



# NATIONAL LEADERSHIP GRANTS FOR LIBRARIES

Sample Application LG-260199-OLS-26  
Project Category: Applied Research

University of Illinois, School of Information Sciences

|                         |           |
|-------------------------|-----------|
| Amount awarded by IMLS: | \$620,095 |
| Amount of cost share:   | \$0       |

The University of Illinois Urbana–Champaign School of Information Sciences and Queens College will collaborate on a three-year research project to strengthen public library services for older adults. The project will identify the information needs of older adults, examine current public library services for this population, and develop training materials for librarians as well as literacy courses for older adults. These goals will be achieved through surveys, interviews, the development of training materials, and the assessment of these materials in partner libraries. Public libraries, librarians, and patrons will benefit from the project’s deliverables and outcomes, which include new models and strategies for serving older adults in the AI era, librarian training materials, literacy courses, and evidence-based recommendations to inform user service policy and practice.

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.

# Public Library Services for Older Adults in the AI Era: Status, Gaps, Solutions, and Recommendations

## 1. Introduction

The University of Illinois Urbana-Champaign will collaborate with Queens College and partnering libraries on a three-year National Leadership Grants for Libraries project. We are seeking \$620,095 in IMLS funding to systematically investigate the needs of older adults and public library services for this population. The proposed work aligns with the National Leadership Grants for Libraries program Agency-Level Goal 2 and Objectives 2.1 & 2.2. Public libraries are critical community infrastructure that support the well-being, inclusion, and lifelong learning of older adults—a population that is rapidly expanding in both size and diversity. However, there has been little systematic investigation of older adults’ needs and barriers they face when using library services. At the same time, rapid development of information technologies, particularly Artificial Intelligence (AI) and Large Language Models (LLMs), along with the widespread use of social media, present new challenges for library patrons, especially older adults. Many older adults lack the AI and information literacy skills necessary to effectively use emerging technologies, or to critically evaluate information encountered on social media or generated by AI systems. Although the library and information science community has developed several guidelines for serving older adults<sup>1</sup>, these guidelines were created more than 6 years ago. As a result, current guidelines, programs, and resources may not fully reflect the increasingly complex needs and circumstances of older adults. There is a pressing need to systematically examine public library services for older adults in the current environment shaped by AI and misinformation. This project will conduct national surveys and interviews to better understand older adults’ information needs and the status of public library services for this population. The surveys and interviews will identify gaps and barriers in existing services and inform updates to current guidelines and toolkits. This project will also develop training materials for librarians and literacy courses designed specifically for older adults. Our collaborating public library systems include Gail Borden Library District, DC Public Library, Brooklyn Public Library, and Nassau Library System. Working closely with these partners, the project will address the following four research questions: (1) What are the information needs of older adults in the AI era? (2) What public library services and programs are most appropriate for older adults? (3) What gaps and barriers prevent public libraries from providing inclusive services for older adults? And (4) How should public libraries develop library services and programs to better meet the needs of older adults? The intended outcomes of this project include new models and strategies for serving older adults in public libraries in the AI era; practical guidelines for developing programs and services focused on older adults; training materials for librarians and literacy courses for older adults; and evidence-based recommendations to inform user service policy and practice.

## 2. Project Justification

### 2.1 Alignment of Project Objective with NLGL

This project aims to strengthen public library services for older adults. It has three objectives: to identify the needs of older adults, to investigate current public libraries’ practices for serving older adults, and to develop training materials for librarians and literacy courses for older adults. The project’s goal aligns closely with the **National Leadership Grants for Libraries** program Agency-Level Goal 2, which focuses on strengthening community engagement. This goal will be achieved through activities associated with each project objective. The objectives also align well with NLG-Libraries Objectives 2.1 - promoting broad public engagement and objective 2.2 - supporting community collaboration and foster civic discourse.

### 2.2 Statement of Need

According to the U.S. Census Bureau, older adults represent the fastest-growing age group in the United States. From 2020 to 2024, the population aged 65 and older grew by 13%, vastly outpacing the 1.4% growth of working-age adults (ages 18-64). As of 2024, the population aged 65 and older has reached 61.2 million people, representing 18.0% of the total U.S. population<sup>2</sup>. This demographic shift has significant implications for public institutions, including public libraries, which serve as critical access points for information, education, and community

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<sup>1</sup> The ALA website: <https://www.ala.org/tools/atoz/older-adults> provides standards and guidelines for serving older adults. The most recent document was published in 2019.

<sup>2</sup> <https://www.census.gov/data/tables/time-series/demo/popest/2020s-national-detail.html#v2024> on Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States: April 2020 to July 1, 2024.

engagement. Older adults face a variety of challenges that affect their ability to access information and community resources. These challenges include digital exclusion, the increasing complexity of information environment, social isolation, mobility limitations, economic insecurity, and vulnerability to misinformation and fraud (Brashier & Schacter, 2020; DeLiema, 2018; Nguyen et al., 2021; Shao et al., 2019). Older adults disproportionately experience barriers related to digital literacy, broadband access, assistive technologies, and confidence in navigating online environments (Anderson & Perrin, 2017; Kim, Hong, & Jung, 2025). In addition to information access and digital barriers, older adults also are at greater risk of social isolation and loneliness (Alves & Wilson, 2008; Naberushkina, Besschetnova, & Sudorin, 2025).

Community-based institutions such as public libraries are uniquely positioned to mitigate these barriers and risks by providing accessible physical spaces, social programming, lifelong learning opportunities, and trusted information services. Libraries also play a growing role in consumer health information provision, technology training, workforce reentry support for older adults, and fraud and misinformation awareness—particularly relevant given increased targeting of older adults in scams and deceptive information campaigns (Lenstra, Oguz, & Duvall, 2020; Perry, 2014; Xiao & Miao, 2019).

Despite the strong alignment between community needs and library capacities, there has been limited systematic research examining whether current library services adequately address the full spectrum of elder needs. Older adults are not a monolithic group; needs vary significantly based on socioeconomic status, language background, disability status, rural versus urban residence, and technological proficiency (Wicks, 2004). Even though the American Library Association (ALA) and the Institute of Museum and Library Services (IMLS) have published guidelines and resources for public libraries serving older adults (ALA, 2008; ALA, 2017; IMLS, 2005), these policy documents require further review and evaluation in the context of today's AI-driven and misinformation-rich information environments. Libraries often tailor services to children, young adults, students, people that speak a certain language, and those who require large print materials. However, services are less often designed specifically to address the complex and diverse needs of older adults – the population that is the focus of this project.

## **2.3 Related Work and Research Gaps**

### **2.3.1 Older Adults' Information and Other Needs**

There is extensive literature on users' information-seeking behavior; however, relatively few studies focus specifically on older adults' information needs and information-seeking practices. Williamson (1998) investigated the information-seeking behavior of 202 older adults aged 60 and over in Australia. The study found that older adults obtain much of their information incidentally through social networks and media, rather than solely through active information searching. Williamson also developed an ecological model of information use, suggesting that libraries and other institutional sources are primarily used when individuals engage in purposeful information seeking. Wicks (2004) interviewed 29 older adults, aged 57 to 95, to examine their information sources and the roles these sources play in their daily lives. The study found that libraries were used by approximately half of the participants. Xie (2009) examined older adults' health information-seeking behaviors, highlighting the importance of accessible and trustworthy information sources for this population. In Australia, however, libraries seldom conduct surveys of older adults to better understand their information needs (Bundy, 2005).

**Gap: There is a lack of systematic research on older adults' needs and the barriers they encounter when assessing and using library services.**

In today's digital world, older adults often lag behind in the knowledge and skills needed to use new technologies, access library resources, and evaluate information effectively. Artificial intelligence (AI) and large language models (LLMs) have brought both convenience and new challenges to individuals and the society ([Institute for Healthcare Policy & Innovation, 2025](#)). Older adults are increasingly interested in using AI in their daily lives. However, training opportunities that support older adults in learning how to use AI technologies remain limited. Another significant challenge for older adults is misinformation, which refers to inaccurate messages, images, or videos that may mislead readers (Van der Linden et al., 2023). Chen et al. (2024) conducted a study of 468 older adults in China using the Theory of Planned Behavior and found that the digital literacy of older social media users positively influences their risk perception, self-efficacy, and behavioral control when encountering online information. Misinformation also contributes to elder fraud, which is defined as “an act targeting older adults in which attempts are made to deceive with promises of goods, services, or financial benefits that do not exist, were never intended to be provided, or were misrepresented” (U.S. Department of Justice, 2016). Low levels of information literacy and digital literacy may increase older adults' vulnerability to elder fraud (Anderson & Perrin, 2017; Kim,

Hong, & Jung, 2025). In addition, older adults often face challenges related to limited knowledge and skills for using library resources and information technologies (Broering et al., 2005; Williamson et al., 2010; Agard, Antunez, & Sand, 2015; Alikhan & Gangabadaarachchi, 2022; Lawley, 2022). To address these issues, more training opportunities should be developed to support older adults in building AI literacy, information literacy, and the skills needed to effectively use library resources and technologies.

**Gap: There is a lack of AI and information literacy training for older adults, limiting their ability to effectively use AI technologies and critically evaluate information on social media and generated by AI.**

### **2.3.2 Public Libraries' Services to Older Adults**

American public libraries have increasingly emphasized services for older adults since 2005 (Xiao & Miao, 2019). Sabo (2017) reviewed literature published between 2000 and 2017 on library programming for active older adults and lifelong learning initiatives for this population, although the review was not systematic. Sabo concluded that libraries have been relatively slow to respond to the needs of this rapidly growing demographic. Only a small percentage of libraries have historically provided dedicated services for older adults (Piper, Palmer, & Xie, 2009; Bennett-Kapusniak, 2013). Existing literature shows that libraries offer a variety of programs for older adults, including educational programs, health and wellness initiatives, intergenerational activities, memory programs, and social engagement programs (Bennett-Kapusniak, 2013; Hughes, 2017; Perry, 2014; Lenstra, 2020; Dalmer & Mitrovica, 2022; Liu & Long, 2022). Libraries have also developed outreach programs in partnership with nursing homes and hospitals to deliver books and other materials to older adults who may face mobility or access barriers (Mayer, 2015; Baluk et al., 2024). Perry (2014) and Lenstra et al. (2020) conducted surveys of rural public library directors and library administrators to better understand services provided to older adults. Their studies provide valuable insights for this project; however, their findings may not reflect the current status of library services, particularly in the rapidly evolving technological and information environment.

**Gap: There is a lack of systematic understanding of how public libraries currently serve older adults.**

Among the factors influencing whether libraries provided services to older adults, researchers have identified staff training as a key issue. Many librarians have few staff members with specialized training to serve older adults and often lack the resources or capacity to provide such training (Singer & Agosto, 2014; Alikhan, 2022; Baluk et al., 2021, Hughes, 2017; Lenstra et al., 2020; Piper et al., 2009). These limitations can affect the quality and effectiveness of services offered to older adults.

**Gap: Librarians often lack the essential knowledge and skills needed to develop and deliver effective services and programs for older adults.**

In summary, a review of the literature on older adults' information needs and library services indicates that several critical gaps remain. Addressing these gaps is essential for information professionals seeking to develop more responsive and inclusive library services for older adults.

## **2.4 Preliminary Work**

The PI and her research assistant have conducted a systematic review of library services for older adults. We identified 36 studies published between 2000 and 2025 and developed a coding scheme to examine the types of services and programs that libraries provided for older adults, factors affecting the provision of services to older adults, and factors influencing older adults' use of libraries. [The report of this literature study](#) will be soon submitted to a library and information science journal. Our findings include the following: (1) Some libraries have recognized the importance of serving older adults and have begun offering tailored programs and services for this population. However, libraries face several challenges in serving older adults, such as limitations related to budget, space, staff training, staff size, and awareness of older adults' needs (Badia & Colosimo, 2023); (2) Older adults encounter a number of challenges and barriers when using library services, such as awareness of available library services, discomfort in library environment, literacy barriers, limited access to technology, and transportation constraints. Through this systematic review, we identified the gaps described earlier. These findings motivated us to propose the present project to strengthen public library services for older adults.

Another relevant study we conducted is a theoretical investigation of the role of misinformation in elder fraud ([Chen & Ono, 2026](#)). Applying an integrative literature review approach, we developed a conceptual framework to explain the role of misinformation in elderly fraud. The framework describes the role of misinformation in elder fraud as well as related factors, including preventive factors to misinformation, antecedents to elder fraud, mediating mechanisms between misinformation and elder fraud, and protective factors to elder fraud. This work further motivated our efforts to better understand older adults' needs and to develop innovative solutions to support them. For example, public libraries can play an important role in developing digital literacy, AI literacy, and information literacy programs for older adults.

Different from previous studies on library services for older adults, this project will explore the research questions theoretically as well as practically. Several theories will guide this project, such as:

- *Wilson's models of information behavior* (1997) recognize that information behavior is triggered by information need and mediated by intervening variables such as psychological, demographic, and environmental factors. His theory helps to explain barriers for older adults to seek and use information.
- Savolainen's *everyday life information seeking* (ELIS) focuses on non-work, daily-life information seeking shaped by "way of life" and mastery of life. This is relevant because older adults' information behavior is predominantly everyday-life oriented (health, housing, caregiving, benefits). ELIS is usually applied to gerontological research.
- Chatman's *theory of information poverty* (1996) indicates that marginalized groups may experience information avoidance, secrecy distrust or risk-averse behavior.
- Dervin's *sense-making theory* (1983) frames information behavior as individuals attempting to bridge a "gap" in understanding within a specific time-space context. This is relevant to aging groups because aging involves life transitions (retirement, widowhood, diagnosis, relocation) that may generate information needs.

Additional theories and frameworks are addressed in respective research activities below.

## 2.5 Beneficiaries of the Proposed Work

The proposed work will generate multiple deliveries and research outcomes, as listed in Table 1 in this proposal. These deliveries will benefit American libraries, especially public libraries to develop their new services and programs or evaluating existing services for older adults. It will benefit service librarians to develop their knowledge and skills in serving older adults. The literacy courses developed by the project will be made available to the public, which will benefit web users, especially older adults as well as libraries to gain essential technologies and skills to use emerging technologies, to obtain credible information on finance and other areas, and to evaluate digital information without being trapped by misinformation, disinformation, and elder fraud.

## 3. Project Work Plan

This project will use mixed methods to investigate the information needs of older adults and the inclusive services of public libraries for older adults. Additionally, we will develop training materials for librarians and literacy courses for older adults to address AI literacy and elder fraud. Appropriate IRB approvals will be secured for all surveys, interviews, and assessment studies. University of Illinois [Office for Protection of Research Subjects](#) has clear policy, training, procedures, and [an online IRB submission system](#) that facilitate fast submission and review. The PI has extensive experience on IRB application, revision, and conducting research following university procedures and academic standards.

### 3.1 Research Objective 1: Identify Needs of Older Adults

The first objective of this project is to identify the information and other needs of older adults. To achieve this, a national survey of older adults (**Task 1.1**) will be conducted. Then an in-depth interview with 20 participants of the survey will be conducted in **Task 1.2**.

The survey and interviews will complement each other to provide comprehensive yet detailed and nuanced understanding of the needs of older adults. The participants of the survey and the interview will be purposely selected to be inclusive of a more diverse range of older adults, including those who do not frequently engage in digital or social network activities. Task 1.1 and Task 1.2 together will provide answer to the first research question: What are the information needs of older adults in the AI era?

#### Task 1.1 Survey of Older Adults (Oct 2026 – April 2027)

We will conduct a national survey to uncover older adults' information needs, barriers to obtain information resources, and factors affecting their assessment of information. Variations in these needs and perceptions will be examined based on the participants' demographic, educational, and social economic factors, as well as other age-related characteristics, such as age group, retirement status, and health status. The survey instrument will not only be useful for understanding needs and perceptions relevant to public libraries' elder services in this study but also can be adjusted and adopted by other agencies that face a lack of knowledge of older adults to provide services. Three sub tasks will be performed:

**Task 1.1.1 Review of latest literature.** Upon the systematic literature review we have conducted in [previous report](#), the research team will perform another review of most recent publications (2025-2026) to make sure no important literature is ignored. The literature review provides a reliable basis to develop survey instruments.

**Task 1.1.2 Design and pilot survey questions.** A national survey of older adults will be designed. Several information behavior theories will be referenced to guide the design of the survey instruments. Specifically, Wilson's model of information behavior (1997, 2000), Savolainen's everyday life information seeking (1995), and Ajzen's theory of planned behavior (1991) will be referred when designing the survey instruments. Below are sample questions:

- What are the types of information needed by older adults?
- What information channels do older adults primarily use to access information?
- Do older adults meet their information needs with the existing information channels? What aspects of information needs have not been satisfied?
- How do older adults perceive the role of public libraries? What are the factors that influence older adults' use of library services? What expectations do older adults have regarding the role of public libraries in meeting their information needs?
- How do older adults evaluate information from social media and others?
- How do older adults perceive AI and AI hallucination?

The survey will include 5-point Likert scale questions and open-ended questions. The open-ended questions are designed to seek other opinions about the topic that have not been covered by the listed items. The survey questions will undergo rigorous reviews by the project team and the advisory board members to ensure their clarity, consistency, and comprehensibility.

**Task 1.1.3. Collect survey data of older adults.** We estimate to conduct surveys with ~400 older adults in total nationwide. We will use the [Qualtrics](#) platform to administer the survey and collect responses. Paper copies of the survey will be distributed by collaborating libraries to their patrons. Survey participants will also be solicited via social network groups, non-profits, and advocacy groups, church groups, and advisory board members' connections. Incentives will be offered for survey participants.

**Task 1.1.4. Analyze survey results and write research report.** After data collection, we will conduct statistical analysis to report participants' perceptions regarding the questions, and to identify the differences in perceptions by demographic, socioeconomic, and immigrant-related characteristics. Multivariate regression analysis and structure equation modeling will be explored to reveal the relations.

The research team will write report of research results in a timely manner and make a submission to related referred academic and professional conferences such as ASIS&T, iConference, and ALISE annual conferences, which will increase the impact of the project and obtain feedback from wider audience.

## **Task 1.2 Interviews with Older Adults (May 2027 – August 2027)**

**Task 1.2.1 Design interview questions and protocols.** In the survey, we will provide options for older adults to leave their contact email or phone number for a follow-up interview study, which will include a reward for participation. Theories we apply to develop questions at this stage include Dervin's sense-making theory (1983), Bandura's self-efficacy theory (Bandura, 1977), and Chatman's theory of information poverty (1996). Survey results will inform the structure of the semi-structured interview questions, which will be framed around the following four factors.

- The information that is the most important for older adults.
- Motivations for the use of certain information channels to access information.
- Challenges older adults face to access needed information.
- Challenges older adults face to evaluate information received.
- The factors that motivate or stop older adults from seeking support in public libraries.

**Task 1.2.2 Conduct interview of older adults.** We plan to conduct semi-structured interviews with about 20 older adults. While conducting the semi-structured interviews, research team members will take analytic notes as the interviews progress and ask follow-up questions based on this analysis.

**Task 1.2.3 Analyze interview data and write research report.** We will perform content analysis on interview data to identify patterns and issues. Then a research report will be written to record the whole process and the results. Manuscripts based on the report will be submitted to library and information science journals or conferences.

## **3.2 Research Objective 2: Investigate Current Practices in Public Libraries**

Our second objective is to investigate current library practices on serving older adults, which will be achieved through an examination of public library websites, a survey and interviews with librarians. Three tasks will be performed, as

described below. Through these tasks, we would like to answer the second and the third research questions: What public library services and programs are most appropriate for older adults? And what gaps and barriers prevent public libraries from providing inclusive services for older adults?

### **Task 2.1 Examine public library websites for services targeting older adults (June 2027 – October 2028)**

Prior to survey librarians, this project will perform a review of more than 100 public libraries nationwide to validate public library services for older adults identified from literature review. This task will also help the project to collect contact information about libraries and librarians for the survey. Four sub tasks will be performed:

**Task 2.1.1 Collect library websites.** Public libraries will be found using usa.gov “Find libraries and archives” service (<https://www.usa.gov/libraries-and-archives>) and Google. We aim to identify at least one public library from each state for examining their websites.

**Task 2.1.2 Develop coding scheme for website examination.** Like our systematic literature study, we will develop a coding scheme to facilitate the analysis of library websites. The coding scheme will be derived from 20 sample websites and the codes will be used for the review in Task 2.1.3

**Task 2.1.3 Collect library service evidence from library websites.** The information at the selected public library websites will be coded by the research assistant and the co-PI using the developed coding scheme.

**Task 2.1.4 Analyze evidence collected from library websites and write research report.** The coded information of the selected library websites will be summarized. The summary will include the coding results and analysis of the distribution of older adult oriented services among examined libraries. A research report will be written and be submitted to one of the professional conferences such as ALA, ASIS&T, PLA conferences.

### **Task 2.2 Survey of Librarians (September 2027 - February 2028)**

**Task 2.2.1 Design and pilot survey questions.** The research team will design a questionnaire survey to understand current status of library services for older adults. The survey design will be guided by a few organizational theories considering libraries are information providing and serving institutions. These theories include institutional theory (DiMaggio & Powell, 1983), public value theory (Moore, 1995), innovation & technology adoption theories (Rogers, 2003), and resource dependence theory (RDT) (Pfeffer & Salancik, 1978). The survey will include questions about respondents' demographic information, Likert scale questions about the self-perceived effectiveness of library services for older adults and the self-perceived ability of libraries to serve older adults, and open-ended questions about the nuances involved with public library services for elders. Below are some of the sample survey questions:

- What are the services and programs provided by libraries for older adults?
- What are the factors affecting libraries to serve older adults?
- What are the challenges that may prevent libraries from serving older adults?
- What are the strategies that libraries could apply to better serve older adults?
- What knowledge and skills are important for librarians to better serve older adults?

The survey instrument will be reviewed by the advisory board and be pilot tested with 4 public librarians to ensure the comprehensiveness, clarity, and consistency of questions.

**Task 2.2.2 Collect survey data of librarians.** The project team will then use a combination of purposive sampling and snowball sampling to recruit participants in a survey of public librarians and administrators in the nation. Using publicly open data about public employees, the research team will send recruitment emails to every public services / reference / outreach librarian in collaborating library systems. We will also reach out to librarians through the networks of our advisory board members and connect with others referred to us by participants. Anticipating a 50% return rate, we expect to collect 400 valid responses.

**Task 2.2.3 Analyze survey results and write research report.** A mixed analysis integrating descriptive statistics for closed-ended questions and constant comparison methods for open-ended questions will be utilized. Structured equation modeling will also be applied to identify factors that influence libraries to provide services for older adults. In addition to revealing librarian perceptions, survey results will inform the creation of training materials as explained in Task 3.1.

### **Task 2.3 Follow-up Interviews with Librarians (February 2028 – June 2028)**

The purpose of follow-up interviews with librarians include seeking clarification of responses obtained from the questionnaire survey, confirming survey results, and identifying topics and methods for developing training materials for librarians.

**Task 2.3.1 Design interview questions and protocols.** Interview questions and protocols will be designed in

consultation with the advisory board. Similar to **Task 1.2.1**, the question design will be guided by theories, which include David A. Peterson's educational gerontology (1976) and Eric Klinenberg's Social Infrastructure Theory (2018), and focus on understanding the reasons of offering particular programs or services, specific solutions/strategies to overcome barriers, and recommendations to the administrators. Below are some sample interview questions:

- What motivates older adults to use the services and participate in the programs offered by public libraries?
- How do public librarians perceive their role in supporting older adults' learning needs?
- How do public libraries help improve older adults' digital literacy and information literacy levels?
- What are the barriers to the success of public library services and programs for older adults?

**Task 2.3.2 Conduct interviews with librarians.** Librarian survey participants will click a link to sign up for the follow-up studies if they choose. From this set of participants, about 20 librarians with a mix of administrators and front-line librarians from various sites will be chosen for virtual semi-structured interviews. The interviews will be conducted by the PI and Co-PI, both have rich experience in qualitative research.

**Task 2.3.3 Analyze the data of interviews and write research report.** Interview data will be analyzed using one of the qualitative data analytic tools, such as Nvivo, Atlas, or Taguette. The University of Illinois Library provides guides on using these tools.

### **3.3 Research Objective 3: Develop Training Materials for Librarians and Older Adults**

Many public libraries offer educational programs to older adults, such as information literacy, digital literacy, financial advice, and language learning (Badia & Colosimo, 2023; Baluk et al., 2021; Dalmer & Mitrovica, 2022; Perry, 2014; Lenstra et al., 2022), which demonstrates educational programs and services are one of the major types of programs. However, literature indicates that librarians lack training to serve older adults (Baluk et al., 2021; Hughes, 2017; Lenstra et al., 2022; Perry, 2014; Piper et al., 2009; Singer & Agosto, 2013). Also, older adults may not have sufficient literacy skills to use information resources and technologies (Broering et al., 2005; Williamson et al., 2010; Aagard et al., 2015; Lawley, 2022). One of the objectives of this project is to develop training materials that can be tailored and extended by public libraries to train their staff on elder services.

The PI and Co-PI are experienced in developing training courses and materials for a variety of audiences. For this project, we propose a framework for developing training materials and assessing these materials. Following the ten steps in the Dick and Carey Model (Boucher, 2022), our framework contains the following 8 components: (1) determine training goals and objectives. Define what learners (librarians or older adults) should be able to do at the end of the training; (2) specify trainee requirements and context. Apply the research results from previous tasks (tasks 1.1, 1.2, 2.1, 2.2) to understand learners' background and existing skills; (3) develop assessment objectives. Create criteria-referenced tests to measure performance; (4) develop instructional strategy. Plan the sequence, methods, and media to be used; (5) develop and select instructional materials. Create the learning materials, such as modules, quizzes, tutorials; (6) design and conduct formative evaluation. Test materials with learners to identify problems or issues; (7) revise instruction. Revise the materials based on learners' feedback; and (8) conduct summative course evaluation. Evaluate the effectiveness of the final training product or course.

To realize this project objective, we will carry out three tasks, as explained below.

#### **Task 3.1 Develop Training Materials for Librarians (April 2028 – September 2028)**

This task will include 6 months of course development and 2 months of evaluation by MLIS graduate students and librarians. The graduate students will be selected from both the iSchool at the University of Illinois and the Queens College. The librarians will be selected from the partner libraries. The advisory board will also get involved in course design and review process.

**Task 3.1.1 Develop training materials for librarians.** Following the steps stated earlier, the research team will develop training materials for librarians: The national survey of older adults and librarians will inform the team about the actual course content. The goal of the training is for librarians to understand the needs of older adults, the barriers for them to use libraries, and skills to communicate with older adults. We plan to develop 10 modules of training materials, including PowerPoint slides, videos, quizzes, and a use guide.

**Task 3.1.2. Evaluate the training materials.** Twenty graduate students in library and information science and twenty-five librarians with different background and experience will be recruited to test the developed training materials. The evaluation process will apply usability testing procedure, which will include a pre-test survey (understand testers' background and educational level), course taking, and post-test survey (usefulness and easy to use of the course materials).

#### **Task 3.2 Develop Literacy Courses for Older Adults (September 2028 – February 2029)**

The project team will develop literacy courses for older adults that public libraries can use based on their needs. We would like to focus on two topics in this project: AI literacy and elder fraud. These two topics were chosen because there is a urgent need on such training courses. Literature on digital literacy training program development and implementation provided valuable reference for this activity (Steelman & Wallace, 2017; Detlor et al, 2022; Carrasco-Dajer et al., 2024). We plan to develop 5 modules for each topic in 6 months. The questionnaire survey and interview results of older adults will provide important evidence to develop these modules. Similarly, older adults will be recruited to evaluate the materials for feedback and revisions.

**Task 3.2.1 Develop literacy courses for older adults.** The PI and the Co-PI, together with the advisory board will first design the objectives and learning outcomes for each module. Then we will follow our training material develop framework stated earlier to develop these materials.

**Task 3.2.2 Evaluate the literacy courses.** We will recruit 25 older adults to take the literacy courses and revise the courses based on their feedback, applying the same approach for **Task 3.1.2.**

### **Task 3.3 Disseminate Training Materials and Literacy Courses (May 2029 – August 2029)**

Once the training materials and literacy courses are developed and tested, they will be release through the project's website. The research team will help the collaborating libraries to offer the literacy courses to their older patrons. We will also organize webinars at ALA, PLA, and ASIS&T to disseminate these materials.

Through the tasks, we will answer the fourth research question: How should public libraries develop library services and programs to better meet the needs of older adults?

Table 1 below presents a summary of the project's objectives and outcomes. The Digital Products Plan presents the types of products, availability, access, and how to sustain these products.

**Table 1. Summary of Project Objectives, Tasks, Methods, and Outcomes**

| Research Objective                                              | Tasks                                                                        | Methods                                                                                                                                                                                           | Outcomes                                                                                                                                                                              |
|-----------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RO1: Identify Needs of Older Adults                             | Task 1.1<br>Survey of older adults                                           | Design surveys based on literature reviews.<br>Survey older adults to have a comprehensive understanding of older adults' needs.                                                                  | A survey questionnaire to assess older adults' information needs<br>A report summarizing details about older adults' information needs and their perceptions of public libraries      |
|                                                                 | Task 1.2 Interviews with older adults                                        | Semi-structured interviews with older adults to have an in-depth understanding of the causes and methods to build connections between older adults and libraries.                                 | Interview questions and protocols<br>A report summarizing challenges older adults face, causes of challenges, and motivations to seek for help from libraries                         |
| RO2: A Investigate Current Practices in Public Libraries        | Task 2.1 Examine public library websites for services targeting older adults | Website review and content analysis of library websites to understand what is present on elder services                                                                                           | Identified best practices and librarians to be interviewed<br><br>A report about current practices                                                                                    |
|                                                                 | Task 2.2 Survey of librarians                                                | Design the survey based on literature and older adults' characteristics and needs identified from RO1.<br>Survey librarians on existing practices in services, and how they support older adults. | A survey questionnaire that enables public libraries to assess the inclusivity of services for older adults<br>A report summarizing the status and challenges in serving older adults |
|                                                                 | Task 2.3 Follow-up interviews with librarians                                | Semi-structured interviews with librarians to achieve an in-depth understanding of the motivations, capabilities, and resources of libraries to support older adults                              | Librarian interview questions and protocol<br>A report summarizing the interview outcomes                                                                                             |
| RO3: Develop Training Materials for Librarians and Older Adults | Task 3.1 Develop training materials for librarians                           | Working with librarians and advisory board to determine course objectives, develop the training materials and conduct user evaluations.                                                           | Training materials in PowerPoint, videos and guidelines for librarians                                                                                                                |
|                                                                 | Task 3.2 Develop literacy courses for older adults                           | Develop AI literacy and Elder Fraud courses with users and librarians and conduct user evaluation.                                                                                                | Course materials in PowerPoint, videos, and report format                                                                                                                             |
|                                                                 | Task 3.3 Disseminate training materials and literacy courses                 | Establish webpages and Organize workshops, webinars and other events                                                                                                                              | Workshops and online webinars to promote the usage of training materials. Publicize the training materials on YouTube                                                                 |

### 3.4 Project Team and Resources

**PI and Co-PI.** The project team includes the following key personnel:

- **PI [Dr. Jiangping Chen](#)** is a Professor at the School of Information Sciences, University of Illinois Urbana-Champaign. Her research areas include information services, misinformation, digital libraries, and information retrieval. She has more than 20 years of experience in conducting research in information science, library science, and data science applying different research methods including systematic literature review, survey, interview, data analytics, and experiments. She has been publishing in top-tier Library and Information Science journals, such as *JASIS&T*, *IPM*, *LISR*, and the *Electronic Library*. Dr. Chen will lead the efforts in managing the project, survey design, data collection, training material design and assessment, and report writing.
- **Co-PI [Dr. Ping Li](#)** is an Associate Professor at the School of Information Studies (formerly: Graduate School of Library and Information Studies), Queens College, City University of New York. Her research areas include reference and information services, information literacy and information literacy instruction, health sciences librarianship, human computer interaction, scholarly communication, and research methods in library and information science. Dr. Li will participate in survey and interview design, data collection, training material and literacy course development.

**Collaborating Libraries.** The PI and Co-PI will collaborate with four public library systems to recruit participants for surveys and interviews, to disseminate research findings, and to assess research products.

- **Gail Borden Public Library District** (<https://www.gailborden.info/about-the-library>) in Illinois. Gail Borden Public Library District is the second largest library district for population served in Illinois and delivers a wide array of services and programming for seniors. It serves 149,907 residents in Elgin, South Elgin and portions of Hoffman Estates, Streamwood and Bartlett.
- **DC Public Library** (<https://www.dclibrary.org/>). DC Public Library is a vibrant center of activity for residents and visitors in the nation's capital. Through 26 locations, the library provides comprehensive, free, and accessible educational, research, and community services to all residents of all ages, with a wide array of services and programming for seniors.
- **Brooklyn Public Library** (<https://www.bklynlibrary.org/>) in New York. Brooklyn Public Library, established in 1896, is one of the nation's largest public library systems and is a recognized leader in cultural offerings, literacy, out-of-school-time services, workforce development programs, and digital literacy. It is among the borough's most democratic civic institutions, serving patrons in every neighborhood and from every walk of life. BPL Services for Older Adults, started in 1974, offers inclusive programming and services tailored to patrons over the age of 55, including seminars, cultural and educational programs and technology assistance that reflect the wide interests of today's older adults.
- **Nassau Library System** (<https://nassaulibrary.org/>) in New York. Nassau Library System is a cooperative library system chartered under State Educational Law 255, and is a consortium comprised of 54 independent member libraries and a Service Center for the libraries. One of their primary roles is to support member library outreach efforts to engage older adults. They offer direct digital literacy training to seniors with Techmobile service (a technology-enabled vehicle that travels around the county) and connect member libraries to impactful partnership opportunities.

**Advisory Board.** Throughout all stages of the project, an advisory board will provide advice and guidance for the project team. Project personnel will meet with the advisory board on Zoom quarterly to receive feedback on the project's progress and development. Quarterly updates will be sent to the advisory board prior to the meetings. Individual meetings and correspondence with advisory board members will also occur as needed during the project. The advisory board members will be compensated for their time. We have obtained commitment from the following leaders or experts on older adults' research, user studies and library services:

- **Dr. Bo Xie.** A Professor at the School of Information, University of Texas at Austin. Dr. Xie conducts research in multidisciplinary and interdisciplinary areas such as Information Science, Medicine, Psychology, and Science and Technology. She focuses on health informatics interventions that can promote older adults' use of information and communication technologies (ICT) for health information and decision-making (i.e., e-health literacy) that may have important implications for patient-provider relationships and health outcomes.
- **Dr. Noah Lenstra.** Associate Professor of Library and Information Science at the University of North Carolina Greensboro. Dr. Lenstra's research, teaching, and service focus on fostering community partnerships, particularly as they involve public libraries and aging populations. Among his completed research projects, he

conducted a national study in 2020 to understand library services to an aging population, as well as a 2019 project focused on evaluating impacts from strength training classes for older adults offered in public libraries. He is currently completing a multi-year project focused on evaluating walking groups in public libraries, with older adults among the primary participants.

- **Emily Drabinski.** Associate Professor, Chair & Director of the School of Information Studies (formerly: Graduate School of Library and Information Studies), Queens College, City University of New York. She was the 2023-24 President of the American Library Association. Her research areas include teaching and learning in libraries, particularly information literacy efforts for adult populations. She is interested in pedagogical interventions that respond to particular learning needs, working with new information retrieval technologies, and assessing and evaluating information sources of all kinds.
- **Richard Reyes-Gavilan.** Executive Director of DC Public Library. He has 30 years of progressively responsible, award-winning, urban public library experience with an emphasis on innovative public programming, community engagement, and building design excellence.
- **Edwin B. Maxwell.** Chief Librarian of Brooklyn Public Library. He has nearly 20 years of experience in public libraries, and 10+ years of hands on experience in overseeing library activities, daily operations, community outreach, implementing organization-wide budgets, and staff development. He prides himself in being an innovative thinker, effective agent of change, and an advocate for community-led initiatives.
- **Caroline Ashby.** Director of Nassau Library System. She has a demonstrated history of leadership in public libraries. She is skilled at consensus-building, hiring great people, and organizing ideas. She is dedicated to resource sharing and leveraging the power of libraries that work together.

**Resources.** The University of Illinois Urbana-Champaign provide sufficient information and technological resources for this project. The iSchool where the PI is based is the #1-ranked Information Science program in the nation. The PI will hire a doctoral student as research assistant for this project. The iSchool offers a wide variety of technical resources and services, assisting researchers with software development tools and training, web communication resources, and general technology consulting, among other services.

#### 4. Project Results

This project will yield both intellectual merit through methodological advancement and valuable real-world applications. From a research perspective, this project proposes a theory-driven research design to examine older adults' information needs and the current services provided by public libraries. The investigation will enrich information behavior and institutional theories by expanding knowledge of how older adults interact with information environments and public institutions. In addition, the project will update existing guidelines for public libraries to help them develop and improve services for older adults. The training materials and literacy courses produced through this project will address the current lack of practical tools available to public libraries.

Through investigations involving both older adults and public librarians, this project will generate a comprehensive understanding of older adults' information needs and the current practices of public libraries. These findings will help public libraries identify service gaps and develop strategies and best practices for supporting older adults. The results will also inform other agencies and service providers about how to incorporate elder-inclusive approaches in their practices. Research findings will be disseminated through publications, conference presentations, and organized workshops at major professional and academic venues such as ALA, PLA, ALISE, ASIS&T, and the iConference. Datasets, guidelines, research protocols, training materials, and literacy courses will be shared in accordance with ethical standards.

This project will also produce practical applications. Survey instruments will be developed that libraries and other public agencies can reuse to collect information about older adults' information needs and to assess the current status of elder-inclusive services. Reports summarizing older adults' information needs and existing library practices will be provided to public libraries as reference resources. Additionally, an online guideline for elder-inclusive library services will be developed based on the identified profiles of older adults and the resources available to public libraries.

To promote the project outcomes, the research team will create a project website to share up-to-date research results and resources. Information will also be disseminated through professional networks, including roundtables, library organizations, and listservs such as PUBLIB, ALA Connect, and the ASIS&T forum. Although this project focuses primarily on research, the research team intends to continue developing and implementing new library services for older adults in collaboration with partner libraries.

## Public Library Services for Older Adults in the AI Era: Status, Gaps, Solutions, and Recommendations

### Schedule of Completion

The proposed project will begin September 1, 2026, and conclude August 31, 2029.

[illegible]

| Activity Year 2                                                                       | Sep 2027 | Oct 2027 | Nov 2027 | Dec 2027 | Jan 2028 | Feb 2028 | Mar 2028 | Apr 2028 | May 2028 | Jun 2028 | Jul 2028 | Aug 2028 |
|---------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Project advisory board meeting 5                                                      | x        |          |          |          |          |          |          |          |          |          |          |          |
| RO 2: Investigate Current Practices in Public Libraries (Continued)                   |          |          |          |          |          |          |          |          |          |          |          |          |
| Task 2.1.2 Develop coding scheme for website examination                              | x        |          |          |          |          |          |          |          |          |          |          |          |
| Task 2.1.3 Collect library service evidence from library websites                     | x        |          |          |          |          |          |          |          |          |          |          |          |
| Task 2.1.4 Analyze evidence collected from library websites and write research report |          | x        |          |          |          |          |          |          |          |          |          |          |
| Project advisory board meeting 6                                                      |          |          |          | x        |          |          |          |          |          |          |          |          |
| Task 2.2.1 Design and pilot survey questions (continued)                              |          | x        | x        |          |          |          |          |          |          |          |          |          |
| Task 2.2.2 Collect survey data of librarians                                          |          |          |          | x        | x        | x        |          |          |          |          |          |          |
| Project advisory board meeting 7                                                      |          |          |          |          |          |          | x        |          |          |          |          |          |
| Task 2.2.3 Analyze survey results and write research report                           |          |          |          |          |          |          | x        | x        |          |          |          |          |
| Task 2.3.1 Design interview questions and protocols                                   |          |          |          |          |          |          |          | x        |          |          |          |          |
| Task 2.3.2 Conduct interviews with librarians                                         |          |          |          |          |          |          |          |          | x        | x        |          |          |
| Task 2.3.3 Analyze the data of Interviews and write research report                   |          |          |          |          |          |          |          |          |          |          | x        | x        |
| RO 3: Develop Training Materials for Librarians and Older Adults                      |          |          |          |          |          |          |          |          |          |          |          |          |
| Project advisory board meeting 8                                                      |          |          |          |          |          |          |          |          |          | x        |          |          |
| Task 3.1.1 Develop training materials for librarians.                                 |          |          |          |          |          |          |          | x        | x        | x        | x        | x        |

[illegible]