Master of Public Health

Applied Practice Experience

Enhancing nutrition program benefit utilization through targeted intervention strategies.

by

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MPH Candidate

submitted in partial fulfillment of the requirements for the degree

MASTER OF PUBLIC HEALTH

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Riley County Women, Infants, and Children Program
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Chapter 1 - Portfolio Products

For my Applied Practice Experience (APE), I worked with the Riley County Health Department Women, Infants, and Children Program (WIC). This program is a public health nutrition program focused on improving the health outcomes of women who are pregnant, have recently had a baby, their infants, and children up to the age of five. To qualify, households must meet certain income guidelines, ensuring a focus on those who are most at risk of food insecurity. Recently, the program coordinator and my preceptor, Kaylyn Speth, gained access to certain agency-wide data, which she was interested in utilizing. Upon evaluation, utilization data became most interesting. It showed many clients weren't using their full benefit package. The idea for the project came from a desire to increase benefit usage habits. Mrs. Speth was also interested in utilization habits based on demographic information (spoken language and education level). After analyzing preliminary data, a focus was put on those benefits often least redeemed, and households shown to have redeemed none of their benefits. First, I provided a presentation to the staff covering the project and the preliminary findings. Next, educational handouts were created and provided to staff. Staff were instructed to use conversation starters to determine which items clients were struggling to purchase and utilize then provide that specific handout. During this same time, I surveyed non-redeemers to understand barriers and troubleshoot common issues. Once the intervention was complete, the data sets before and after implementation were analyzed to assess change. These findings were then presented to staff and offered to be presented at the next state conference.

Table 1.1 Summary of Portfolio Products

Portfolio Product		**Description**
a	Logic Model	Systems thinking flow chart showing inputs, outputs, and outcomes as it relates to the project and intervention. Used as a brainstorming tool.
b	Benefit specific educational handouts	A series of fourteen handouts addressing commonly underutilized WIC benefits. Handouts include usage ideas, purchasing guidance, nutrition information, example recipes, and state purchasing guidance.

c	Results presentation/handout	Create and provide presentation to local staff (potentially also state-wide) of methods and results. Include data analysis, assessment, and recommendations.

Table 1.2 Portfolio Products and Competency Addressed

Portfolio Product		**Number and Competency Addressed**	
a	Logic Model	22	Apply systems thinking tools to a public health issue
b	Benefit specific educational handouts	9	Design a population-based policy, program, project or intervention
c	Results presentation/handout	3	Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate
		4	Interpret results of data analysis for public health research, policy or practice
		19	Communicate audience-appropriate public health content, both in writing and through oral presentation

Chapter 2 - Competencies

Table 2.1 Summary of MPH Foundational Competencies

Number and Competency		Description
22	Apply systems thinking tools to a public health issue	I created a visual model mapping out the planning process of inputs, outputs, and objectives. This was used as a brainstorming tool to determine the best use of time and resources for the desired outcome of the project
9	Design a population-based policy, program, project or intervention	Upon understanding my preceptor's intentions for the project, I created an intervention in the form of an educational handout. This handout was to be given to clients at counseling sessions to assist in improving understanding of nutrition, usage ideas, and purchasing guidance.
3	Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate	Using data reports provide by the state agency, I reviewed and reformatted them so they could be used in the program R Studio to be analyzed to evaluate the intervention's effect.
4	Interpret results of data analysis for public health research, policy or practice	Based on the outcomes of the data, I was able to determine if the intervention was successful and then make recommendations based on the results.
19	Communicate audience-appropriate public health content, both in writing and through oral presentation	I reported the findings and recommendations to the local staff through a PowerPoint presentation and summary handout at a staff meeting. I also reached out to state staff with an offer to present at the next state held conference.

Competency 22 – After the initial understanding of expectations, I used systems thinking as a way to map out the project. I evaluated what resources were available, including the data, staff, design programs, funding, and materials. From here, I outlined what activities were possible to meet the desired outcomes. From here, outputs were assessed. This included expectations for activities over the course of one year. Then, short-term, intermediate, and long-term outcomes were decided. Using this tool, I was able to discuss with my preceptor what the focus of my project would be based on the time and resources.

Competency 9 – Using the preliminary data, a focus was put on benefit categories for items least redeemed. Based on that, I created educational handouts focused on usage ideas, expanded purchasing information, nutrition education, recipes, and state-level guidance. Six categories of products were determined to be the least redeemed. However, two of these were items that were issued to a small number of clients and, therefore, were determined not to be a priority. However, other items more widely issued were added to the focus instead. Ultimately, fourteen handouts were created, focused on specific benefit utilization. Once the handouts were created, they were distributed to staff both in print and digital form. Staff were instructed to initiate conversations about benefit redemption with clients and then provide the handout.

Competency 3 – Initial reports about data redemption were evaluated for intervention focus. It was also decided which months to evaluate before and after the intervention. Three months were covered (March, April, and May), comparing 2024 results to 2025. Early on, I realized there were inconsistencies in the data. First, I noted that empty spaces actually meant two things: the household was never issued that item, or it was issued but never used. This created a large issue with the data, with nil or those who didn't use any of a particular product, not being accounted for. I then requested secondary data, also including issuance information, and compared the two reports to update which values should be correctly labeled as nil. Then, the entire data set needed to be reformatted to allow it to be properly analyzed using R Studio.

The next step in the process was to work with a data analyst to appropriately code R Studio to get the desired statistical analysis. First, the information was input, and demographic information was gained. We used this to analyze trends regarding redemption and metrics, including primary spoken language and the highest education level attained. Next, we eliminated anyone from the data that was not in both data sets (2024 and 2025). From here, we compared metrics assessing changes in usage percentage from each year for each category of benefit. Using this, we determined if the intervention was successful or not based on whether changes showed improvement and the level of improvement was statistically significant.

Competency 4 – Building on from competency 3, the data showed that our intervention did not show any significant change in redemption. While I do think the handouts are valuable, they did not have the impact we were hoping for. This could be for many reasons. This is a complex issue, meaning education alone does not always create measurable change. The clinic size is rather large and relied on other staff to complete the task. There is no guarantee that everyone in our data set received the intervention. If redesigning this project, I would scale down the scope immensely. This could be focusing on a specific benefit rather than multiple, and also selecting a subset of households to focus on in the duration rather than clinic-wide. This would ensure they received the intervention and were accurately measured.

Competency 19 – Sharing results is a vital subset of any work. During a clinic staff meeting, I was able to share the outcomes of the project and lessons learned. This included suggestions for further research and other possible areas of interest. A PowerPoint presentation was created along with a summary handout, which was shared, discussing the process and outcome. I was also able to reach out to state-level representatives and offer to provide this information at the next state-level conference in either a presentation or poster session.

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					
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	