



LAURA BUSH 21st CENTURY LIBRARIAN PROGRAM

Sample Application RE-259041-OLS-25
Project Category: Early Career Research

Louisiana State University, A&M (Louisiana State University,
School of Information Studies)

Amount awarded by IMLS: \$393,232

In this Early Career Research project, Dr. Kristina Shiroma at Louisiana State University's School of Information Studies will examine artificial intelligence (AI) literacy, adoption, and perceptions among rural older adults. Project activities include interviews with older adults to identify AI literacy perceptions, conceptualizations, and challenges; data analysis; co-development of a preliminary workshop framework with participants and rural library partners; and dissemination through professional networks, conferences, and peer-reviewed publications. The research will contribute to academic discourse on AI literacy within the context of older adults' perspectives of and experiences with emerging technology. Through the development of a tailored AI literacy workshop framework, the project will not only meet the specific needs of rural populations but also create a scalable model with significant implications for AI literacy, education, and engagement in broader community settings.

Attached are the following components excerpted from the original application.

- Narrative
- Schedule of completion

When preparing an application for the next deadline, be sure to follow the instructions in the most recent Notice of Funding Opportunity for the grant program to which you are applying.

Smart Tech, Wise Elders: An Educational Partnership in Understanding AI Literacy with/for Rural Older Adults Narrative

Introduction

In this three-year **Early Career Research Development** proposal, Dr. Kristina Shiroma, an untenured, tenure-track assistant professor at Louisiana State University School of Information Studies (LSU-SIS), requests **\$393,232** to: (1) investigate the factors influencing artificial intelligence (AI) literacy, adoption, and perceptions among rural older adults, and (2) develop a framework for AI literacy workshops specifically tailored for this unique population. Aligned with the **Laura Bush 21st Century Librarian Program Goal 2/Objective 2.2**, this research study will lay the foundation for Dr. Shiroma's long-term research agenda, career trajectory, and professional development in health information research. By understanding the unique challenges and opportunities presented by AI in rural settings, this study aims to develop effective AI literacy programs and mitigate potential negative impacts for vulnerable communities.

Research Questions

This study's research questions will guide the development of interview questions as well as the data analysis process. These research questions include:

1. What are the key factors influencing AI literacy among older adults residing in rural communities?
2. How do older adults perceive the potential benefits and risks associated with AI technologies, and how do these perceptions influence their engagement with AI?
3. What strategies do rural older adults find most effective for developing and implementing AI literacy programs that meet their unique needs and preferences?

Project Justification

Older adults are a rapidly growing demographic, with the population aged 65 and older projected to increase by 42% by 2040, reflecting a historical trend of aging¹. The term "older adults" broadly encompasses a wide range of individuals ranging from age 50 to centenarians, depending on societal norms. However, the National Institutes of Health (NIH) designates the age 65 as a key threshold in health-related studies, recognizing that this age group faces unique challenges in healthcare access and technology use². Adults 65+ are more likely to have chronic conditions that require ongoing management which makes them a critical demographic for digital health tools³. Despite increasing reliance of healthcare providers on digital health tools, older adults often encounter significant challenges to technology adoption. Studies from the Pew Research Center⁴ indicate that while technology adoption has risen among adults aged 65, they still fall behind when compared to younger age groups. Given that most individuals in this group are covered by Medicare, focusing on 65+ allows for targeted interventions to address their specific healthcare needs and digital health challenges, particularly in rural areas where these issues are often more pronounced.

Health disparities within this group are significant, particularly between rural and urban populations. Rural older adults face disproportionate rates of premature mortality compared to their urban counterparts, due in part to limited access to quality healthcare, social services, and economic opportunities⁵. In Louisiana, these trends are even more pronounced. The Louisiana Department of Health has designated 60 of the state's 64 parishes as Health Professional Shortage Areas (HPSAs) for primary care, either due to a lack of practitioners in certain geographic areas or limited access to care for low-income populations⁶. Louisiana's rural older adults experience poorer health outcomes and reduced access to high-quality healthcare, resulting in lower life expectancy making them an ideal community to

¹ U.S. Census Bureau. (2024, April 11). *2023 population estimates by age and sex*. Census.gov. Retrieved from <https://www.census.gov/newsroom/press-releases/2024/population-estimates-age-sex.html>

² National Institutes of Health. (n.d.). *NIH style guide: Age*. Retrieved from <https://www.nih.gov.nih-style-guide/age>

³ Chen, C., Ding, S., & Wang, J. (2023). Digital health for aging populations. *Nature Medicine*, 29(7), 1623-1630.

⁴ Pew Research Center. (2022, January 13). *Share of those 65 and older who are tech users has grown in the past decade*. Pew Research Center. <https://www.pewresearch.org/short-reads/2022/01/13/share-of-those-65-and-older-who-are-tech-users-has-grown-in-the-past-decade/>

⁵ Rhubart, D. C., Monnat, S. M., Jensen, L., & Pendergrast, C. (2020). The unique impacts of U.S. social and health policies on rural population health and aging. *Public Policy & Aging Report*, 31(1), 24–29. <https://doi.org/10.1093/ppar/praa034>

⁶ Louisiana Department of Health. (2024). *Primary care health professional shortage areas (HPSAs)*. Retrieved from https://ldh.la.gov/assets/Wellahead/Primary_Care_HPSAs_.pdf

examine and support health information literacy⁷. Addressing these issues requires a concerted effort to improve healthcare access, enhance digital literacy, and develop tailored interventions that bridge the gap between technology and healthcare for aging populations in rural communities, especially in Louisiana.

AI has the potential to transform healthcare and promote health justice, particularly in rural communities, by enhancing diagnosis, treatment, and personalized care. However, AI also presents challenges for rural older adults due to concerns about access, digital literacy, and representation. Existing health disparities and limited digital literacy can hinder the benefits of AI and exacerbate poor health outcomes for this vulnerable group. Historically, older adults have adopted technology at lower rates than younger generations, highlighting the need for targeted interventions and educational programs to bridge the digital divide⁸. The rapid advancement of health technologies, coupled with the growing population of older adults, underscores the urgency of addressing technological and health literacy disparities.

Yet, despite this rapid advancement and pressing urgency, little is known about rural older adults' experiences and perceptions of AI⁹. This gap in understanding hampers efforts to ensure access to AI-powered healthcare for this vulnerable demographic. To address this issue, this study will conduct in-depth, facilitated interviews with rural older adults to explore their experiences and perceptions of AI in healthcare. Understanding and improving AI literacy is crucial for effective engagement with the evolving digital health ecosystem and for ensuring benefits from technological advancements reach the communities that need it the most. By enhancing AI literacy among older adults, this study seeks to advance the literature and address health and digital literacy disparities. This study will deepen our understanding of AI literacy, develop targeted interventions through a series of workshops, and explore experiences of a population uniquely affected by AI.

AI Literacy

AI literacy, or the ability to understand, assess, and interact with AI-driven tools, is quickly becoming a critical skill for older adults, especially in rural areas where digital infrastructure may be limited¹⁰. While AI has the potential to improve healthcare outcomes, it also presents challenges. Older adults who lack AI literacy may struggle to understand the role AI can play in their health management¹¹. This lack of understanding could (rightfully so) lead to hesitation in adoption AI technologies, or worse, an over-reliance on unproven or potentially harmful AI solutions. When considering AI-driven healthcare tools, AI literacy extends beyond using digital health tools; it also requires some understanding of how AI works within the healthcare ecosystem, how it can be used to support decision-making, and how to critically assess its recommendations. This is especially important as AI becomes more integrated into routine healthcare practices such as helping physicians make diagnoses to offering personalized care plans¹². Without sufficient AI literacy, rural older adults may lack the skills to confidently navigate these systems, potentially leaving them even more vulnerable to misinformation, data privacy concerns, or unintended harms of AI algorithms.

To address this AI literacy gap, researchers, developers, and designers must prioritize creating AI literacy programs specifically tailored for older adults. These programs should not only teach the technical skills needed to use AI-based health tools, but also address the unique information wants and needs as well as the challenges older adults face. Engaging older adults to gather their perspectives, perceptions, and experiences with AI especially within the context of AI-driven health tools is essential. Including older adults' voices in the research and design process can ensure that AI literacy interventions and tools support informed use, decision making, and adoption of new healthcare technologies. As

⁷ USDA Economic Research Service (ERS). (2021). *Rural America at a glance: 2021 edition*. USDA Economic Research Service. Retrieved from <https://www.ers.usda.gov/publications/pub-details/?pubid=102575>

⁸ Köttl, H., Gallistl, V., Rohner, R., & Ayalon, L. (2021). "But at the age of 85? Forget it!": Internalized ageism, a barrier to technology use. *Journal of Aging Studies*, 59, 100971.

⁹ Shiroma, K., & Miller, J. (in press). Representation of rural older adults in AI health research: A systematic review. *Innovation in Aging*.

¹⁰ Wang, B., Rau, P. L. P., & Yuan, T. (2022). Measuring user competence in using artificial intelligence: Validity and reliability of artificial intelligence literacy scale. *Behaviour & Information Technology*, 42(9), 1324–1337. <https://doi.org/10.1080/0144929X.2022.2072768>

¹¹ Chu, C. H., Nyrup, R., Leslie, K., Shi, J., Bianchi, A., Lyn, A., McNicholl, M., Khan, S., Rahimi, S., & Grenier, A. (2022). Digital ageism: Challenges and opportunities in artificial intelligence for older adults. *The Gerontologist*, 62(7), 947–955. <https://doi.org/10.1093/geront/gnab167>

¹² Secinaro, S., Calandra, D., Secinaro, A., Muthurangu, V., & Biancone, P. (2021). The role of artificial intelligence in healthcare: A structured literature review. *BMC Medical Informatics and Decision Making*, 21, 1–23. <https://doi.org/10.1186/s12911-021-01488-9>

AI continues to transform healthcare, it is increasingly urgent to equip older adults with the AI literacy skills necessary to navigate and benefit from these advancements. By developing targeted interventions in partnership with older adults to build AI literacy, we can promote informed adoption of technology in ways that support, rather than hinder, supportive and meaningful healthcare.

This community-based participatory research project will leverage the wisdom and experiences of rural older adults to design tailored AI literacy workshops aimed to support their peers as they navigate AI-powered health tools, make informed decisions about their care, and engage with other AI advancements to improve health outcomes. Ensuring that older adults, particularly those in rural areas, are equipped with the literacy skills to understand, use, and evaluate emerging AI technologies is crucial for promoting healthy communities.

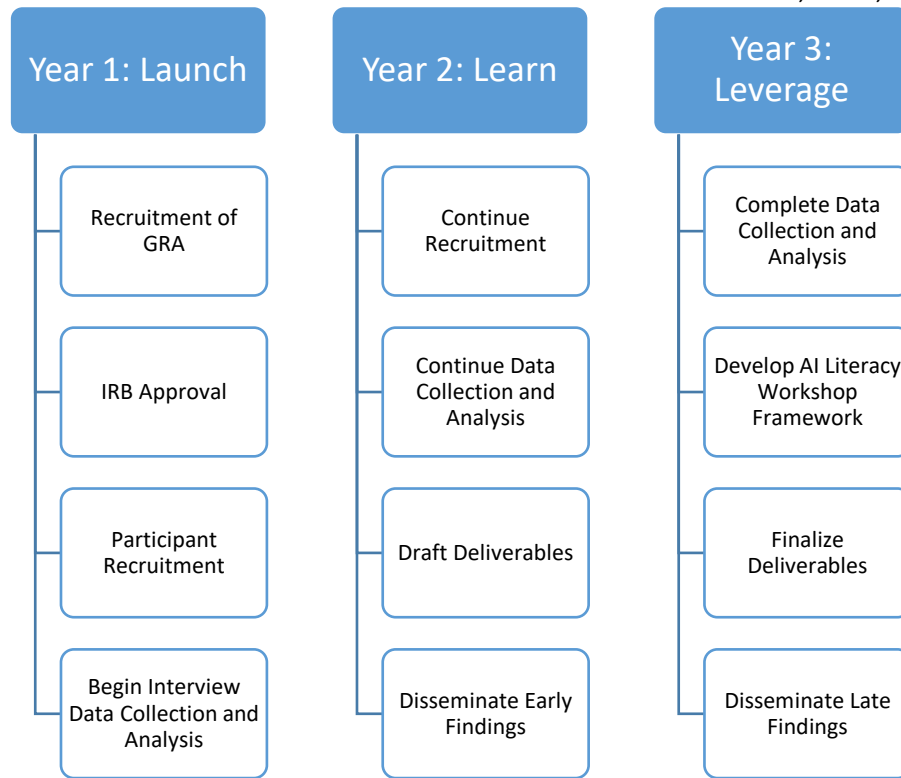
Project Work Plan

[Dr. Kristina Shiroma](#), with expertise in health literacy interventions and older adult populations, will plan, implement, and manage this project, including assembling a research team. To answer the research questions, the research team will start by identifying and building collaborations with community partners such as rural libraries and senior centers in Louisiana. The definition of "rural" can vary significantly among different government agencies, research institutions, and other funding entities, leading to inconsistent policies and programs. For this project, we will use IMLS's Library Search and Compare tool to identify rural Louisiana communities for potential partnership. We aim to recruit 100 participants (N=100) to gain a broad spectrum of experiences with AI technologies, including generative AI language models such as ChatGPT and AI-driven diagnostic and support systems used in healthcare. Interviews will be conducted in a manner preferred by the participant such as in-person, telephone, over Zoom, or email via Qualtrics. Data will be analyzed using a modified reflexive thematic analysis and involve both the research team as well as key stakeholders to ensure the data is inductive and grounded in participants' own words, context, and experiences. Data will be securely housed in LSU's Scholarly Repository. The outcomes of this project will enhance our theoretical and empirical understanding within the academic literature through peer-reviewed journal articles and will also have a direct impact on rural older adults and libraries by developing AI literacy workshops.

Pre-study preparations are currently underway. Dr. Shiroma, in collaboration with her former MLS graduate research assistant, conducted a systematic literature review titled "Representation of Rural Older Adults in AI for Health Research: A Systematic Literature Review"¹³. This work was selected for presentation at the 2024 Annual Scientific Meeting of the Gerontological Society of America and the full manuscript is currently under review for publication with *JMIR-Human Factors*. Other pre-study efforts include drafting an IRB proposal, developing recruitment and interview materials, and curating a list of potential rural library partners in Louisiana.

The completion of this three-year project will require three months of summer salary, 6 course releases for Dr. Shiroma, and the hiring of a graduate research assistant who will assist in recruitment, data collection analysis, and dissemination of findings. Other expenses will include travel for research and conference participation including an IMLS-designated meeting, participant compensation, and publication costs. Dr. Shiroma will monitor grant and project progress according to a timeline summarized below:

¹³ Shiroma, K., & Miller, J. (2024). Representation of rural older adults in AI health research: A systematic review. *Innovation in Aging*, 8(Suppl 1), 258. <https://doi.org/10.1093/geroni/igae098.2028>



Year 1: Launch

In Year 1, the project will begin the Launch phase. In the Launch phase the research team will be formed through the recruitment of a graduate research assistant (GRA), IRB approval will be gained, and recruitment of participants will begin. Each of these steps is discussed in more detail below. Depending on the success of recruitment, data collection and analysis may also begin; however, details for this are presented later in the Year 2 section of this proposal.

Recruitment of GRA

GRA recruitment will include social media posts on LSU's School of Information Studies social media accounts, an email sent to student Listservs, as well as through recruitment channels at the college and university level. Recruitment will solicit and prioritize students interested in community-based research and qualitative methods, particularly those from or with familiarity with rural Louisiana and experienced or interested in working with older adults in rural areas. The graduate research assistant will be responsible for assisting with all stages of the research process, including but not limited to participant recruitment, conducting and transcribing interviews, managing and analyzing qualitative data, and contributing to the writing and dissemination of project deliverables. Additional responsibilities will include assisting with community outreach efforts, member checking processes with participants, and maintaining detailed research notes and records. This level of involvement will support the development of a representative library workforce, aligning with Agency Goal 1 and Objective 1.2.

To support the graduate research assistant in successfully carrying out these responsibilities, Dr. Shiroma will provide comprehensive training in key areas. This will include community engagement strategies, qualitative research methods (with a focus on reflexive thematic analysis), interviewing techniques, and ethical considerations when working with vulnerable populations. As project director (PD), Dr. Shiroma will also offer resources and guidance for self-care and mental health support, recognizing the potential emotional labor involved in qualitative research with sensitive topics. The GRA will have regular, weekly check-ins with the PD to ensure ongoing professional development and emotional well-being throughout the project. Dr. Shiroma will approach this project with a team mentality, closely working to

mentor and support the GRA in community-engaged research practices and in navigating information research with older adults.

IRB Approval

This research project will require approval from Louisiana State University's Institutional Review Board (IRB). An IRB application and participant consent form have been drafted and will be submitted for approval as soon as the grant notification is received from IMLS.

Participant Recruitment

The primary recruitment goal is to engage a representative sample of 100 older adults from rural parishes in Louisiana as interview participants. To ensure an accurate and consistent definition of "rural," the project will utilize the IMLS Search and Compare tool, which provides a classification of rurality for Louisiana parishes. This approach ensures that each selected parish has an existing library, allowing for potential partnerships for recruitment and future deployment of AI literacy workshops.

Given the scope of this three-year early-career grant, conducting interviews across all rural communities in Louisiana would be impractical. Instead, the project will employ a purposive sampling strategy. We will select a subset of parishes from the IMLS Search and Compare tool's classification. Filtering the tool by state and locale identifies 13 rural parishes and 34 town parishes across the state. From these, the research team will recruit participants from a representative sample of 5 to 10 (11% to 18%) of rural and town parishes. This sampling approach balances feasibility with broad representation of Louisiana's rural older adults including factors such as parish size (population), geography (i.e., north, south, east, and west), and demographics (i.e., average salary, education). Please see Supporting Document 1 for identification, brief description, and marked map of preliminary parishes selected. Dr. Shiroma will monitor the three recruitment factors (parish size, geography and demographics) to ensure that a balanced recruitment sample is achieved as best possible. Continuing efforts will also be taken by Dr. Shiroma if expansion of recruitment is needed (i.e., engaging with other community-based groups, contacting more libraries in other rural parishes).

To promote the project and recruit participants, the research team will collaborate with rural libraries, community organizations, and local leaders who serve older adult populations in the selected rural Louisiana parishes. Recruitment strategies will include in-person outreach at libraries and community centers, digital and print flyers, and leveraging existing networks of local stakeholders. Participants will be informed about the study's purpose, their role in shaping AI literacy initiatives, and how their perspectives will contribute to improving health information access for rural older adults nationwide. If needed and feasible, Dr. Shiroma will work with rural Louisiana library partners to create a "Meet the Researcher" event. This event will provide an opportunity to discuss the benefits and impact of participating in research while allowing potential participants to engage directly with the researcher, ask questions, and gain a deeper understanding of the study. As a financial incentive, participants will receive a \$20 dollar gift card to Amazon, Wal-Mart, or Dollar General to compensate them for their time and efforts to support the project. These financial incentives are represented in the project's proposed budget. Beyond financial compensation, participants will have the opportunity to contribute their lived experiences to a critical national conversation on AI in healthcare, ensuring that the needs of rural older adults are represented in emerging digital health technologies. If recruitment challenges arise, additional parishes from the IMLS-identified pool will be contacted to ensure adequate participation.

Year 2: Learn

In Year 2, the project will enter the Learn phase. As we continue to recruit participants, the Learn phase will include interview data collection and data analysis; the drafting of deliverables; and the sharing of early findings. These Year 2 elements are discussed in detail below.

Interview Data Collection

Once participants are identified and consent obtained, interviews will commence in a manner appropriate and convenient. This will include options for Zoom, in-person, or phone interviews. Dr. Shiroma has previously conducted interviews with older adults via Zoom, in-person, and phone, across pre-, peri-, and post-COVID periods¹⁴¹⁵. Her experience in interviewing older adults specifically focused on health has shaped her understanding of how to engage with participants, especially in navigating technical challenges associated with virtual interviews. For example, prior to virtual interview, participants will be asked if any assistance is needed for connectivity or teleconferencing software usage. On the day of the interview, the interviewer will again reach out to ask if technical assistance is wanted. While technical issues can be unavoidable, preventative measures will mitigate some challenges. Mitigation strategies for this as well as other potential issues are provided in Supporting Document 2.

The interview will have three (3) main sections. The first section will focus on collecting participants' general demographic information (e.g., occupation, education, etc.). The second section will include semi-structured interview questions. The decision to rely primarily on semi-structured questions is based on Dr. Shiroma's prior experience in interviewing older adults. Semi-structured questions allow for a conversational style of interviewing in which rapport can be built, answers can be explored in greater depth, and participants can express themselves more freely and authentically. Supporting Document 3 provides a sample of the types of questions and, while not exhaustive, is meant as a starting point. The data received from initial interviews as well as feedback solicited from participants and community partners will inspire iterative, future questions building. The third section will present an open-ended question meant for participants to provide their free response. An example of an open-ended question would be "Is there anything else you'd like to tell me about AI for health?". Additionally, each participant will be asked if they will consent to and be available for follow up questions.

Once complete, each interview will be transcribed and member checked. In the member checking process, the transcript will be shared back with the participants to review and revise. The interviewer will confirm their responses as well as intentionality and work to gain full approval from the participant. After receiving confirmation of approval of the transcript, the recording of their interview will be deleted. Any digital or handwritten notes will be destroyed. The Data Management Plan (DMP) attached to this proposal provides greater detail about data will be stored, maintained, and made available to researchers. The research team will continually examine interview transcripts for any responses that provide even a scintilla of identifying evidence.

Data Analysis

Interview data will be analyzed using a modified Reflexive Thematic Analysis, following Braun and Clarke's multi-phase framework¹⁶. Reflexive Thematic Analysis offers a flexible, qualitative approach that enables an open-ended exploration of older adults' perspectives, experiences, and perceptions of AI in healthcare. This method allows for a descriptive rather than prescriptive approach, ensuring that all data points are considered without the constraints of rigid analytical frameworks. Findings will inform the development of AI literacy modules tailored to the specific learning needs of older adults.

Analysis will begin with the first cleaned and reviewed transcript, allowing researchers to immerse themselves in the data and develop a deep understanding of participants' insights. This familiarization process starts during the interview itself and continues through transcription. Analysis will continue iteratively until all interviews are completed, transcribed, and examined. If a participant withdraws their consent, the corresponding transcript and any related data will be removed from the analysis.

¹⁴ Shiroma, K. (2024). End-of-life decision-making: Information practices of Uchinanchu older adults. *Innovation in Aging*, 8(Suppl 1), 619. <https://doi.org/10.1093/geroni/igae098.2028>

¹⁵ Shiroma, K., Zimmerman, T., Xie, B., Fleischmann, K. R., Rich, K., Lee, M. K., ... & Jia, C. (2023). Older adults' trust and distrust in COVID-19 public health information: Qualitative critical incident study. *JMIR Aging*, 6(1), e42517. <https://doi.org/10.2196/42517>

¹⁶ Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. SAGE.

Draft Deliverables

Early data collection and analysis will inform the development of both journal manuscripts and a framework for AI literacy workshops. These deliverables will be iteratively constructed as data collection progresses, ensuring that all deliverables are directly shaped by participants' perspectives, experiences, and perceptions. In this way, older adult participants will play a key role in expanding library professionals' understanding of how best to support AI literacy during this emerging period.

Disseminate Early Findings

As the learning phase of this project concludes in Year 2, we will begin disseminating early findings. The results will be shared across state and national conferences focused across multiple disciplines such as aging, health, information science, and digital literacy to ensure broad impact. We will target key venues, including conferences such as the Association for Library and Information Science Education, the Gerontological Society of America, iConference, and the Association for Information Science & Technology. These are conferences where Dr. Shiroma has previously presented, published, and actively participated. The findings will be further developed into manuscripts for submission to peer-reviewed journals like *JMIR Aging*, *The Gerontologist*, *JELIS*, *Journal of Information Literacy*, among others.

We also disseminate our early findings back to the community either within the community in-person or via a webinar. In this way, we can member check to ensure the accuracy and validity of the results as well as provide value back to our participants and the community, possibly gaining more support for the future phases of this research. This multi-faceted dissemination strategy will maximize the impact of our findings for our participants, within the community, and inform scholarship across many relevant fields.

Year 3: Leverage

In Year 3, the project will enter its Leverage phase. In this culminating phase as we complete data collection and analysis, we will leverage what we've learned from both Year 1 and 2 to develop an AI literacy workshop framework; finalize project deliverables; and share late findings.

Develop AI Literacy Workshop Framework

Leveraging the qualitative, in-depth interview data gathered during the learn phase, the research team will develop a series of AI literacy lunch-and-learn workshops aimed at enhancing AI literacy for older adults in an engaging and meaningful format. The workshops will be structured based on participant experiences and data while integrating theory and practice to ensure that the content resonates with the specific needs of the target audience. Data analysis from the semi-structured interviews will identify key themes based on participants' experiences, perceptions, and perspectives regarding AI and its use in healthcare. In addition, the research will explore participants' information-seeking behaviors, concerns, and expectations surrounding AI technologies, providing a comprehensive understanding of their learning needs. The theoretical support guiding the workshop design will draw on established work in eHealth literacy^{17,18,19} and theories of information wants²⁰. This specialized focus will help ensure that the workshops address not only what information older adults seek when learning about AI technology, but also how to effectively engage them in the learning process, fostering a more meaningful acquisition of knowledge.

While the content and format will be shaped by the insights gained from the interviews, it is anticipated that workshops will incorporate a mix of interactive discussion, real-world examples, and guided hands-on demonstrations, along with

¹⁷ De Main, A. S., Xie, B., Shiroma, K., Yeh, T., Davis, N., & Han, X. (2022). Assessing the effects of eHealth tutorials on older adults' eHealth literacy. *Journal of Applied Gerontology*, 41(7), 1675-1685.

¹⁸ Vazquez, C. E., Xie, B., Shiroma, K., & Charness, N. (2023). Individualistic versus collaborative learning in an eHealth literacy intervention for older adults: Quasi-experimental study. *JMIR Aging*, 6, e41809.

¹⁹ Watkins, I., & Xie, B. (2014). eHealth literacy interventions for older adults: A systematic review of the literature. *Journal of Medical Internet Research*, 16(11), e225.

²⁰ Xie, B., Wang, M., & Feldman, R. (2011). Preferences for health information and decision-making: Development of the Health Information Wants (HIW) questionnaire. In *Proceedings of the 2011 iConference* (pp. 273-280).

future casting and participatory design elements. Potential session topics will include:

- Introduction to AI: An overview of AI concepts, its applications in healthcare, and addressing common misconceptions.
- AI and Personal Health: Exploring AI-powered tools for medication management, symptom tracking, and telehealth services.
- AI and Healthcare: Examining the role of AI within the broader healthcare system, including its impact on physician decision-making, insurance assessments, and patient care management.
- Privacy, Security, and Ethical Considerations: Examining AI data privacy, the risks of AI-driven health tools, and strategies for informed decision-making.
- AI in Everyday Life: Familiarizing participants with AI applications in daily life, such as voice assistants, health apps, and wearable devices.
- Hands-on Engagement with AI Tools: Offering opportunities for guided interaction with AI-powered health applications and exploring their practical benefits.

This AI literacy workshop initiative is meant to serve as a reciprocal research event. While the workshops are designed to support Dr. Shiroma's research agenda on advancing digital health literacy for older adults, they will also contribute to a library's programming efforts for the local community. Each session will take place at rural libraries during lunchtime to reduce accessibility challenges and encourage participation. The lunch-and-learn format provides an informal yet structured setting that fosters engagement and allows participants to share a meal while learning. Library staff will play a role in facilitating sessions and will receive training to ensure program sustainability beyond the grant period.

Finalize Deliverables

Once the findings from the interviews and the resulting framework for AI literacy workshops have been reviewed by community partners, the research products and late findings will be drafted and finalized for distribution. The GRA will assist in synthesizing the data, drafting reports, and preparing materials for dissemination to ensure the findings are effectively communicated to both academic and community audiences.

Disseminate Late Findings

As the grant period concludes in Year 3, the finalized findings will be disseminated through conferences and peer-reviewed journals. Similar to the dissemination approach in Year 2, we will target a multi-disciplinary scholarly audience in health, aging, digital literacy, and information science. We will also disseminate findings back to the community in order to set the stage and gain interest for post-project implementation of the AI literacy workshop series.

Additionally, these findings will serve as key justification for future grant applications, reinforcing the project's broader impact. This research serves as a foundational cornerstone for Dr. Shiroma's long-term research agenda, providing critical insights that will support future funding efforts, including an IMLS Applied Research Grant to implement AI literacy workshops in rural libraries.

Representative Research Plan

Older adults are often prioritized in efforts to extend the reach of research, particularly in health and technology. Federal research agencies like IMLS, National Institute on Aging (NIA), and Administration for Community Living (ACL) recognize older adults as a priority population, highlighting their absence in research compared to other groups. Within this demographic, rural older adults face additional challenges due to both their age and geographic isolation. Research that includes older adults of any background can be considered crucial in any effort to extend representation and accessibility in research. However, it is critical to acknowledge that their individual experiences are shaped by multiple determinants of health including social, economic, biographical, behavioral, and political factors. Therefore, capturing and representing various experiences is key to addressing the unique challenges faced by this population.

To achieve this, the research project prioritizes representative recruitment. A key component of this approach is recruiting a range of older adults with different experiences, perspectives, perceptions, and familiarities of AI from rural Louisiana communities. Louisiana is comprised of 13 parish library systems defined as “rural” and 34 parish library systems defined as “town” in the IMLS Search Tool.

Equally important to recruitment is the process of building strong partnerships with organizations that serve the target population. Collaborating with local groups that are deeply embedded in rural communities will not only enhance credibility but also ensure that our approach remains responsive to and respectful of older adult participants’ lived experiences. We have already identified key organizations that work closely with subpopulations of rural older adults, and we will continue to strengthen these relationships throughout the study.

To further support this approach, the research study will prioritize hiring a graduate research assistant with ties to rural Louisiana. Having a team member who understands the nuances of these communities will enhance recruitment efforts, facilitate more effective engagement, and ensure that the research process remains respectful and responsive to local needs. By embedding these efforts into every stage of the research process, this study will not only increase representation of rural older adults in AI literacy research but also ensure that their insights contribute to the development of relevant AI education initiatives. Through this approach, we aim to create a model for research that amplifies the voices of older adults, contributes to the development of tailored AI literacy initiatives, and informs best practices for library professionals working in rural communities

Project Results

This project will generate the following products through the three-year period, to include:

1. Presentations of research findings at academic conferences, accompanied by published proceedings, in the fields of aging, health, and library and information science.
2. Two to three peer-reviewed manuscripts in high impact journals across multiple fields to ensure broad dissemination and scholarly impact.
3. A framework for a series of AI literacy workshops (implemented first within the participating communities) post-project to support AI literacy at the state, regional, and national level.

This research project will result in multiple presentations at academic conferences across multidisciplinary fields, including aging, health, and library and information science. These presentations will not only share the findings but also provide insights into the researchers' and participants' experiences throughout the research process. The findings will contribute to advancing both theoretical and empirical research in these areas. The cross-platform dissemination of this study’s results is particularly valuable, as it facilitates the exchange of knowledge across disciplines. For example, by sharing findings at venues such as the Gerontological Society of America’s Annual Scientific Meeting, this project’s insights on developing AI digital tools for older adult populations will be shared with healthcare researchers, designers, and providers. By highlighting the importance of older adult perspectives and experiences in AI tool development, dissemination of this work will raise awareness among those creating and utilizing these tools, ensuring they are designed with the needs of older adults in mind. Similarly, the project’s insights into technology, health, and aging can help library and information professionals refine their approach to older adult literacy, information needs, and programming strategies. In this way, the project will contribute to the professional development of library and information specialists as they engage with and adapt to the evolving presence of AI technology in health as well as in the community. This research project will also yield scholarly publications contributing practical, theoretical, and empirical contributions to the academic discourse in information science and gerontology. Findings will be of interest to publication venues such as the conferences of The Association for Information Science and Technology, The Association for Library and Information Science Education, and The Gerontological Society of America as well as peer-reviewed journals such as *The Journal of Medical Internet Research - Aging*, *The Gerontologist*, and *The Journal of Applied Gerontology*.

The project will produce a community-developed framework for a series of AI literacy workshops to be implemented post-project, possibly under an IMLS applied research grant or through an early career grant from NIA, enhancing community partner programming and services. While the specific outcomes of the AI literacy workshop framework will only be determined after data collection and analysis, Dr. Shiroma's prior experience in conducting participatory research to inform health literacy interventions can offer valuable insights and informed projections. For example, older adult participants often provide not only the key concepts, needs, and preferred formats for developing the foundational structure of the workshops, but they can also provide local perspectives on strategic challenges related to attendance, community buy-in, and long-term impact. These considerations will be incorporated into the framework design to ensure successful attendance, engagement, and sustained outcomes.

The resulting products of this research study represent a multi-pronged approach that contributes to extending theory, practice, and community engagement, with a focus on involving older adults in health information research at a pivotal time. The study supports the development of library and information professionals' ability to effectively serve their communities. Therefore, to maximize impact, the products will be made publicly available in multiple ways. The budget has been carefully considered to allow for article processing charges (APCs) commonly required by journals that offer open access publishing. Another way to maximize impact is to engage multiple communities (academic, practitioner, and lay) who will benefit from this work. In support of this effort, Margo Gustina, an IMLS-funded researcher with a special interest in rural populations, economics, social well-being, and libraries, has provided a letter endorsing the study's importance and potential impact (see Supporting Document 4). Dr. Shiroma is committed to disseminating the resulting framework at local, regional, and national levels through partnerships with local libraries, the Collaborative Institute for Rural Communities and Libraries, and health and information science professional organizations with a goal of achieving national reach and supporting future health literacy efforts. One example of a national reach is sharing these resources through the Elder Justice Task Force within the American Library Association's Social Responsibilities Round Table, which Dr. Shiroma co-chairs with Dr. Joseph Winberry. By broadening dissemination efforts at the state, regional, and national levels, this research aims to foster dialogue and develop an action plan regarding the role of library and information science professionals in the AI for health space, particularly in the context of rural older adults who stand to benefit most from this work.

This research study, its resulting products, and their dissemination align with the Laura Bush 21st Century Librarian Program's Goal 2/Objective 2.2 to support the research of early-career, untenured library and information science professors. This project lays the foundation for a health information research agenda focused on identifying communities who can benefit the most from health information literacy education. Funding through this early-career grant will support Dr. Shiroma in building her research portfolio and securing tenure, while also providing a foundation for future funding opportunities. Funding from this grant will benefit current and future library and information science professionals, enhancing their ability to serve their communities as AI technology becomes increasingly integrated in daily life. Most importantly, this project will amplify the voices of rural Louisiana's older adults ensuring their contributions are integral to the national conversation on AI for health research, and that their needs are prioritized as the field evolves.

