Master of Public Health

Applied Practice Experience

by

Michael Gibson

MPH Candidate

submitted in partial fulfillment of the requirements for the degree

MASTER OF PUBLIC HEALTH

Graduate Committee:

Dr. Ellyn Mulcahy, Ph.D., MPH
Dr. Margaret Kincaid, Ph.D.
Dr. Justin Kastner, Ph.D.

Applied Practice Experience Site:
Johnson County Department of Health and Environment
5/27/2025 – 11/7/2025

Applied Practice Experience Preceptor:
Dr. Megan Sparks, Ph.D., MPH

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2025

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Chapter 1 - Portfolio Products

Introduction

My Applied Practice Experience (APE) was completed with the Johnson County Department of Health and Environment (JCDHE) within the Epidemiology Division. The department plays a critical role in surveillance, education, and program evaluation across the county's diverse communities. Through this experience, my goal was to design and evaluate a culturally appropriate, linguistically accessible health-education intervention that would strengthen trust and access between JCDHE and the Hispanic community—one of the county's fastest-growing and most underserved populations.

The project centered on developing the JCDHE Health Lotería, a linguistically accessible game modeled after the traditional Mexican game of chance, Lotería. The initiative evolved into a comprehensive outreach and evaluation package that combined creative design, epidemiologic justification, digital accessibility, community partnership, public outreach, and systems thinking. Key collaborators included El Centro (a Hispanic-based community organization), the Pima County Health Department (Arizona), the Olathe School District, and several JCDHE internal teams, such as Web Services, the County Print Shop, Community Health, Clinical Services, and Epidemiology. Together, we adapted Pima County's original concept into a Johnson County–specific intervention that both celebrated cultural heritage and addressed identified language and trust barriers in public-health service delivery.

Product 1: Health Lotería Game Set and Promotional Materials

I developed the JCDHE Health Lotería game as a linguistically accessible educational toolkit to promote awareness of local health and community services. The final set includes 54 cards, 11 game boards, bilingual instructions, a custom envelope, a promotional business card, and a deck box. I also designed a table runner used for advertising while distributing the game and business cards at community events. Each card features a health/service-related image and bilingual title on the front and a short English–Spanish bilingual description and QR code on the back linking to the Health Lotería website. I designed all cards in Canva, creating 15 original illustrations and adapting 39 from JCDHE and partner content to ensure cultural relevance and local accuracy. Printing was coordinated through Jim Stein, Johnson County Print Production Coordinator, using state formula funding. The purpose of this product was to create a recognizable, engaging way to connect residents with essential services while fostering trust through a familiar cultural medium.

Product 2: Digital Health Resource Index Website

To complement the physical toolkit and expand accessibility, I collaborated with JCDHE's web team to develop a digital companion resource. Built directly from the Excel workbook I created to organize all card content, the website presents each of the 54 cards with bilingual text, card images, and direct hyperlinks to corresponding Johnson County, El Centro, and Greater Kansas City resources, with a focus on JCDHE services and resources. The website serves as a permanent, accessible version of the Health Lotería for residents who may not receive a physical copy. With the support of JCDHE Web Content Coordinator, Tim Dodderidge, we embedded Bitly tracking to measure community engagement through click analytics and search behavior. This online extension enhances sustainability and reach, allowing community members, educators, and partners to use the game as a live directory of county services. The site is publicly available at Digital Health Lotería.

Product 3: Patagonia and Propio Data Analysis Report

I conducted an Excel-based descriptive analysis of JCDHE's Patagonia clinical-service data (March 21, 2023 – September 2, 2025) and integrated contextual insights from Propio interpreter-service analytics provided by JCDHE Epidemiologist Chip Cohlmia. The dataset included 21,977 unique patients, of whom 33.3 percent identified as Hispanic and 20.5 percent preferred Spanish as their language. Among Spanish-preferring patients, 73.8 percent required interpreters, while Propio data showed Spanish accounted for 66.8 percent of all interpreter calls. Top-utilized services for Hispanic and Spanish-preferring patients included Maternal Health, Immunizations, and Family Planning, all programs where language access is critical. This analysis revealed that JCDHE's client base is over three times more Hispanic than the county's 9.8 percent (Kansas Health Matters, 2025) population benchmark—emphasizing the department's role as a key resource for this community. These findings stress the need to align outreach tools with the linguistic and cultural context of JCDHE's client base, particularly in programs where health outcomes may be adversely affected by communication barriers.

Product 4: Community Distribution and Evaluation Package

To evaluate the Health Lotería's community impact, I collaborated with Dr. Megan Sparks to design an IRB-approved Community Distribution and Evaluation Package, comprising an implied-consent form, a REDCap survey, and a bilingual event presentation script. The consent form waived signatures to minimize perceived risk for participants and protect privacy, especially for mixed-status households. The

short survey measured language-barrier experiences, trust in JCDHE, and perceptions of inclusivity and usefulness of the game. We distributed surveys at four Hispanic community events, including Olathe School District Hispanic College Planning Night, Olathe School District Celebration of Hispanic Excellence, Johnson County Parks and Recreation Arts & Heritage Center Hispanic Heritage Month Celebration, and El Centro's Health Fair. We also attended a Johnson County DEI (Diversity, Equity, and Inclusion) Coalition Meet and Greet event to present the project and gather community partner engagement (no surveys were distributed at this event). A Spanish interpreter from Olathe School District or El Centro was present at each event to explain the resource and survey in Spanish. Each completed survey earned participants a free Health Lotería game, totaling 100 sets distributed. If they did not want to complete a survey, they could still take the promotional business cards to access the website. We only distributed the survey to community members 18 years and older. Anyone under 18 interested in the game was given a copy for free. This survey allowed me to evaluate cultural fit and gather qualitative insights to refine future versions of the intervention. The Redcap survey is publicly available until 11/22/2025 at JCDHE Health Lotería Survey. By the close of the APE period, we had collected 75 completed surveys across the four bilingual outreach events. A large share of respondents (70.7%) chose to take the survey in Spanish, and most Spanish-preferring respondents said they had experienced language barriers when trying to access health or community services in the past. Across all respondents, nearly half said they had not been familiar with JCDHE's services before talking with us, but most agreed that Johnson County needs more inclusive materials. After interacting with Health Lotería, 93.3% said the cards were easy to understand, 96.0% said they planned to use the resources we provided, and 86.7% said their trust in JCDHE had increased. Together, those responses tell us the game is doing what it was built to do: make services easier to navigate, in Spanish, in a way that builds trust instead of creating another barrier.

Product 5: Health Lotería Causal Loop Diagram

For my fifth product, I applied systems-thinking methodology to visualize how the Health Lotería intervention influences public health outcomes through interconnected community dynamics. Using a Causal Loop Diagram (CLD), I mapped key variables such as *awareness of services*, *trust in JCDHE*, *language and cultural barriers*, and *service utilization*. The diagram identifies two reinforcing loops—R1 (Trust Loop) and R2 (Awareness Loop)—that show how positive experiences and outreach can amplify participation and confidence in JCDHE. It also includes a balancing loop (B1 Barrier Loop) representing how persistent communication or cultural barriers can inhibit progress. The CLD demonstrates that the

Health Lotería serves as a leverage point for transforming the system from one of limited engagement to one of reinforcing awareness and trust.

Table 1.1 Summary of Portfolio Products

Portfolio Product		Description
1	Health Lotería Game Set and Promotional Materials	A bilingual educational game set containing 54 cards, 11 boards, bilingual instructions, and custom promotional materials. Each card links to local health resources via QR code. Designed in Canva and printed with state formula funding through the Johnson County Print Shop, the set serves as a culturally relevant tool to increase community engagement and awareness of services.
2	Digital Health Resource Index Website	An interactive online directory that digitally extends the Health Lotería game. Built from the project's Excel database, the site includes bilingual card images, service descriptions, and hyperlinks to Johnson County and El Centro resources, with Bitly tracking for usage analytics. This web resource ensures long-term access for residents and partners.
3	Patagonia and Propio Data Analysis Report	A descriptive analysis using Excel to identify service utilization patterns and language disparities among 21,977 patients in JCDHE's Patagonia database. Findings showed 33.3% Hispanic identification and 73.8% interpreter need among Spanish-preferring patients, justifying the need for culturally tailored interventions.

4	Community Distribution and Evaluation Package	An IRB-approved evaluation package, including an implied-consent form, REDCap survey, and bilingual presentation script administered at four Hispanic events. It gathered community feedback on Health Lotería's clarity, trust impact, and cultural appropriateness, with 100 incentive game sets distributed.
5	Health Lotería Causal Loop Diagram	A systems-thinking visualization illustrating how Health Lotería affects trust, awareness, and service utilization within the Hispanic community. The diagram includes two reinforcing loops (Trust and Awareness) and one balancing loop (Barriers), demonstrating how the intervention can shift system dynamics toward equitable access.

Table 1.2 Portfolio Products and Competency Addressed

Portfolio Product		**Number and Competency Addressed**	
1	Health Lotería Game Set and Promotional Materials	8	Apply awareness of cultural values and practices to the design or implementation of public health policies or programs.
		9	Design a population-based policy, program, project, or intervention.
		19	Communicate audience-appropriate public health content, both in writing and through oral presentation.
2	Digital Health Resource Index Website	8	Apply awareness of cultural values and practices to the design or implementation of public health policies or programs.
		9	Design a population-based policy, program, project, or intervention.
		19	Communicate audience-appropriate public health content, both in writing and through oral presentation.
3	Patagonia and Propio Data Analysis Report	1	Apply epidemiological methods to the breadth of settings and situations in public health practice.

		3	Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate.
4	Community Distribution and Evaluation Package	3	Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate.
		8	Apply awareness of cultural values and practices to the design or implementation of public health policies or programs.
5	Health Lotería Causal Loop Diagram	22	Apply systems thinking tools to a public health issue.

Chapter 2 - Competencies

Competency 1: Apply epidemiological methods to settings and situations in public health practice.

Throughout my Applied Practice Experience, I chose epidemiological methods to identify and define the need for a culturally and linguistically appropriate public health intervention. Using JCDHE's Patagonia clinical data and Propio interpreter service data, I conducted a descriptive analysis in Excel to characterize service utilization patterns by race, ethnicity, and language preference. These analyses revealed that one in three JCDHE clients identified as Hispanic, and over 70 percent of Spanish-preferring clients required interpreter support—far exceeding the county's Hispanic population share of 9.8 percent (Kansas Health Matters, 2025).

By stratifying data and examining program-specific patterns, I was able to determine clear disparities in communication access and service reach. This evidence reinforced the rationale for the Health Lotería intervention and informed refinements and evaluation measures, ensuring that its design was not only innovative and community-based but also grounded in epidemiologic data demonstrating real gaps in access. Using these methods, I established baseline measures for future comparison, laying the groundwork for ongoing evaluation of the project's community impact. I then integrated these baselines into decision-making—prioritizing which events to staff, which card topics to feature, and what survey items to track. I built the Excel tables as a refreshable template the Epidemiology team can update so the analysis continues to inform outreach after my internship.

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

I demonstrated my ability to analyze both quantitative and qualitative data throughout the Health Lotería project. Quantitatively, I used Excel-based descriptive statistics to calculate population distributions, interpreter utilization, and service reach across JCDHE programs. I then visualized these findings in structured summary tables and contextualized them within county demographic benchmarks. I integrated these measures with my outreach goals by defining concrete, trackable criteria (e.g., Spanish-language reach and interpreter-supported engagement) and implemented them into updatable metric formats for ongoing review.

Qualitatively, I developed and administered an IRB-approved REDCap survey that captured participant perspectives on inclusivity, trust, and clarity of information. By integrating closed-ended Likert scale questions with open-ended feedback, I designed a mixed-methods approach that allowed

for both measurable outcomes and narrative insights. This analysis approach also incorporated ethical considerations—such as waiving signatures and identifiers—to promote trust within a population that may experience fear or hesitancy toward government surveys. Together, these methods provided a multidimensional understanding of the Health Lotería's early impact and informed adjustments for its future iterations.

Competency 8: Apply awareness of cultural values and practices to the design, implementation, or critique of public health policies or programs.

Embedding cultural values was central to every stage of the *Health Lotería* project. Early in the design phase, I collaborated closely with El Centro, a trusted Hispanic community organization, to ensure the cultural authenticity and linguistic accuracy of the game's content. We held a virtual meeting on June 16, 2025, to review bilingual translations, imagery, and the selection of health topics represented on the cards, and continued collaboration over a shared Microsoft Teams channel through the printing process. Their feedback helped refine both visual design and messaging to better resonate with local Hispanic families.

Additionally, I developed the implied-consent process for the evaluation survey with cultural humility specifically built into the process. Recognizing that formal documentation could deter participation, especially among immigrant populations, I designed an IRB-approved consent statement that excluded personal identifiers and emphasized voluntary participation. These culturally responsive strategies helped build trust, increased participation at community events, and reflected a core principle of equitable program development: meeting people where they are—linguistically, visually, and emotionally. By coupling consent design, imagery, and interpreter presence, I translated CLAS principles into operations that future interventions can adapt to—a synthesis that elevated participation and trust rather than treating "culture" as an add-on.

Competency 9: Design a population-based policy, program, project, or intervention.

Designing and operationalizing the Health Lotería from concept through production, deployment, and iterative evaluation allowed me to demonstrate full-cycle intervention planning and management. I aligned a culturally formatted solution rooted in familiar traditions in parallel with ongoing analysis that documented language and access disparities; the analysis provided justification, targeting, and baseline metrics. I developed the card and board designs in Canva, integrated QR codes linking to bilingual digital resources, coordinated printing with Johnson County's Print Shop, and secured

state formula funding to support production. By selecting a single-QR architecture, we integrated the design with a digital index to future-proof updates, reducing reprinting, and enabling link-click analytics.

Beyond development, I managed project implementation by planning and staffing distribution tables at multiple public events, coordinating with interpreters, and ensuring consistent messaging across outreach materials. I also helped design a long-term sustainability plan by working with JCDHE's web team to publish the digital Health Lotería Resource Index. This process demonstrated my ability to design and operationalize a population-based intervention that aligns with community needs, data-driven justification, and agency capacity—all while ensuring scalability to other Kansas City–area counties. Together, these choices assemble justification, build, delivery, and sustainment into one workflow JCDHE can scale across interventions.

Competency 19: Communicate audience-appropriate (i.e., non-academic, non-peer audience) public health content, both in writing and through oral presentation.

Effective communication was a foundation of this project. I designed all Health Lotería materials—including game cards, instructions, website content, and promotional items—in bilingual English and Spanish formats to ensure accessibility for a wide range of literacy levels. During community events, I used a bilingual presentation script so I or an interpreter could explain the project, survey, and purpose of the game in culturally appropriate language, ensuring inclusivity regardless of language preference or familiarity with JCDHE.

In addition to community-facing communication, I developed professional written materials for further diverse audiences. These included the Patagonia and Propio data analysis report for internal epidemiology review, the Health Lotería causal loop diagram and analysis for Kansas State systems thinking requirements, and the final Health Lotería evaluation documentation for academic and departmental reporting. These products demonstrate my ability to tailor public health content to both lay and professional audiences while upholding accuracy, transparency, and cultural respect. I cultivated community and agency communication needs by keeping one core message set and adapting form, tone, and detail for each audience (bilingual script, data report, CLD brief). This ensures the same intervention reads clearly, be it at community-engagement tables or within meeting rooms with further interested community partners.

Competency 22: Apply a systems thinking tool to visually represent a public health issue in a format other than a standard narrative.

To complement my applied work, I incorporated systems thinking to visualize how the *Health Lotería* intervention operates within Johnson County's broader public health ecosystem. I developed a Causal Loop Diagram (CLD) illustrating the reinforcing relationship between trust, awareness, and service utilization, and how reduced language and cultural barriers can strengthen these feedback loops. The diagram identifies a balancing loop where persistent communication challenges may dampen progress—helping frame strategies to sustain positive community outcomes over time.

This systems-thinking exercise deepened my understanding of how small-scale, culturally tailored interventions can influence complex public health systems. It also provided a framework for evaluating ripple effects beyond the immediate project—such as improved cross-department collaboration, strengthened community partnerships, and increased health literacy. Applying this tool demonstrated my ability to think critically about systemic leverage points and integrate theoretical analysis into practical program design.

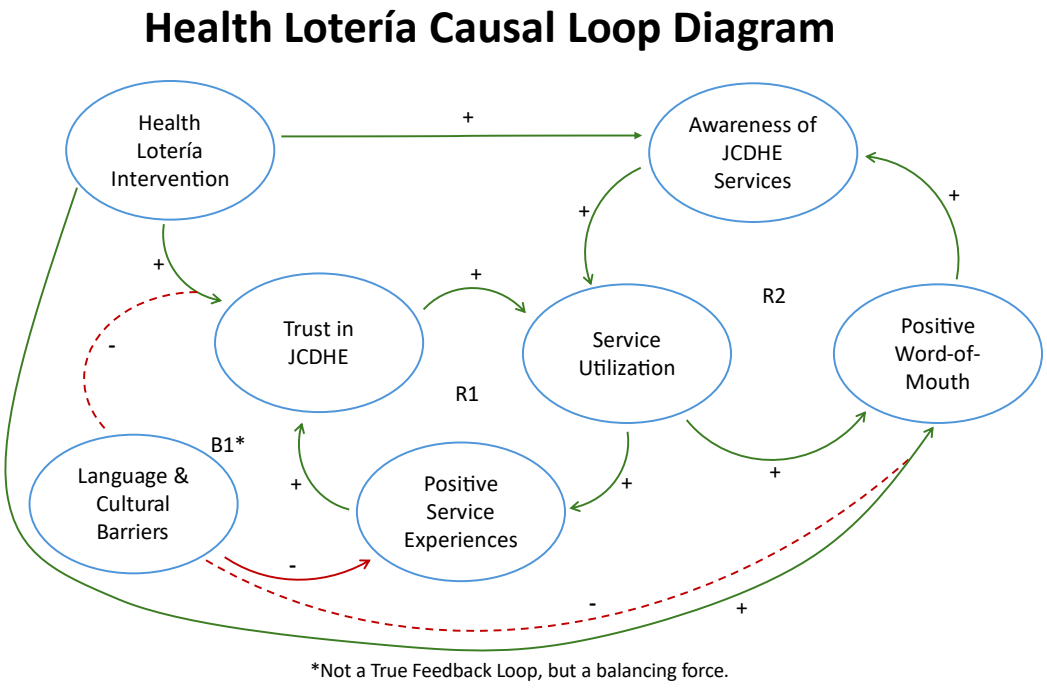

Figure 1. Health Lotería Causal Loop Diagram. A systems thinking tool illustrating relationships among the intervention, awareness of JCDHE services, language and cultural barriers, trust, and service utilization. Created by Michael Gibson.

Table 2.1 Summary of MPH Foundational Competencies

Number and Competency	Description

1	Apply epidemiological methods to settings and situations in public health practice.	I applied descriptive epidemiology using JCDHE's Patagonia and Propio data to determine language and service disparities. Findings validated the Health Lotería design and justified a culturally responsive intervention addressing access barriers for Hispanic residents through data-driven decision-making and measurable community impact.
3	Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate.	I analyzed Patagonia and Propio datasets in Excel and designed an IRB-approved REDCap survey to capture community perceptions. These quantitative and qualitative data-informed program evaluation and improvement, demonstrating my ability to integrate analysis, ethics, and informatics into public-health practice.
8	Apply awareness of cultural values and practices to the design, implementation, or critique of public health policies or programs.	Partnering with El Centro and community interpreters, I developed bilingual, culturally authentic game materials and an implied-consent process that respected participant privacy. These steps ensured trust, accessibility, and cultural resonance throughout the Health Lotería intervention and evaluation activities.
9	Design a population-based policy, program, project, or intervention.	I designed, implemented, and evaluated the Health Lotería intervention—from bilingual card creation and website development to distribution and survey collection. This was supported by epidemiologic analysis for justification, targeting, and baseline setting, alongside community partnership, and sustainability planning, demonstrating strong population-based program-design skills.
19	Communicate audience-appropriate (i.e., non-academic, non-peer audience) public health content, both in writing and through oral presentation.	I communicated public-health content through bilingual cards, instructions, website materials, and event presentations. These products were tailored for both community and professional audiences, ensuring clarity, inclusivity, and accurate representation of JCDHE services and resources.
22	Apply a systems thinking tool to visually represent a public health issue in a format other than a standard narrative	I created a Causal Loop Diagram to illustrate the dynamic interplay between awareness, trust, and service utilization. The model identifies reinforcing and balancing loops, clarifying leverage points to strengthen equitable engagement with JCDHE programs.

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 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 systemic 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, implementation, or critique 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 leadership and/or management principles to address a relevant issue		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				
19. Communicate audience-appropriate (i.e., non-academic, non-peer audience) public health content, both in writing and through oral presentation	DMP 815				
20. Describe the importance of cultural competence in communicating public health content		x			x
Interprofessional Practice					
21. Integrate perspectives from other sectors and/or professions to promote and advance population health		x			x
Systems Thinking					
22. Apply a systems thinking tool to visually represent a public health issue in a format other than a standard narrative			x	x	

References

Kansas Health Matters. (2025). *Population Hispanic or Latino: Johnson County, Kansas*. https://www.kansashealthmatters.org/indicators/index/view?indicatorId=6379&periodId=4589&localeId=985