 14-20, 2021): Dr. Chelladurai and I met for our weekly meeting, and I showed her the progress I made with the new survey questions and she revised them. Now that we had most of the questions, Dr. Chelladurai asked me to create a consent statement for the beginning of the survey. During our meeting, we started the IRB application for our project.

Week 9 (Nov. 21-27, 2021): Dr. Chelladurai and I did not meet this week due to the Thanksgiving break. I continued to work on the survey questions and consent statements.

Week 10 (Nov. 28-Dec. 4, 2021): Dr. Chelladurai and I met for our weekly meeting, we finished and submitted the IRB application on December 3rd.

Week 11 (Dec. 5-11, 2021): On December 7th, Dr. Chelladurai and I received our IRB approval of our application and an IRB number was assigned to our project. During our weekly meeting, Dr. Chelladurai introduced me to Qualtrics, a software that we used to create and send out online surveys.

Week 12 (Dec. 12-18, 2021): Dr. Chelladurai and I met one more time before the end of the semester. Dr. Chelladurai gave me access to Qualtrics and helped me navigate through the basic platform. We also finalized both survey questions.

Week 13 (Dec. 19-25, 2021), Week 14 (Dec. 26, 2021-Jan.1, 2022), and Week 15 (Jan. 2-8, 2022): Throughout winter break I learned how to use Qualtrics and its many aspects. I created both surveys, added the survey questions, and developed the answer choices for the platform. Dr. Chelladurai, Dr. Kastner, and I emailed during the break to give updates and answer any questions I had.

Week 16 (Jan. 9-15, 2022): Before my Riley County Health Department (RCHD) orientation, I completed three HIPAA trainings on KS-Train. I had my RCHD orientation on January 14th, where I met Shanika and another faculty in person. I also met the other MPH intern that I worked with, Ryan Allan.

Week 17 (Jan. 16-22, 2022): I met with Dr. Chelladurai for our weekly meeting, and she reviewed the Qualtrics survey that I had been working on over winter break and made a few changes.

Week 18 (Jan. 23-29, 2022): Dr. Chelladurai and I met for our weekly meeting, and we reviewed Qualtrics survey questions and consent statements. We also tested the Qualtrics survey to make sure there weren't any typos or errors. January 25th was my first day at RCHD, Shanika gave Ryan and me a tour of the buildings, met the director of RCHD, Julie Gibbs, and went through training. Shanika sent us many articles and documents to read about the CHIP program and other associations with the RCHD. Later that week, we had an all-staff meeting that consisted of updates in the departments and had two speakers.

Week 19 (Jan.30-Feb.5, 2022): Dr. Chelladurai and I met for our weekly meeting, tested out the survey links, and proofread all the questions and answer choices for the surveys. We saw that everything was good, so we finally published the survey on Qualtrics. Dr. Chelladurai then emailed Dr. Hanzlicek who is in charge of the client care section of the KSVDL, and he sent out our survey link to his contacts. At RCHD we met with Shanika for our morning meeting and she gave Ryan and me tasks for the week. We started to prepare for the upcoming event on February 16th, the Local Public Health Systems Assessment (LPHSA). Shanika gave us access to documents in Teams and worked on the attendance spreadsheet for the event. We searched for members in the community that would be a great asset to participate in the event and emailed them an invitation.

Week 20 (Feb. 6-12, 2022): Dr. Chelladurai and I met for our weekly meeting, and we looked to see how many participants had taken the survey and created two Excel spreadsheets (one for veterinarians and another for para-veterinarians). I started to download data from Qualtrics and divided the results into their respected spreadsheets. At RCHD, The CHIP team met and discussed what was needed for the upcoming LPHSA event. I edited the LPHSA attendance spreadsheet and answered emails to community members who were interested in coming to the event. Ryan and I also helped file COVID cases for the health department.

Week 21 (Feb. 13-19, 2022): Throughout the week I worked on the survey results from Qualtrics and separated them into Excel spreadsheets. I met with Dr. Chelladurai and showed her my progress. At RCHD, Ryan and I prepared for the LPHSA event on Tuesday. We printed agendas and made folders for each community member, emailed event reminders, and had a morning meeting with Shanika to make sure we were prepared for the event. On Wednesday, February 16th, we met early at Pottorf Hall in Manhattan to set up for the LPHSA event. Ryan and I were in charge of registration and greeting all community members before the event

started. After that, we shadowed and listened in to discussions about current challenges and advantages in the community. One group in the event fell short of members so Ryan and I participated and gave our input. It was a busy day meeting so many people from the community but learned quite a bit about Riley County like demographics, community needs, and community projects in the making.

Week 22 (Feb. 20-26, 2022): Dr. Chelladurai and I met for our weekly meeting, and I showed her my progress in my Excel spreadsheets. The online survey was still open so we discussed how long we were going to keep it open. Dr. Chelladurai advised me to start making different tables and charts for the results of each survey question. At RCHD, we had a meeting with Shanika about the LPHSA event and what we thought about it.

Week 23 (Feb. 27-Mar.5, 2022): I did not meet with Dr. Chelladurai this week, but I did continue to work on the Excel spreadsheets. At RCHD, we had a meeting with Shanika. In that meeting, we moved on to the next step in the CHIP process, community input meetings. Ryan and I started to create social media content to invite the community to these meetings using Canva. Canva is an online graphic design platform that helps create visual content.

Week 24 (Mar. 6-12, 2022): I did not meet with Dr. Chelladurai this week, but I did continue to update Excel spreadsheets. At RCHD, Ryan and I continued to create community input meeting flyers for social media. We also started a spreadsheet to edit dates, times, and locations for these upcoming community input meetings.

Week 25 (Mar. 13-19, 2022): I met with Dr. Chelladurai this week for our weekly meeting and showed her the progress I made in the Excel spreadsheets. I continued to work on the spreadsheets throughout the week. At RCHD, we had several meetings with Shanika throughout the week to plan out the community input meetings. I started to create Spanish content such as flyers, agendas, handouts, and a power point for the upcoming Spanish-speaking community input meeting.

Week 26 (Mar. 20-26, 2022): I met with Dr. Chelladurai this week for our weekly meeting and showed her the progress I made in the Excel spreadsheets. I continued to work on the spreadsheets throughout the week. Dr. Chelladurai advised me to start writing my ILE report. At RCHD, I continued to create Spanish documents for the upcoming community input meeting. Our first community input meeting was held on March 22nd at the Manhattan library. There was also an all-staff meeting later that week, we gave an update on our LPHSA event and the upcoming community input meetings and listened to department heads give an update.

Week 27 (Mar. 27-Apr.2, 2022): I did not meet with Dr. Chelladurai this week. I continued to update my Excel spreadsheets. At RCHD, we had multiple meetings with Shanika

throughout the week to prepare for the community input meetings. Our second community input meeting was held through zoom on March 29th. I prepared for the Spanish-speaking community input meeting I was presenting later in the week. On Friday, April 1st, I presented via zoom at the Spanish-speaking community input meeting.

Week 28 (Apr. 3-9, 2022): I met with Dr. Chelladurai for our weekly meeting and discussed the ILE report, and my progress on the Excel spreadsheet and also closed the Qualtrics online survey to all participants. At RCHD, we met with Shanika for a meeting and had one community input meeting this week. April 5th's community input meeting was held at Ogden.

Week 29 (Apr.10-16, 2022): I met with Dr. Chelladurai for our weekly meeting and discussed my progress in the ILE report and she advised me to clean up my graphs and charts so they can be inserted into my ILE report. At RCHD, we met with Shanika regularly because we had three community input meetings this week. Two community input meetings were held on the same day, April 12th's meetings were held at Leonardville Senior Center and Northview Elementary in Manhattan. On April 14th, Ryan and I held a community input meeting at K-State's Leadership building.

Week 30 (Apr. 17-23, 2022): Dr. Chelladurai and I met for our weekly meeting, she looked over my graphs and said I could insert them into my ILE report. We discussed the upcoming AAVP annual meeting in June and wanted me to present a poster on the hookworm project and compete. We wrote an abstract for the project and submitted it to the AAVP before the deadline. April 22nd was my last day at the RCHD.

During late spring and early summer, and having finished my internship at RCHD, I shifted my focus to preparing for the AAVP Annual Meeting to take place at the end of June 2022.

Chapter 2 - Competencies

Table 2.1 Summary of MPH Foundational Competencies

Number and Competency		Description
2	Select quantitative and qualitative data collection methods appropriate for a given public health context.	Selected appropriate qualitative and quantitative variables for each survey question. Reviewed past CHIP Process reports and compared to the current CHIP processes
3	Analyze quantitative and qualitative data using biostatistics, informatic, computer-based programming and software, as appropriate.	Analyzed hookworm survey results with the appropriate software systems.
11	Assess population needs, assets and capacities that affect communities' health.	A survey was used to determine veterinarians and para-veterinarians understanding of hookworms to prevent zoonoses. Riley County Community Input Meetings were held to better understand the community member's opinions on what priorities the community needs such as access to mental health services, health care, affordable housing and other resources.
19	Communicate audience-appropriate public health content, both in writing and through oral presentation.	Presented a poster about U.S. based veterinarian perceptions on canine hookworms to veterinary health care professionals at the annual AAVP meeting. During the Community Input Meetings, general facts and data were presented in a way the audience understood by having eye appealing graphs and engaging conversations.

21	Perform effectively on interprofessional teams.	Team member of the CHIP team; worked with other associations like Flint Hills Wellness Coalition, Konza Prairie Community Health center and county commissioners throughout the county.
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Competency 2: Select quantitative and qualitative data collection methods appropriate for a given public health context.

In the hookworm project, we selected qualitative and quantitative variables for each survey question. Each question was carefully thought and written to maximize a public health context. For my second project, the team collected data from the previous CHIP report and recognized the challenges and benefits of the community. This helped us compare what the community needed to improve and what has improved from the past. The past and current data helped identify and transition to the next obstacle to better the community from a public health perspective. Many improvements ideas were thought of after the Covid-19 pandemic which made people realize what is a priority and what can wait for the next couple of years to be improved.

Competency 3: Analyze quantitative and qualitative data using biostatistics, informatic, computer-based programming and software, as appropriate.

Quantitative and qualitative data were analyzed by using several softwares such as Qualtrics, Datawrapper, Intervene, and Microsoft Excel. Qualtrics was used to create the online survey, download the results, and look at current participation progress. Datawrapper and Intervene are online graphic platforms that were used to enrich results by translating them into design charts. Lastly, I used Excel to separate and analyze survey results as well as to create multiple charts to interpret results.

Competency 11: Assess population needs, assets and capacities that affect communities' health.

My first project was created after assessing the population's needs and their overall health. Canine hookworms pose a multi-drug resistant threat that also happens to be zoonotic in nature. This is a major public health concern worldwide that needs to be controlled and

prevented when possible. While analyzing the participants' answers, I realized how many veterinarians have different methods and courses of treatment for canine hookworms. For my second project, community input meetings were facilitated to assess the cost and benefits of the county's overall health. Community members were encouraged to discuss their struggles and speak their opinions about their community needs such as access to mental health services, health care, affordable housing and other resources.

Competency 19: Communicate audience-appropriate public health content, both in writing and through oral presentation.

For my first project, I presented my survey results on veterinarian perceptions of canine hookworms at the annual AAVP meeting. During my second project in the local community input meetings, we presented general facts and data about Riley County. This information was presented to the community in graphic designs and tables that were easy to follow and understand. During the input meetings, handouts were also given to show additional information that the oral presentation did not cover.

Competency 21: Perform effectively on interprofessional teams.

During my second project, I was a member of the CHIP team. This team consisted of EnVisage Consulting Inc., Riley County Director and Health Educator/Accreditation Coordinator, and interns. We worked as a team to correlate dates for events, events, handouts, presentations, and meetings for the CHIP program. Riley County Health Department also worked with local organizations such as BlueCross BlueShield of Kansas, Pathways to a Healthy Kansas, Flint Hills Wellness Coalition, Ascension Via Christi, Konza Prairie Community Health Center, and Pawnee Mental Health Services to help with the CHIP project.

Additional MPH Competencies acquired during graduate program

Below Table summarizes the additional competencies that I obtained during my overall MPH education.

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		

22 Public Health Foundational Competencies Course Mapping	MPH 701	MPH 720	MPH 754	MPH 802	MPH 818
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					
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	