Abstract
Community Health and Wellness: Small and Rural Library Practices, Perspectives, and Programs

Distance from metropolitan areas has been found to correlate with health outcomes, with rural areas rating the worst in national health rankings due to fewer health professionals. While public libraries do not typically provide health care, they do assist patrons in finding health information, build consumer health collections, and, increasingly, offer health and wellness programs. However, how public library staff, particularly in small and rural libraries, develop, deliver, and assess these programs is unknown. The University of Oklahoma (lead institution), University of North Carolina-Greensboro, and Wayne State University are applying for a *Research in Service to Practice* grant in the *Community Catalysts* category to conduct an in-depth study of how small and rural public libraries support community health and wellness through public programs. This research will be used to develop and disseminate a model that will inform both library practices and library science pedagogies. The model will address successful strategies and common obstacles associated with developing health and wellness programs in small and rural public libraries, as well as how to assess, sustain, and extend existing programs. The project runs from July 1, 2019 to June 30, 2022.

The goals of *Community Health and Wellness* are:
- Obtain an in-depth understanding of the public programs small and rural public libraries provide to their communities related to health and wellness;
- Learn how small and rural public libraries collaborate with outside organizations to provide these programs, and how librarians and other library staff envision their roles and responsibilities in these activities;
- Learn the perspectives of outside collaborators in relation to their own roles as they partner with libraries to coordinate health and wellness programs;
- Understand the perspectives of patrons who use or do not use library programs for health and wellness information and lifelong learning;
- Develop a model that a) teaches librarians and other library staff how to effectively develop, assess, sustain, and extend programming and services, b) informs library practices and LIS education, and c) informs potential partners how best to reach out to small and rural libraries to develop and implement health and wellness programs.

The *Community Health and Wellness* project team features nationally-recognized scholars of public libraries plus an Advisory Board that includes researchers both in LIS and in public health, librarians, and experts in the continuing education needs of small and rural librarians. With research conducted in 16 small and rural libraries that represent different regions of four U.S. states (Michigan, North Carolina, Oklahoma, and Vermont), *Community Health and Wellness* will gather and analyze a rich data-set and make a strong national impact on the field, enabling small and rural libraries to become even more robust catalysts of community health.

Major project activities include:
- Development of research instruments (July-October 2019)
- Semi-structured interviews with library staff, library partners, and library patrons involved with health and wellness programs in small and rural libraries (September 2019-October 2020)
- Observation of health and wellness programs (September 2019-October 2020)
- Collection of documents and websites related to these programs (September 2019-October 2020)
- Data analysis conducted by the research team with input from Advisory Board (April 2020-June 2021)
- Presentation of research findings to libraries and library educators (January 2021-June 2022)
- Development and implementation of training modules (July 2021-June 2022)
- Colloquia on project that will include representatives from medical and health fields, as well as librarians and LIS researchers (January-June 2022)

Community Health and Wellness will result in locally-adaptable, evidence-based educational projects that can be freely shared and used in libraries across the nation. To ensure broad dissemination, this model will be developed and delivered with our partners in OCLC/WebJunction, the National Network of Libraries of Medicine, and four state library agencies (Vermont, Oklahoma, North Carolina, and Michigan).

University of Oklahoma, University of North Carolina-Greensboro, Wayne State University

Community Health and Wellness: Small and Rural Library Practices, Perspectives, and Programs

The University of Oklahoma (lead institution; Drs. Ellen L. Rubenstein and Susan K. Burke), University of North Carolina-Greensboro (Dr. Noah Lenstra), and Wayne State University (Dr. Christine D'Arpa) are applying for a *Research in Service to Practice* grant in the *Community Catalysts* category to conduct an in-depth study of how small and rural public libraries support community health and wellness through public programs. This research will be used to develop and disseminate a model that will inform library practices and library science pedagogies. The model will address successful strategies and common obstacles associated with developing health and wellness programs in small and rural public libraries, as well as how to assess, sustain, and extend existing programs. The project runs from July 1, 2019 to June 30, 2022.

We are requesting $482,313 to study small and rural public libraries in Michigan (MI), North Carolina (NC), Oklahoma (OK), and Vermont (VT) to answer the overarching research question "How do small and rural public libraries address health and wellness through public programs?" To answer this, our research will identify and examine: 1) What programs and services do small and rural public libraries provide that they see as related to health and wellness? 2) How are these programs and services developed and implemented? 3) What factors contribute to or deter libraries from offering these programs? 4) How do public library patrons engage with and benefit from these programs? 5) How do small and rural public libraries measure outcomes that result from these programs?

This study will gather data from librarians, their patrons, and outside partners with whom libraries develop and implement these programs. The research aims to understand current practices in order to assist small and rural libraries become even more robust catalysts of community health.

STATEMENT OF NATIONAL NEED
Distance from metropolitan areas has been found to correlate with health outcomes (Rural Health Information Hub, 2017). Rural areas tend to rate the worst in national health rankings (Rural Health Information Hub, 2017) because rural residents are less likely to have easy access to health professionals. A 2017 ALA report stated that 77.2% of rural counties in the U.S. are "health professional shortage areas" (Real & Rose, p. 9), and rural hospital closings have been "accelerating since 2010" (Health Resources & Services Administration, 2017). Public libraries do not typically provide health care (with some exceptions, a topic beyond the scope of this study), but they do commonly act as "Partners for Health" (Whiteman et al., 2018) by assisting patrons in finding health information (Rubenstein, 2018). Research and program development by groups like OCLC/WebJunction and the National Network of Libraries of Medicine (NNLM) have focused on how public libraries support health through reference, digital literacy/e-Health support, and collection development, whereas other work on health in public libraries has focused on their engagement with the formal healthcare sector (e.g., insurance, hospitals, and clinicians [Vardell & Charbonneau, 2017]). *Community Health and Wellness* adds to this work a new and necessary focus on health and wellness public programs.

The need for health and wellness public programs and training for library staff in small and rural public libraries: Because libraries are often the most valued organizations in their communities (Pew Research Center, 2013) as a resource available to all and used by many, they are well positioned to address health and wellness needs through public programs. In non-metropolitan areas of the U.S., morbidity and mortality rates for all ages are higher than in areas near urban centers. Health risks more prevalent in rural areas include higher levels of smoking and drinking, obesity, and lack of physical exercise (Meit et al., 2014). Another issue is social isolation, which is "elevated in rural areas" and "directly related to increased morbidity and mortality" (Henning-Smith et al., 2018, p. 1). In this context, the Robert Wood Johnson Foundation (2018) identifies public libraries as one of the "social determinants of health," in that they actively contribute to "Creating Healthier, More Equitable Communities."

Small and rural libraries are often staffed by non-MLIS librarians, have fewer resources to support conference attendance and networking opportunities, and staff may be unaware of opportunities that exist for training in the provision of health information and health literacy (Flaherty, 2013; Rubenstein, 2018; Smith, Hundal, &

Keselman, 2014). Even when library staff have received training, such as the Consumer Health Information Specialist certification, or Stand Up for Health, it does not necessarily prepare them to effectively deliver ongoing health programming. Nonetheless, as WebJunction has shown in its IMLS-funded Small Libraries Create Smart Spaces project, given the right support, librarians at small and rural public libraries are able to transform how they collaborate with community partners to deepen their roles as vital lifelong learning spaces. This research will similarly develop evidence-based tools and frameworks that small and rural public libraries can leverage so they are better prepared to positively impact community health and wellness through public programs. It will allow us to work with libraries as they develop programs and also heighten their awareness of resources that are available to them, including funding and continued education from the NNLM.

The need to address geographical challenges for small and rural public libraries: As of 2014, 60% of all public libraries helped patrons find health insurance information, and 56% assisted with accessing and assessing health information through subscription databases; approximately 20% of libraries offered fitness programming and health screenings (ALA, 2017; Bertot et al., 2015). However, library infrastructure influences the ability to address health literacy needs. About 77% of all public libraries in the U.S. are considered small (serving populations of 25,000 or less), almost 50% of all public libraries are in rural areas (IMLS, 2013), and 30% of all public libraries serve populations of 2500 or less with fewer than two employees (ALA, 2017). While many small and rural libraries are able to support health literacy, the further they are from population centers, the harder it is to provide this support due to lack of resources, even though this is where there is great need.

The need to build upon IMLS projects by focusing on health and wellness public programs: *Community Health and Wellness* builds on existing work by focusing specifically on public programs in small and rural public libraries. The IMLS funded National Impact of Library Public Programs Assessment (NILPPA) project states that "as U.S. libraries transform to meet the needs of a changing nation, public programming is rising to the forefront of daily operations" (American Library Association, 2017). Data show that programming in public libraries has increased over the last five years as circulation and reference transactions have declined (ALA, 2018). Given this trend, there is a need to build upon past IMLS projects that focused on health literacy by studying how public libraries support health and wellness through public programs (e.g., Luo, 2018). Public libraries are developing innovative programs to support health and wellness, such as cooking/nutrition, gardening, exercise, e-Health mobile app classes, and health fairs, but as NILPPA (National Impact of Library Public Programs Assessment) shows, program development and assessment continue to lack substantive analysis and documentation. This is particularly so for public programs in the areas of health and wellness, which are not currently covered by the Public Library Association's (PLA) *Project Outcome*, designed to help public libraries analyze the impact of their programs. *Community Health and Wellness*, fills this need by analyzing health and wellness programming in the vulnerable communities served by small and rural public libraries, and, as such, fits well within the IMLS *Research in Service to Practice* and the *Community Catalyst* categories. The project also complements past IMLS-funded projects such as the 2013/14 WebJunction grants to help develop and implement "Health Happens in Libraries" (IMLS, 2013; IMLS, 2014). More recently, the IMLS funded WebJunction "to help public libraries, partners respond to opioid epidemic" (IMLS, 2018). Our project also adds to past research funded by the IMLS focused on how public libraries can support health literacy in marginalized communities (Gibson, 2017; Kitzie, 2018). By approaching this topic through the lens of health and wellness programming in small and rural public libraries, this study will, along with these past projects, better prepare public librarians to support health and wellness in diverse, rural communities.

In addition to work funded by the IMLS, the NNLM has invested significant resources into preparing public libraries to support community health and wellness. In particular, a collaborative project involving the NNLM and the PLA resulted in the initiative 2017: "Health Literacy, Programming, and Consumer Health Information." Other regional libraries have also focused on preparing public libraries for this topic. The Mid-Atlantic Regional Library of the NNLM released a LibGuide on "Health Outreach and Programming" in 2019. Members of our project team are not only aware of this past work, we have been actively involved in shaping it. Lenstra served on the Advisory Group for the NNLM-PLA initiative and collaborated with WebJunction for a

January 2019 webinar entitled [Health Literacy Begins at Your Library](#), and representatives from both WebJunction and the NNLM have written letters of support for this research. This project adds to past work a specific focus on health and wellness programming in small and rural public libraries, a topic that has heretofore not been researched at the national level.

PROJECT DESIGN

Goals of the Project: This project will establish a robust understanding of how small and rural public libraries support community health and wellness through their public programs to develop a practical model that addresses successful strategies and challenges related to these programs. This model will offer small and rural libraries insights and instruction into how to develop, assess, sustain, and extend programming, and will further inform library science education. The goals of the project are:

Goal 1: Obtain an in-depth understanding of the public programs small and rural public libraries provide to their communities related to health and wellness;
Goal 2: Learn how small and rural public libraries collaborate with outside organizations to provide these programs, and how librarians and other library staff envision their roles and responsibilities in these activities;
Goal 3: Learn the perspectives of outside collaborators in relation to their own roles as they partner with libraries to coordinate health and wellness programs;
Goal 4: Understand the perspectives of patrons who use or do not use library programs for health and wellness information and lifelong learning;
Goal 5: Develop a model that a) teaches librarians and other library staff how to effectively develop, assess, sustain, and extend programming and services, b) informs library practices and LIS education, and c) informs potential partners how best to reach out to small and rural libraries to develop and implement health and wellness programs.

Research Questions: To answer this study's overarching research question - "How do small and rural public libraries address health and wellness through public programs?" - this project will identify the following:

1) What programs and services do small and rural public libraries provide that they see as related to health and wellness? 2) How are these programs and services developed and implemented? 3) What factors contribute to or deter libraries from offering these programs? 4) How do public library patrons engage with and benefit from these programs? 5) How do small and rural public libraries measure outcomes that result from these programs?

Project Activities: The project consists of at least 16 case studies of library systems and individual public libraries in small and/or rural areas in the following states: MI, NC, OK, and VT. Four individual libraries from each of these four states will be studied, as will, where applicable, the library systems of which those libraries are part.

Site Selection - States: The four states chosen enable productive comparisons to be made across different regions of the country, across different statewide health profiles, and across different types of state-level library infrastructures that support health and wellness programming in libraries. The OK Department of Libraries is a member of the Mountain Plains Library Association; MI is in the Great Lakes Region of the Midwest; VT is in New England; and NC is in the Southeastern United States.

There are also significant variances in the health and health literacy infrastructures of these four states. The OK Department of Libraries has actively supported health initiatives for at least seven years through the Library Services and Technology Act (LSTA) funds it distributes to public libraries throughout the state, and it has made health literacy a priority in its current ([2018-2022](#)) and previous five-year plans. Yet OK consistently [ranks as one of the least healthy states in the nation](#); in 2018 its rank, according to the United Health Foundation, was ranked 47 out of 50 states. In VT, in contrast, the Department of Libraries has been up to now less involved with health literacy promotion. Although some collaboration takes place between public libraries and the VT Department of Health, libraries that do offer health and wellness programs often work without state support. Yet VT consistently ranks as [one of the healthiest states](#), at 4 out of 50 in 2018. NC and MI [rank 33 and 34 respectively](#). The State Library of NC has recently begun to prioritize health literacy with a kick-off event on

March 27, 2019, co-sponsored by the NC Public Library Directors Association, entitled "Library Partnerships: A Prescription for a Healthy Community." The Library of MI has also done work to support health and wellness programming, including a statewide effort to make Braille enhanced StoryWalks available in public libraries as a way to promote health and literacy in an inclusive manner.

The diversity among these four states' health profiles and the efforts of state library entities to promote health literacy creates opportunities to understand how the involvement of state agencies may or may not affect the ability of small and rural public libraries to promote health literacy through public programming. In addition, many libraries in OK and NC are part of library systems while VT and MI do not have library systems, but, instead, municipal libraries. Comparing across states and across different types of small and rural libraries, which in turn serve diverse communities with differing health literacy needs, will enable this project to develop a rich understanding of what approaches do and do not work in terms of health and wellness programming in the heterogeneous contexts within which rural library staff work. Data collected and analyzed will contribute to the development of resources of use potentially to urban and suburban public libraries as well.

Site Selection – Public Libraries and Library Systems: At the local level, the selection of libraries and library systems focused on recruiting a diverse cross-section of communities in each state. In VT, in consultation with the Department of Libraries and in response to a statewide request for participation, the libraries chosen thus far include: Cutler Memorial Library (Plainfield); Rutland Free Library (Rutland); and Carpenter-Carse Library (Hinesburg). Selected library sites serve populations from 1,400 to 22,000, range from those not near any large population centers to one situated 25 minutes from VT's largest city, and include libraries in different regions of VT. We will work with the VT Department of Libraries to identify an additional library in another part of the state. In NC, the libraries chosen include: Northwestern Regional Library system (based in Elkin), Appalachian Regional Library system (based in West Jefferson), and the Farmville Public Library. These libraries represent the three main regions of the state: Mountains, Piedmont, and Coastal Plain, and substantial racial-ethnic diversity, including communities that are majority African-American (Farmville) and that have rapidly growing Hispanic and Latino populations (West Jefferson and Elkin). In MI, libraries chosen, with the assistance of the Library of Michigan and an eye to racial and economic diversity, include the Fennville District Public Library, Kalkaska County Library, and Pere Marquette District Library. We will work with the Library of MI to identify an additional library in another part of the state. These libraries represent the western, central, and northern regions of Michigan's Lower Peninsula. In OK, the library systems chosen include the Western Plains Library System and the Eastern OK District Library System. These library systems reflect very different cultures and demographics. The Eastern OK District Library System serves 6 counties, 3 of which have large American Indian populations (19% to 36% of the population in these counties are American Indians, with 50.2% to 69.6% White). The Western Plains Library System serves 4 sparsely populated counties which are 88% to 95% White with 7% to 10% Hispanic or Latino populations, and could be considered culturally more like the Western/Southwestern U.S. Each of these libraries offer unique opportunities, and as a group they represent the diversity of rural communities in the U.S. (All numbers are from the U.S. Census.)

Project Products/Deliverables: The research will result in 5 products that each in different ways will ensure that this project has the largest possible impact on professional practices and educational initiatives relating to small and rural libraries:

1. A model that will encompass actionable step-by-step instructions identifying ways to start and sustain health and wellness programs. These will include how to develop and leverage community collaborations with minimal resources. The process of moving from our empirically grounded answer to the research question "How do small and rural public libraries address health and wellness through public programs?" to best practices will be informed by our collaboration with WebJunction and the NNLM (see Letters of Support, attached). Both have expertise translating research into models that impact practice, and in particular, the IMLS-funded WebJunction (2019) project Small Libraries Create Smart Spaces illustrates a successful example of translating the results from 15 case studies of small and rural libraries across the country into a curricular model

focused on "Making Space for Active Learning" in small and rural libraries. Our model will be shared through a Creative Commons license with WebJunction, the NNLM, the ALA Public Programs Office, and any other entity that wishes to share and use it.

2. Colloquia at the University of North Carolina-Greensboro, University of Oklahoma, and Wayne State University, as well as a Vermont site TBD will bring researchers and invited practitioners together to present trends and innovative ideas from the field that engage with and build upon the findings of this research project. These colloquia will be advertised to MLIS students, librarians, faculty, stakeholders in community health, and other potentially interested parties. We anticipate 35-50 participants at each gathering. (See Statement on National Impact, below, for more information on these colloquia.)

3. We will work with WebJunction and the NNLM to develop a webinar for public librarians. The webinar will introduce the model and cover what libraries are doing and how practitioners can develop and enhance public health and wellness programs at their libraries. It will feature the voices of study participants - librarians, staff, and partners. It will cover what libraries are doing and how practitioners can go about develop and enhance public health and wellness programs at their libraries. Topics will include funding, partnering, planning, advertising, and assessing, as well as links to the report and resources.

4. Training modules for LIS educators and students will be developed, in collaboration with our partners in the four state libraries, and also shared at ALISE and conferences such as PLA and ARSL. The modules will include information and best practices for funding, partnering, planning, advertising, and assessing health and wellness programming. The exact information in each module will be informed by the data collected through this research. These modules will be of interest to LIS curriculum in courses such as *Community Engagement*, *Public Libraries*, *Fundraising for Public Libraries*, and *Consumer Health Information*.

5. A white paper that contains the academic findings of this study will be made publicly available in the institutional repositories of our universities. Versions of the report will be shared in peer-reviewed journal articles and conference proceedings, so as to productively inform the practices of LIS educators and researchers across the country, and elsewhere.

Research Approach/Conceptual Framing: This study will use diffusion of innovation theory (Rogers, 2003) to examine health and wellness programs in small and rural public library settings. Diffusion of innovation theory addresses the processes of organizations and individuals as they adopt new practices and ideas. It has been used to understand the spread of makerspaces in school libraries (Collins, 2017), and has the potential to have great utility in understanding the spread of health and wellness programs in public libraries - how these libraries and librarians learn about providing such programs and involving their communities in the process, as well as how decision-making occurs along the way.

The three overlapping phases of this project, visualized graphically in the Schedule of Completion that follows this narrative, consist of 1) Data Collection and Preliminary Analysis, 2) Final Data Analysis, Draft Report, and Preliminary Presentations, and 3) Dissemination.

Phase 1: Data Collection and Preliminary Analysis (July 2019-December 2020):
1. Develop interview, observation, and library materials/website analysis protocols. We will have an initial meeting with the project team and the Advisory Board (July-October 2019).
2. Recruit and hire graduate student research assistants at each university (July-September 2019).
3. Apply for and secure IRB approval at each university (July-October 2019).
4. Confirm study plan with participating libraries. This will include contacting the libraries that have agreed to participate, meeting with staff to introduce the project, and developing schedules for observations and interviews (July-October 2019).
5. Data collection from public documents. This aspect of the study will examine a) how libraries present their health and wellness programs on their websites, b)what kind of social media they use and how c) whether they make use of other media (i.e., flyers, posters, etc.) to promote programming and d) how health and wellness is represented in their annual reports (July-December 2019).

6. Data collection from stakeholders (librarians, patrons, and partner institutions), specifically, a) observe health and wellness programs offered by the libraries that are part of this study, and b) conduct semi-structured interviews with stakeholders. The project will comprise interviews at each of the participating libraries, including: at least 1-2 with librarians or paraprofessionals, depending on the staffing of the library; at least 2-3 community collaborators, sponsors, or volunteers responsible for program delivery or development; and at least 1-3 patrons, depending on local circumstances. Some interviews may occur via Skype or other media due to distance and potential scheduling issues. Input will be sought from the Advisory Board. Some of the libraries we have approached have collaborated with local or state health organizations (e.g., health departments, hospitals, etc.). Those health organizations will be included in our interviews with an eye toward informing other libraries as to how they can initiate connections to help them develop and build programs. We will ask librarians and their community partners to share with us any documentation relating to past programming or initiatives, such as, internal documentation about participation patterns, flyers, and other material that will enrich our understanding of each case (September 2019-October 2020).

7. Discuss data collection with the Advisory Board in an online meeting (January 2020).

8. Preliminary data analysis will begin near the end of Phase 1 and into Phase 2, with PIs doing initial coding, testing for intercoder reliability, and training graduate student research assistants in our methodology. Analysis will take a grounded theory approach (Charmaz, 2014; Corbin & Strauss, 2015), allowing themes and patterns to emerge that will coalesce into our evidence-based model of strategies, strengths, and challenges associated with developing and delivering health and wellness programs in small and rural public libraries. The data analysis will use Atlas.ti software. The research team has extensive experience in creating qualitative coding schema and applying those schema to explain processes within public librarianship, including in past studies of health promotion in public libraries (Lenstra, 2018; Rubenstein, 2018). That experience will inform the analysis of the data. Semi-independent analysis will occur in each state initially, with researchers regularly convening for discussion, and later analysis will combine individual results into the final model (March-December 2020).

9. Discuss preliminary data analysis with the Advisory Board in an online meeting (September 2020).

Phase 2: Final Data Analysis, Draft Report, and Preliminary Presentations (January-October 2021):
1. PIs and graduate student research assistants conduct in-depth analysis of all project data. The PIs will have regular face-to-face meetings with their individual graduate students to discuss analysis, and include students in regular online meetings of the research team and the Advisory Board (January-August 2021).

2. Discuss ongoing data analysis with the Advisory Board in online meeting (April 2021).

3. Identify preliminary findings and begin writing draft report (April-June 2021).

4. Preliminary findings will be shared with stakeholders who were the subjects of the study - the participating libraries and their collaborators - as well as with our partners in state library agencies, to solicit feedback that will inform the final report and model. We will also present the preliminary report and solicit feedback at professional and state conferences, including the Association of Rural and Small Libraries, American Library Association, and Association of Library and Information Science Educators, Public Library Association, Medical Library Association, and Society of Public Health Educators in our four states (January-June 2021).

5. Write draft report with preliminary findings addressing how small and rural public libraries support health and wellness through public programs (April-September 2021).

6. Discuss findings and the draft report with the Advisory Board (July 2021).

7. Develop model for dissemination, with input from the Advisory Board, state libraries, and participating libraries. We will collaborate with each of these stakeholders throughout the process of crafting the model. This model will include educational modules for librarians and other library staff, as well as LIS programs (see Project Products/Deliverables, #4, above); information about how to find funding opportunities; steps to take while planning, presenting, and assessing programs; and include information such as how to identify and work with partners (July-October 2021 and continues in Phase 3).

8. Publish findings in scholarly journals and professional literature in LIS and other disciplines relevant to the research (July-October 2021 and continues into Phase 3).

9. Present findings and other products or project deliverables at ALISE conference and share with LIS educators (September 2021).

Phase 3: Dissemination (November 2021-June 2022):
1. Finalize model as described in Line 7 of Phase 2 (November 2021-January 2022).
2. Publish findings in scholarly journals and professional literature in LIS and other disciplines relevant to the research (November 2021-June 2022).
3. Publish educational modules and white paper with Creative Commons license, share through WebJunction, ALA Public Programs Office, ARSL, etc. (February-June 2022).
4. Discuss colloquia with the Advisory Board (see #5 below) (January 2022).
5. Colloquia at the University of North Carolina-Greensboro, University of Oklahoma, and Wayne State University, as well as a VT site TBD to bring researchers and invited practitioners together to present trends and innovative ideas from the field (April-June 2022).
6. Work with partners from the NNLM and WebJunction to develop, advertise, and deliver a webinar for practitioners (see Project Products/deliverables, #3, above) (February-June 2022).

Schedule of Meetings: Regular meetings are essential to the success of this project. Throughout the study the research team will be in regular contact regarding methodological and logistical challenges, and will coordinate the analysis of data during Phases 1 and 2 to ensure comparable data is collected using comparable qualitative techniques. The research team will initially meet virtually on a weekly basis to ensure shared understanding of our activities and timelines, and, based on our progress, we will extend those meetings to every two weeks or as needed for the duration of research project. As well, we will be in close touch by email. During Phase 1, our meetings will focus on initial planning activities, including developing interview, observation, and analysis protocols; obtaining IRB approval; data collection; and preliminary analysis. During Phase 2 we will meet to deepen our analysis, draft a report, and present preliminary findings and elicit feedback at scholarly and professional conferences relevant to the study; and finalize our model with input from the state libraries, the libraries we work with, and the Advisory Board. During Phase 3, our attention will focus on both strategic and broad dissemination, using channels trusted by small and rural public libraries, including WebJunction and state libraries. We will also meet with the Advisory Board 2-3 times each year (see Schedule of Completion).

Diversity Plan/Focus on Underserved Populations: The research team has worked to recruit a diverse (in terms of race, geography, and socio-economic class) group of case study libraries. The team has endeavored to recruit historically under-resourced or overlooked libraries from a range of regions, as well as those that serve underrepresented populations. We anticipate that some of the study participants will be members of groups that have been previously overlooked by LIS research and training, for instance, small and rural library staff without LIS degrees. While their work is fundamental to supporting small and rural public libraries, their voices are not often included in scholarly publications and sometimes under-acknowledged for the work they do. Further, they are sometimes left out of technical and decision-making conversations about continuing and professional education, despite their experience in managing small and rural public libraries. By involving them as participants and partners in this study, some of their invisible work will be made visible and they will be included in important conversations including assessment, best practices, and the challenges small and rural public libraries face in terms of offering effective programming that meets the needs of their communities.

Furthermore, although overall, rural America is 79% non-Hispanic White (Pew Social Trends, 2018), portions of rural America are diverse in terms of race, ethnicity, and social class. For instance, the town of Farmville, NC, has a population of 4,654, of which 53% is non-Hispanic White. The selection of case studies was made to attempt to capture a range of different types of populations, including communities that are majority African-American and that have significant populations of Hispanic or Latino and indigenous people. The areas served by small and rural public libraries include significant variations in terms of economic profiles. The libraries we have recruited serve communities in which the percentage of the local populace below the poverty line ranged from 3.5% to over 20%. For a baseline, overall, according to the U.S. Census Bureau (2018), 12.3% of Americans are in poverty, and 61% of Americans are non-Hispanic White. Finally, the project will also strive to

recruit and support a gender-balanced and diverse team of graduate student research assistants, preparing them for careers either in librarianship or in LIS research.

Risks to Project: Risks associated with this project design center around the assumption that from the specific case studies chosen we will have collected enough data to productively inform future directions in public library practices and LIS education. These risks are addressed by seeking case studies from four states in different parts of the U.S. and from different regions within those four states. Furthermore, we envision that by sharing findings with, and soliciting feedback from, our Advisory Board and public librarians through conferences and the webinar, we will be able to fine tune our model with input from other small and rural public libraries not included in the case study.

Other risks include working with librarians who may be unfamiliar with research design and protocols, which could lead to difficulties in obtaining appropriate data; however, we have contacted the directors/managers of the libraries we wish to involve and have shared our pre-proposal with them to help them understand the process. We have also had conversations with these individuals to offer additional information.

There may be risk in our ability to recruit patrons and/or programmatic partners for interviews, but with the support of the library directors and each of the state libraries or Department of Libraries, we expect we will be able to identify and engage with strong and representative informants. As well, Advisory Board members hail from each of the states we will be working in, and they will help facilitate participation.

Project Management and Resources:

Project Staff: The researchers are highly qualified, having engaged in multiple studies of public libraries and published in research and practitioner venues such as *The Library Quarterly, Library Trends, Consumer Health on the Internet, Journal of Library Administration, RUSQ, Public Library Quarterly, Public Libraries,* etc. All four researchers have master's degrees in LIS. Two of the project researchers, **Dr. Ellen Rubenstein**, Associate Professor at the University of Oklahoma, and **Dr. Noah Lenstra**, Assistant Professor at the University of North Carolina-Greensboro, have expertise in health and wellness in public libraries; **Dr. Susan K. Burke**, Associate Professor and Director of SLIS at the University of Oklahoma researches public libraries and their interactions with users; and **Dr. Christine D'Arpa**, Assistant Professor at Wayne State University, brings proficiency on the history of U.S. public libraries and community-based food gardens. Lenstra and Rubenstein are currently collaborating on a study of movement programs in U.S. and Canadian public libraries. Lenstra and D'Arpa are working on issues of health and food justice, and D'Arpa and Rubenstein are examining MI public library websites to assess their public presentation of health and wellness programming.

Advisory Board: The Advisory Board brings deep knowledge of public libraries in our case study states and extensive experience working with public libraries and health and medical professionals. Cass Mabbott, MLIS, is the Youth Services Consultant at the Vermont Department of Libraries; Leslie Gelders, MLIS, is the Literacy Coordinator at the Oklahoma Department of Libraries; Dr. Mary Grace Flaherty is Assistant Professor at the University of North Carolina-Chapel Hill, with extensive prior work as a public librarian, medical librarian, and library director; Steph Harmon is Program Design and Development Manager for WebJunction's *Health Happens in Libraries* initiative; and Dr. Heather Fritz is Assistant Professor in Occupational Therapy and Gerontology at Wayne State University and studies rural health.

Budget: For full budget information please see the Budget Justification. We are requesting $482,313 for: 1) Personnel and research costs for the research team (including some summer salaries and 1 course release each for 3 faculty); 2) Student support (3 G.A. positions distributed differently at the 3 universities); 3) Faculty and student travel to research sites and conferences; 4) Supplies/equipment (laptops, analysis software, and miscellaneous); and 5) Incentives (gift cards for interviewees and compensation for Advisory Board members).

Evaluation Plan: Peer evaluation is embedded into this plan at multiple levels. Feedback from the Advisory Board will be sought throughout. Preliminary findings will be shared at public library, scholarly, and professional conferences and with our participating libraries. Feedback from these sources will inform the final

model, whose dissemination will be shaped by input from the Advisory Board as well as from support from the NNLM and WebJunction (see Letters of Support, attached). Finally, the results of this project will go through formal peer review in the form of articles we will submit to scholarly journals and professional literature and conferences in LIS and other disciplines relevant to the research. Although the impacts of the evidence-based model will not be directly addressed within the 3 years of this project, our team is committed to continuing to work on supporting health and wellness promotion within public libraries in the United States, and anticipate conducting follow-up research after the termination of this grant.

NATIONAL IMPACT

Community Health and Wellness will provide small and rural public libraries with an evidence-based model containing successful strategies and common challenges associated with developing and delivering health and wellness programs that develop health literacy. By highlighting the roles of partnerships in the development and delivery of these programs, this model will strengthen the roles of small and rural public libraries as *community catalysts* in their vulnerable communities. By disseminating this model in channels trusted by small and rural public library staff (e.g., WebJunction/State Libraries/NNLM), broad national impact will result. With research conducted with multiple small and rural public libraries located in four different and diverse geographic areas of the U.S., *Community Health and Wellness* will result in a rich set of data that will make a lasting contribution to the field. This project supports the IMLS 2018-2022 strategic plan, which frames health literacy as part of the lifelong learning that libraries support (p. 5).

Our project deliverables focus on helping small and rural public libraries become better equipped to provide their community members with programming that promotes health literacy, and on enabling libraries to build meaningful and lasting collaborations with community agencies with a shared stake in addressing health literacy needs. All deliverables will be publicly available in institutional repositories and, as much as possible, on the websites of our partners at WebJunction, NNLM, and state libraries, to maximize national impact. Tangible products include: 1) a model written for staff of small and rural public libraries, 2) training modules for LIS educators, both in masters programs and in continuing education programs in state libraries, 3) webinar, and 4) an academic white paper. The model and modules will: a) serve as resources for public libraries to use to better engage their communities on health and wellness issues, and b) be a roadmap for best practices, but flexible enough to allow room for local communities to adapt it to their needs and resources. The training modules for LIS educators will enable those responsible for educating small and rural public library staff to better prepare them to support health literacy through public programming. The research will inform discussions of LIS curriculum development in a variety of courses (see Project Products/Deliverables, #4, above). By training and working with our graduate student research assistants, this project will also directly impact the next generation of librarians. The model and modules will sketch out a snapshot of how small and rural libraries are currently using health and wellness programming, and this knowledge will form a foundation for the field that will serve as a springboard for development as this professional practice grows and develops into the future.

By directly working with two of the principal actors that have worked in past and current projects to prepare public librarians to support health literacy (WebJunction and the NNLM), as well as with Advisory Board members who have expertise in this area, we will ensure that research findings will be communicated in ways that directly respond to the educational needs of small and rural public library staff. To ensure that these deliverables reach our target audiences, we will present them in multiple venues including professional conferences, webinar, and scholarly and professional publications. As well, the deliverables will be freely available with Creative Commons licenses in our respective universities' institutional repositories, and made accessible through WebJunction, the NNLM, and the four state libraries with which we are working. Furthermore, for the past two years the NNLM has been working with the PLA to develop modules for *Project Outcome* specifically focused on assessing the health outcomes of public programs. Members of the research team are connected to both the PLA and the NNLM, and through these connections we envision that the findings from this project will productively inform ongoing work to frame "health" as one of the essential service areas that the PLA's *Project Outcome* assesses. The project team consists of engaged researchers deeply

connected to and engaged in national-level discussions and deliberations about how health and health literacy fit within the work of public librarianship. The results of this project will be sustained and expanded beyond the funding cycle of this grant because we will continue our engagement in these discussions.

In addition, this project will impact how small and rural public libraries are framed as health literacy resources within the health professions through colloquia held in the four study states. These colloquia will bring together researchers and practitioners to discuss the model and to share trends and innovative ideas from the field. Members of the project team have developed and delivered similar inter-disciplinary, inter-professional events at our respective campuses, and will use that experience to guide the successful execution of these colloquia. For example, the University of Oklahoma (OU) SLIS has collaborated with the OU School of Social Work to present a mini-conference on social services in public libraries. We anticipate similar colloquia with this project, where practical information shared by practitioners and academics can generate ideas and spark conversations with students, library professionals, and community partners such as individuals or organizations who present health and wellness programs through libraries. We plan to advertise the colloquia through the Department of Libraries, state library agencies, and listservs that reach librarians in each study state as well as those that are for LIS scholars and educators, with the goal of hosting approximately 35-50 attendees at each event. Through these colloquia, we will share and discuss findings from this study with professionals in public health and medical fields, thus ensuring these crucial partners have the resources and support they need to deepen collaborations focused on supporting health and wellness through public programs in small and rural libraries. In addition to these colloquia, this project includes presentations at venues such as the Society for Public Health Education (SOPHE) and the Medical Library Association, and through these presentations this project will impact how small and rural public libraries are perceived as health literacy resources within those professional communities.

The dissemination plan for this project, which includes making all the information publicly available, makes it self-sustaining and can be built upon. After the model has been developed, revised, and disseminated it will be released to the public for free use. Being able to collaborate with current leaders in the field of public library programming such as WebJunction and the NNLM further ensures our ability to sustain the information generated through the project. Both WebJunction and NNLM have created communities of practice to support health literacy promotion in public libraries. By incorporating our findings into these communities, the project will be sustained beyond the period of this grant. Thus, the benefits of this project will be sustained long beyond the funding period, as small and rural public libraries implement the modules to develop and sustain health and wellness programming, and as educators at multiple levels incorporate portions of the model into their continuing scholarship and professional education pedagogies. These programs, as they become more common, will in turn positively impact the health literacy of vulnerable small and rural communities. As a result of this *Research in Service to Practice* project, small and rural public libraries will become more effective and robust *community catalysts* of health literacy in their communities. The research design ensures that the benefits of this project will reverberate among these libraries, and the communities they serve, for many years beyond the funding period.

SCHEDULE OF COMPLETION

YEAR 1	JULY 2019	AUG 2019	SEPT 2019	OCT 2019	NOV 2019	DEC 2019	JAN 2020	FEB 2020	MAR 2020	APR 2020	MAY 2020	JUNE 2020
Phase 1: July 2019 – December 2020												
Develop interview, observation, & library materials/website analysis protocols; discuss protocols with Advisory Board	▬	▬	▬	▬								
Recruit and hire graduate student research assistants	▬	▬	▬									
Secure IRB approval at each university	▬	▬	▬	▬								
Confirm study plan with participating libraries	▬	▬	▬	▬								
Data collection - Public documents	▬	▬	▬	▬	▬	▬						
Data collection from stakeholders – interviews & observations			▬	▬	▬	▬	▬	▬	▬	▬	▬	▬
Discuss data collection with Advisory Board							▬					
Preliminary analysis of data using grounded theory methods and analysis protocol									▬	▬	▬	▬

YEAR 2	JULY 2020	AUG 2020	SEPT 2020	OCT 2020	NOV 2020	DEC 2020	JAN 2021	FEB 2021	MAR 2021	APR 2021	MAY 2021	JUNE 2021
	Phase 1: continued						Phase 2: January 2021 – October 2021					
Data collection – interviews & observations	███	███	███	███	███	███						
Preliminary analysis of data using grounded theory methods and analysis protocol	███	███	███	███	███	███						
Discuss preliminary data collection with Advisory Board			███									
In-depth analysis of data							███	███	███	███	███	███
Discuss and review data analysis with Advisory Board										███		
Identify preliminary findings and begin writing draft report										███	███	███
Share preliminary findings with stakeholders							███	███	███	███	███	███
Write draft report with preliminary findings										███	███	███

SCHEDULE OF COMPLETION

YEAR 3	JULY 2021	AUG 2021	SEPT 2021	OCT 2021	NOV 2021	DEC 2021	JAN 2022	FEB 2022	MAR 2022	APR 2022	MAY 2022	JUNE 2022
	Phase 2: continued				Phase 3: November 2021 – June 2022							
Write draft report with preliminary findings	▬	▬	▬	▬								
Continue in-depth analysis	▬	▬										
Identify preliminary findings and begin writing draft report		▬	▬	▬								
Discuss findings and draft report with Advisory Board	▬											
Develop model for dissemination with input from Advisory Board and stakeholders	▬	▬	▬	▬	▬							
Publish findings in scholarly journals and professional literature in LIS and other disciplines relevant to the research	▬	▬	▬	▬	▬ (green)	▬	▬	▬	▬	▬	▬	▬
Present findings and other products or project deliverables at ALISE			▬	▬								
Finalize model					▬	▬	▬					
Publish educational modules and white paper with Creative Commons license; share via WebJunction, ALA Public Programs Office, ARSL, and other sites/resources								▬	▬	▬	▬	▬
Discuss colloquia with Advisory Board							▬					
Colloquia that bring together LIS researchers/educators, public librarians, state libraries, public health professionals, and other stakeholders										▬	▬	▬
Develop, advertise, and deliver webinar working with partners at NNLM and WebJunction for practitioners								▬	▬	▬	▬	▬

DIGITAL PRODUCT FORM

Introduction

The Institute of Museum and Library Services (IMLS) is committed to expanding public access to federally funded digital products (e.g., digital content, resources, assets, software, and datasets). The products you create with IMLS funding require careful stewardship to protect and enhance their value, and they should be freely and readily available for use and re-use by libraries, archives, museums, and the public. Because technology is dynamic and because we do not want to inhibit innovation, we do not want to prescribe set standards and practices that could become quickly outdated. Instead, we ask that you answer questions that address specific aspects of creating and managing digital products. Like all components of your IMLS application, your answers will be used by IMLS staff and by expert peer reviewers to evaluate your application, and they will be important in determining whether your project will be funded.

Instructions

All applications must include a Digital Product Form.

☐ Please check here if you have reviewed Parts I, II, III, and IV below and you have determined that your proposal does NOT involve the creation of digital products (i.e., digital content, resources, assets, software, or datasets). You must still submit this Digital Product Form with your proposal even if you check this box, because this Digital Product Form is a Required Document.

If you ARE creating digital products, you must provide answers to the questions in Part I. In addition, you must also complete at least one of the subsequent sections. If you intend to create or collect digital content, resources, or assets, complete Part II. If you intend to develop software, complete Part III. If you intend to create a dataset, complete Part IV.

Part I: Intellectual Property Rights and Permissions

A.1 What will be the intellectual property status of the digital products (content, resources, assets, software, or datasets) you intend to create? Who will hold the copyright(s)? How will you explain property rights and permissions to potential users (for example, by assigning a non-restrictive license such as BSD, GNU, MIT, or Creative Commons to the product)? Explain and justify your licensing selections.

> We will create 2 types of digital content. 1) Anonymized research data, including interview and program observation data. This data will remain the intellectual property of the research team who will use it to create: 2) The project deliverables, comprising reports containing anonymized data, teaching modules, and a model. These will be assigned Attribution 4.0 NonCommercial-ShareAlike 4.0 Creative Commons (https://creativecommons.org/licenses/by-nc-sa/4.0/). We use this licensing so our work will be available to any libraries or other non-commercial entities. Our partners in NNLM and Webjunction both publish content with this type of licensing. Webjunction's (https://www.webjunction.org/about-us/terms.html) content is published with a CC license and NNLM's copyright statement (https://nnlm.gov/copyright) has similar language.

A.2 What ownership rights will your organization assert over the new digital products and what conditions will you impose on access and use? Explain and justify any terms of access and conditions of use and detail how you will notify potential users about relevant terms or conditions.

> The only restrictions on access and use of our project deliverables will be that they are non-commercial, as the purpose of our work is for education and training of librarians. We will provide an explanation of the terms on the site, as well as provide links to the Creative Commons licensing website.

A. 3 If you will create any products that may involve privacy concerns, require obtaining permissions or rights, or raise any cultural sensitivities, describe the issues and how you plan to address them.

As required by our IRBs, we will anonymize the data before using it in our project deliverables. We will not include any personally identifying information (personal names, institutional name, geographic locations, etc.) in the products that we create. The products will not create any privacy or cultural sensitivity issues.

Part II: Projects Creating or Collecting Digital Content, Resources, or Assets

A. Creating or Collecting New Digital Content, Resources, or Assets

A.1 Describe the digital content, resources, or assets you will create or collect, the quantities of each type, and the format(s) you will use.

1. Anonymized research data, including interview and observation data.
   A. There will be ca. 80-100 total interviews of 45-60 minutes each. Interviews will be digitally audio recorded and then transcribed into text files. The files will be transferred into ATLAS.ti for data analysis.
   B. There will be ca. 16 observation fieldwork forms that will be transcribed and stored in a text file for analysis using ATLAS.ti.
2. Project team meeting notes from bi-weekly project conference calls and from the meetings with Advisory Board Members, which will be created in Word and stored on a shared Google drive.
3. Training modules. The modules and training guidelines will be posted as pdf files to our institutional repositories and shared with our partners.
4. Recording of webinars, which will be maintained by our partners & also backed-up as MPG4 files in our institutional repositories.

A.2 List the equipment, software, and supplies that you will use to create the content, resources, or assets, or the name of the service provider that will perform the work.

The project team will use their own password-protected computers to store Word and Atlas.TI files, and a Google drive for sharing Word files of meeting minutes and other organizational documents and project progress reports.

We will create these products using standard office software, including Microsoft Office and Adobe Suite products. In addition, this content will be created and shared through our partnerships with OCLC/Webjunction, the NNLM, and state libraries, all of which have their own infrastructures for creating and disseminating digital products.

A.3 List all the digital file formats (e.g., XML, TIFF, MPEG) you plan to use, along with the relevant information about the appropriate quality standards (e.g., resolution, sampling rate, or pixel dimensions).

We will use Microsoft Office and Adobe Suite products to produce meeting notes, training modules, and public education materials. We will use Microsoft Powerpoint to produce presentations. Excel will be used for the analysis of demographic data on the communities studied. ATLAS.TI produces files that are read by the ATLAS.TI software. The audio taped interviews will be mp3 or mp4 files which will be transcribed as text files and then added to ATLAS.TI for further analysis.

B. Workflow and Asset Maintenance/Preservation

B.1 Describe your quality control plan. How will you monitor and evaluate your workflow and products?

As soon as files are complete and ready for public dissemination, they will be assigned a CC license and deposited into our university's institutional repositories, which have robust preservation environments. They will also be made available to our partners for broad dissemination. Through these mechanisms, we will ensure that digital products are preserved as they are created.
In terms of maintaining the quality of research data, we will coordinate content development via our regular project team meetings.

B.2 Describe your plan for preserving and maintaining digital assets during and after the award period of performance. Your plan may address storage systems, shared repositories, technical documentation, migration planning, and commitment of organizational funding for these purposes. Please note: You may charge the federal award before closeout for the costs of publication or sharing of research results if the costs are not incurred during the period of performance of the federal award (see 2 C.F.R. § 200.461).

By utilizing our universities' institutional repositories, we will ensure the continued availability of digital assets that are publicly accessible, during and after the award period of performance.
In terms of sensitive research data, each site coordinator (PIs) and their Graduate Research Assistants will be responsible for assuring all data files are secure and backed up weekly for their site. Each set of data will be stored on a password protected computer and only accessible to the PIs and their Research Assistants. Data will be maintained for the specified period of each academic institution and original files will be deleted after the mandated period for storage.

C. Metadata

C.1 Describe how you will produce any and all technical, descriptive, administrative, or preservation metadata. Specify which standards you will use for the metadata structure (e.g., MARC, Dublin Core, Encoded Archival Description, PBCore, PREMIS) and metadata content (e.g., thesauri).

Our digital assets will be processed using the technical, descriptive, administrative, or preservation metadata embedded into the institutional repository information architectures of our respective universities.
In terms of research data, a shared Excel spreadsheet will be used to document each project file. A file naming convention will be used for each file generated by the project. The researchers and GA will complete the metadata for each file on the shared Excel spreadsheet.

C.2 Explain your strategy for preserving and maintaining metadata created or collected during and after the award period of performance.

The shared Excel sheet will be kept with the other documents generated by the project for the specified time mandated by each institution.

C.3 Explain what metadata sharing and/or other strategies you will use to facilitate widespread discovery and use of the digital content, resources, or assets created during your project (e.g., an API [Application Programming Interface], contributions to a digital platform, or other ways you might enable batch queries and retrieval of metadata).

In addition to dissemination in our institutional repositories, digital assets will be shared with OCLC/Webjunction, the NNLM, and our state library partners. Both Webjunction and the NNLM have robust experiences making available content that come from third parties, as their copyright webpages illustrates: https://www.webjunction.org/about-us/terms.html / https://nnlm.gov/copyright.
In terms of sensitive research data, the metadata generated by this research project is only of use to the PIs and their research assistants and will not be made publicly available.

D. Access and Use

D.1 Describe how you will make the digital content, resources, or assets available to the public. Include details such as the delivery strategy (e.g., openly available online, available to specified audiences) and underlying hardware/software platforms and infrastructure (e.g., specific digital repository software or leased services, accessibility via standard web browsers, requirements for special software tools in order to use the content).

The digital assets will be openly available online on our institutional repositories, as well as on the NNLM and Webjunction webpages.

D.2 Provide the name(s) and URL(s) (Uniform Resource Locator) for any examples of previous digital content, resources, or assets your organization has created.

Let's Move in Libraries - http://letsmovelibraries.org/
eBlack Champaign-Urbana - http://eblackcu.net/portal/

Part III. Projects Developing Software

A. General Information

A.1 Describe the software you intend to create, including a summary of the major functions it will perform and the intended primary audience(s) it will serve.

Not applicable for this project

A.2 List other existing software that wholly or partially performs the same functions, and explain how the software you intend to create is different, and justify why those differences are significant and necessary.

Not applicable for this project

B. Technical Information

B.1 List the programming languages, platforms, software, or other applications you will use to create your software and explain why you chose them.

Not applicable for this project

B.2 Describe how the software you intend to create will extend or interoperate with relevant existing software.

Not applicable for this project

B.3 Describe any underlying additional software or system dependencies necessary to run the software you intend to create.

Not applicable for this project

B.4 Describe the processes you will use for development, documentation, and for maintaining and updating documentation for users of the software.

Not applicable for this project

B.5 Provide the name(s) and URL(s) for examples of any previous software your organization has created.

Not applicable for this project

C. Access and Use

C.1 We expect applicants seeking federal funds for software to develop and release these products under open-source licenses to maximize access and promote reuse. What ownership rights will your organization assert over the software you intend to create, and what conditions will you impose on its access and use? Identify and explain the license under which you will release source code for the software you develop (e.g., BSD, GNU, or MIT software licenses). Explain and justify any prohibitive terms or conditions of use or access and detail how you will notify potential users about relevant terms and conditions.

Not applicable for this project

C.2 Describe how you will make the software and source code available to the public and/or its intended users.

Not applicable for this project

C.3 Identify where you will deposit the source code for the software you intend to develop:

Name of publicly accessible source code repository:

Not applicable for this project

URL:

Not applicable for this project

Part IV: Projects Creating Datasets

A.1 Identify the type of data you plan to collect or generate, and the purpose or intended use to which you expect it to be put. Describe the method(s) you will use and the approximate dates or intervals at which you will collect or generate it.

All three sources of data to be collected during Phases I and II and used to answer the research questions.
1. Interview data, digitally audio recorded with stand-alone digital recorders.
2. Observation data, collected via in-person observations at public library programs. To be transcribed and stored in Word files.
3. Public documents such as websites, social media accounts, and annual reports created by public libraries relating to their health and wellness programs.

A.2 Does the proposed data collection or research activity require approval by any internal review panel or institutional review board (IRB)? If so, has the proposed research activity been approved? If not, what is your plan for securing approval?

Yes, IRB approval is required. We will submit the protocol to the University of Oklahoma IRB first in August of 2019. After it has been approved, we will ask for reciprocal approval from Wayne State University and the University of North Carolina at Greensboro. Based on similar past projects with our three institutions, we feel confident that the time allotted in the project schedule is more than ample for receiving necessary permissions. (Note: No data will be collected from minors or other protected classes that would require more time than allotted for the IRB approval process.)

A.3 Will you collect any personally identifiable information (PII), confidential information (e.g., trade secrets), or proprietary information? If so, detail the specific steps you will take to protect such information while you prepare the data files for public release (e.g., data anonymization, data suppression PII, or synthetic data).

We collect PII for the purposes of paying participants in the form of gift card incentives. The data themselves will not be tied to individuals, and we will read all the data before releasing it to ensure that there is no PII released to the public.

A.4 If you will collect additional documentation, such as consent agreements, along with the data, describe plans for preserving the documentation and ensuring that its relationship to the collected data is maintained.

The consent agreements will be stored in locked locations in each of our three Universities accessible only to the PIs. They will be destroyed after a certain period of time, to protect participant privacy, in accordance with rules and regulations of our universities IRBs.

A.5 What methods will you use to collect or generate the data? Provide details about any technical requirements or dependencies that would be necessary for understanding, retrieving, displaying, or processing the dataset(s).

The interviews will be digitally audio recorded and transcribed into text files. The observation data will be either recorded directly into a Word file or hand-written. We will analyze the data we produce, as well as public data gathered from public libraries using ATLAS.ti and Excel. Both software run on standard laptop and desktop computers.

A.6 What documentation (e.g., data documentation, codebooks) will you capture or create along with the dataset(s)? Where will the documentation be stored and in what format(s)? How will you permanently associate and manage the documentation with the dataset(s) it describes?

We will create codebooks within ATLAS.ti and Excel and share them among the research team using shared program files. Each site's PI will store the data files on a password protected computer. Each participant's data will be anonymized using a numeric code. No association is necessary between the participant and the numeric code so this data will not be recorded in a separate document.

A.7 What is your plan for archiving, managing, and disseminating data after the completion of the award-funded project?

The original data (interview transcripts and observation data) will be archived on a password-protected laptop in accordance with IRB requirements. The public education products will remain available in our institutional repositories, and on our partners' websites, indefinitely.

A.8 Identify where you will deposit the dataset(s):

Name of repository:

The original data will be archived on a password-protected laptop

URL:

Not applicable for this project

A.9 When and how frequently will you review this data management plan? How will the implementation be monitored?

We will review the project data management plan on a semi-annual basis at semi-annual project team meetings. Implementation will be monitored monthly during the first project team conference call of each month during the funding period.