Narrative

Statement of Broad Need

Minnesota Libraries

As the demand for evidence-based decision- and policy-making grows, so does the need for high quality synthesis of existing research evidence. The involvement of trained methods experts, including librarians and information specialists, is critical to meeting this need. Between 2014 and 2018, publication rates for systematic reviews and meta-analyses increased for several disciplines including agriculture and psychology scholarship at 61% and 48%, respectively (Riegelman & Kocher, 2018). Since evidence synthesis methods depend on comprehensive, transparent, and reproducible literature search strategies, evidence synthesis networks advise scholars to work with librarians or information specialists. The most prominent examples of this are:

> **Campbell Collaboration** is an international evidence synthesis network focusing on the social science research areas including but not limited to: education, criminology, business, and social welfare. Campbell Collaboration also maintains an Information Retrieval Methods Group comprised of librarians and information specialists. Sarah Young of CMU co-chairs this group, and membership includes representation from all three partner institutions. Campbell's Searching for Studies guide (2015) states that "librarians or search experts working on a review should consult with investigators to target the search appropriately within the parameters of the inclusive searching that is conducted for Systematic reviews" (p. 26). Additionally, Campbell's Information Retrieval Methods Group Systematic Review Checklist asks "Was the search strategy/approach peer reviewed by a librarian/search expert?" (Searching for Studies, 2015, p. 75).
>
> **Cochrane Collaboration,** founded in 1993, is a community of international researchers and health professionals committed to gathering and synthesizing health evidence. Cochrane Reviews are considered the gold standard for medical systematic reviews. While some Coordinating Groups employ a dedicated Trials Search Coordinator, "[i]f a [Cochrane Review Group] is currently without a Trials Search Coordinator authors should seek the guidance of a local healthcare librarian or information specialist, where possible one with experience of conducting searches for systematic reviews." (Lefebvre, Manheimer, and Glanville, 2011, 6.1.1.1)
>
> **Collaboration for Environmental Evidence,** a network of stakeholders working towards global environmental sustainability via evidence syntheses for the purposes of evidence based policy and practice, also recommends working with an information specialist for environmental science reviews stating, "Enlisting an information specialist in the review team is recommended so that an efficient search strategy can be established" (Planning a CEE Evidence Synthesis, 2018, section 3.2).

Health sciences librarians have been supporting systematic reviews and similar methodologies for decades, and national and international training opportunities exist for them. In the United States, biannual training courses for health sciences librarians have occurred at University of Michigan and the University of Pittsburgh. Those training offerings were tailored to health science bibliographic platforms and medical controlled vocabulary (MeSH). Training tailored to systematically searching for evidence in disciplines outside of the health sciences

has been scarce with the exception of training programs piloted by the submitters of this proposal. The various roles librarians play in supporting systematic reviews were identified in “Roles for Librarians in Systematic Reviews: A Scoping Review” in which the 18 different roles included searching, source selection, teaching, planning, question formulation, peer review, and 12 other roles (Spencer & Eldredge, 2018).

Additionally, there is evidence that librarian support of evidence synthesis methods affects the quality and rigor of systematic reviews, in particular, reproducibility and replicability of systematic reviews. Several studies have assessed the transparency with which search protocols are reported. In order for a study to be reproduced or replicated and extended, the methods need to be transparently reported. Specifically, Rios et al. (2019) looked at whether or not educational measurement meta-analyses included transparent search strategies to allow for reproducibility and found that “very few of the studies divulged the specific search terms employed (28.57%) nor their Boolean operators (7.14%), and only two studies (7.14%) documented the actual dates that the databases were searched. The lack of search description provided may be attributed to none of the studies mentioning librarian involvement and only two (7.14%) studies utilizing peer review of search strategies.” Other studies have used similar methods with vocational behavior systematic reviews and meta-analyses (Harari, 2020) and pediatrics, cardiology and surgery systematic reviews (Rethlefsen & Koffel, 2016) and have discovered similar results--- search methods were not transparently reported.

This project is best suited for the Laura Bush 21st Century Librarian Program and Lifelong Learning track due to the intentions of our project to equip library workers to meet the learning and information needs of our patrons. As indicated in this proposal, scholars in the social sciences, life sciences, agriculture, and nutrition are pursuing these methodologies, and library workers need training to meet these needs. The Laura Bush 21st Century Librarian Program seeks to enhance the training and professional development of library professionals, develop leaders, and educate the next generation, and we believe that the present proposal does all of these things.

Project Design

Project Goals

The overarching goal of the proposed 33-month project is to fill a gap in training for academic and special librarians in supporting systematic reviews and other forms of evidence synthesis research in disciplines outside the health sciences in an accessible and sustainable way. The project will do this by building upon an existing curriculum developed by the project partners who are established experts in the field, recruitment of a diverse and geographically disparate group of participants, and development of resources that can be used in an ongoing fashion by participants both to support their work and to share knowledge within their home institutions. In service of this goal, the project will achieve four objectives:

Objective 1: Leverage the expertise of project partners to develop the pilot curriculum into a full 2.5-Day training curriculum that thoroughly covers the topics, engages participants, and incorporates a variety of teaching and learning modalities.
Objective 2: Develop an online toolkit of resources for librarians supporting evidence synthesis outside the health sciences that can be shared and used by the library community at large.

Objective 3: Train a cohort of 120 librarians in evidence synthesis and support, and provide them with the tools to share this knowledge with others.

Objective 4: Use feedback from the trainings to rework the curriculum and establish the structure to offer and potentially expand the training program after the grant period.

Project Deliverables

The proposed project will result in the deliverables described below:

Project Website

At the start of the project, the project partners will develop a website to advertise the project and serve as a registration and information source for participants in the project workshops. The University of Minnesota Libraries will host this website.

Curriculum

The curriculum will be based on two pilot workshops developed jointly by the project collaborators: One conducted in May 2019 at the UMTC, and another to be held in August 2020 at Cornell University. In its current form, the two-day workshop curriculum covers an overview of systematic reviews and similar methodologies, current guidelines and standards, search strategy development, software tools, study quality assessment, and setting up a systematic review service in a library. This content is delivered in a variety of styles, including active learning approaches such as hands-on search practice, small group work, lectures, and panel discussions. Because librarians are called on to assist throughout the systematic review process, the curriculum covers the whole process, but spends a bulk of time on parts related to developing and implementing the literature search strategy. The agenda for the first pilot workshop is shown in Appendix A. The workshop begins with an introduction to systematic reviews and other forms of evidence synthesis. Participants are then guided through each step of the review process. For each step, instructors explain the roles librarians can play in offering support, provide examples of what this looks like in practice, and lead participants in an exercise or discussion. In the final parts of the workshop, instructors share models for sustainably supporting evidence synthesis at an institution. Multiple models are discussed to cover a range of institution sizes and types. For this project, the curriculum will be adjusted based on instructor and participant assessment from these two pilot institutes. It will continue to be revised in an iterative fashion after each institute is held and feedback is gathered. This will result in a final product that is well-honed and ready to use in future trainings. Based on feedback from the first pilot, the curriculum will be expanded to 2.5-days in order to give ample time to each topic and provide as much hands-on practice as possible.

Toolkit

Participants will have access to an open toolkit of resources to use after the training. An initial version of this toolkit will be developed by the project collaborators prior to the first institute and it will be assessed and amended as the project continues. The resources will be shared on the Open Science Framework so that they are accessible to anyone, including librarians who have not attended the institute. The toolkit will include guidance on methods, links to coordinating organizations such as the Campbell Collaboration, links to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and other reporting guidelines, instructions on registering protocols, standardized search strategies for particular topics and populations (e.g., autism spectrum disorder, low- and middle-income countries, and livestock), links to supporting literature, and

protocol templates. Contents of the toolkit will be a mix of materials created by the project partners and links to existing resources. It will include a form for suggesting resources to add. An introduction and overview of the toolkit will be provided at the training workshops, but it will also be accessible and useful to librarians who have not attended the workshops. An outline of the project toolkit is shown in Appendix B.

Training Workshops

The majority of the project funding will go to delivering the curriculum at six 2.5-day workshops to be held over the course of 33 months. The workshops will accommodate 20 participants per session for a total of 120 trainees over this period. The workshops will be held at the partner institutions — UMTC, Cornell, CMU — as well as the National Agricultural Library in Beltsville, MD, and two more locations to be selected in the Southern and Western US. This diversity of geographic locations will ensure ease of travel for as many participants as possible. Each workshop will have a minimum of 3 instructors from the partner institutions. The project partners will work with the host institutions to plan workshop logistics such as hotel accommodations, catering, computer lab use, and travel recommendations. Site visits will be conducted by one instructor to the two undecided locations to view accommodations and make arrangements. Travel, lodging, supplies, and meal costs for participants and instructors will be covered by the grant.

Project Partners

The project team will consist of a collaboration between UMTC, Cornell University, and CMU. Cornell University Libraries and UMTC Libraries are established leaders in evidence synthesis, having been the first academic libraries to establish systematic review services explicitly for researchers outside the health sciences (Riegelman & Kocher, 2019). Librarians from Cornell and UMTC have worked together on sharing resources for systematic reviews outside the health sciences since 2017, when Kate Ghezzi-Kopel and Megan Kocher participated in a library exchange program through Cornell University Libraries. Kate and Megan shared resources from the two newly-forming systematic review services and collaborated on creating training materials. Sarah Young from CMU already had a close connection to Cornell's systematic review team as a former member and has continued to collaborate with former colleagues and others on evidence synthesis projects. Librarians from all three of these institutions have published literature on systematic reviews and are published systematic review authors. They have also been invited to provide systematic review training for librarians in the U.S. and abroad, and the systematic review teams from these three libraries have worked collaboratively to develop the materials used in the pilot trainings as well as on large-scale evidence synthesis projects such as CERES 2030, a joint initiative of Cornell University, The International Food Policy Research Institute (IFPRI), and the International Institute for Sustainable Development (IISD) with support from the Federal Ministry for Economic Development Germany (BMZ) and the Bill and Melinda Gates Foundation. CERES 2030 brought together a diverse team of 75 researchers and 14 librarians representing 23 countries to conduct eight evidence syntheses on agricultural interventions on household food security and rural economic livelihoods. The project partners have a strong history of collaboration and share a vision for growing and enhancing support for evidence synthesis across a broad range of disciplines.

Team leads from each institution are as follows (see attached resumes for relevant experience):

UMTC

- Megan Kocher, PI, Agricultural Sciences Librarian
- Amy Riegelman, Co-PI, Social Sciences Librarian

- Julia Kelly, Agricultural and Environmental Sciences Librarian

Cornell University

- Kate Ghezzi-Kopel, Health Sciences and Evidence Synthesis Librarian

CMU

- Sarah Young, Social Sciences Librarian

Recruitment Plan

The intended audience for the proposed workshops are academic and special librarians at US institutions serving researchers in disciplines outside the health sciences, especially those fields (e.g., social sciences, agriculture, engineering) experiencing a rise in demand for evidence synthesis support as well as library school students anticipating careers in academic libraries. Each workshop will be advertised at least three months prior to its occurrence. Advertising will take place in the form of listserv postings to relevant professional groups including ACRL's Systematic Reviews and Related Methods Interest Group, ACRL's Science and Technology Section, the US Agricultural Information Network (USAIN), and ACRL's Education and Behavioral Sciences Section, as well as those outlined in the diversity plan. In addition, the workshops will be promoted at the host institutions and nearby academic and research libraries, as well as through regional library associations and library and information science schools in the locations where they are held, and on the project website.

Application Screening

Potential participants in the project workshops will be asked to complete an application form wherein the current librarian applicants will be required to describe their reasons for wanting to attend the workshop, how they will use the evidence synthesis skills they gain in their jobs, and how they anticipate sharing the information they learn with colleagues, researchers and students. MLIS student applicants will be required to have some prior coursework or experience in advanced searching and research methods. Students will also be asked their reasons for participating and how they anticipate using the skills learned in a future job.

A group of three project collaborators will read each application and score it using the rubric shown in Appendix C. The collaborators will then tally their results and come to a consensus regarding admitted applicants based on immediacy of need and direct impact. Qualified applicants not selected for participation will be invited to apply for future workshops.

Evaluation Plan

We will evaluate this project multiple ways. After each workshop, participants will fill out an evaluation rating the content delivered, time spent on each section, and modes of delivery. In addition, workshop instructors will complete a self evaluation ranking these attributes as well as reflecting on what they would do differently next time. Project partners will debrief and use both evaluations to make changes to the curriculum for the following workshop so that the curriculum develops in an iterative fashion based on input from both participants and instructors as well as any new developments in the field.

We will also conduct a long-term evaluation of the project's success. Six months after each workshop, participants will be sent a survey assessing how they have used the knowledge and skills gained at the training as well as whether and how they share these skills with colleagues. This is consistent with the evaluation model

used by Folb et al (2020) on a similar training for health sciences librarians. Key indicators of success will be participation in systematic reviews as an author or consultant, campus instruction on evidence synthesis, and sharing knowledge and tools with colleagues. Results of these surveys will be used to report on the success of the project at its completion as well as to inform areas of emphasis in the workshops and toolkit.

Dissemination Plan

Project leads will commit to sharing deliverables as well as knowledge gained from the project on an ongoing basis in the following ways:

- *Open Toolkit:* The toolkit developed for the project will be made freely available via the Open Science Framework (OSF). It will be shared directly with workshop attendees as a complement to their training. In addition it will be shared with the academic library community broadly through the same listservs used in workshop participant recruitment.
- *Publications and Presentations:* Throughout the project, the lead collaborators will continue to present and publish on evidence synthesis methods outside the health sciences in LIS journals and conferences such as ACRL, as well as disciplinary outlets such as the U.S. Agricultural Information Network (USAIN) and Society for Social Work and Research. They will also offer shorter workshops and presentations as conference sessions focusing on specific aspects of the review process and the development of the project curriculum and on using the open toolkit.
- *Workshop Curriculum:* Once the project has ended, the curriculum will be used to continue offering trainings at cost to participants using the infrastructure and methods developed during the grant funding phase. It will also be shared under a Creative Commons License on OSF so that others can use and adapt it.

Diversity Plan

We are committed to inviting and welcoming librarians representing diverse organizations, backgrounds, and experiences to participate in these workshops. By charging no tuition and covering all transportation, food, and lodging costs, we will make these opportunities available with no need for applicants to provide additional personal or institutional funds. As we advertise the workshops, we will utilize the communication channels of REFORMA, the American Indian Library Association, the Black Caucus of ALA, and other library organizations that have memberships focusing on librarians of color and a variety of ethnic groups. We will also contact past attendees of programs such as the Tribal College Librarians Professional Development Institute. In the recruitment materials we will assure applicants that their dietary, mobility, hearing, vision, or other needs will be taken into consideration and we will ask for specific details of these accessibility needs. This will allow us to plan accordingly. We will take care to be sure that all providers of food at each venue are aware of what institute attendees need.

We will select the locations with geographic diversity in mind and also consider the number of potential attendees in an area. The session at the National Agricultural Library (NAL) in the Washington DC area will not only be a short trip from many large metropolitan areas but we will also work with the Association of 1890 Land-Grant Library Deans/Directors to invite staff from these historically black colleges and universities with agriculture programs to attend.

It is our plan that the materials from the institutes will continue to be accessible to attendees and others long after the sessions are over. We have met with staff at the Disability Resource Center at the University of Minnesota and we will continue to consult with them to be sure we are doing all that we can to make the toolkit and its documents, videos, and other items as usable as possible for all who wish to access them, using Universal Design principles. They have also advised us about steps to take to make each of the physical venues welcoming and functional for attendees of all abilities.

Broad Impact

The proposed project has had one successful pilot session with another one planned for August 2020. The first pilot session filled up all 15 participant slots within 48 hours, and we have received 20 inquiries about the planned second pilot session after sending out a save-the-date announcement, demonstrating that the need for this type of training is considerable. Evaluations from the first pilot session were overwhelmingly positive. As one participant said:

> *The speakers were all engaging and brought a lot of good experience to share with the attendees. Having different speakers trade off also made the workshop more engaging than it might have been, given the long days. This was one of the most useful workshops I've ever taken, since it focused on practical information and experiences. I so appreciated the opportunity to take part in this workshop!*

Funding for these pilot sessions came from the host institutions (UMTC and Cornell University) with travel and lodging costs covered by the participants. IMLS funding will allow us to take this out of the pilot phase and make it a full-fledged training program that can reach librarians across the country. The work of researchers in disciplines like agriculture and social sciences is changing with regards to evidence synthesis, and this project will empower librarians to support those changing needs and even be leaders in sharing transparent, reproducible research practices. This follows models of education and dissemination developed in the health sciences where trainings for librarians have been held at the University of Michigan and the University of Pittsburgh for over a decade (Folb, et al 2020) and systematic review support is now a standard skill for health sciences librarians.

This project will not only build greater knowledge, skills and abilities for those attending the workshops, but it will also transform practice at attendees' home institutions. Our expectation is that participants share what they have learned with their colleagues at their own institutions and larger library communities. To help facilitate this, our lecture materials, learning objects and toolkit will be openly shared with a creative commons license on OSF in perpetuity. Additionally the open toolkit will allow attendees and anyone who might want to use them to access tools that facilitate working on evidence synthesis outside the health sciences. Since our online resources will be intentionally built for accessibility and adaptability, training will continue to occur beyond the traditional bounds of a training institute. This will allow for greater reach as well as endurance beyond the three-year funding period.

The 33-month funding period will allow us to establish and improve the curriculum and set the stage for future training opportunities. Improvements made to our training structure will help launch additional training offerings beyond the three-years, at cost to participants. We plan to follow the model of the IMLS-funded

Institute for Research Design in Librarianship which is now continuing beyond the initial funding period on a cost-recovery basis.

Impact on a larger scale could include elevating the role of librarians to the level of research collaborators, co-authors, and methods experts. Involvement in this important work has implications on a global scale as "[e]vidence synthesis informs us of what is known from research, making it fundamental for informing policy decisions about development and for promoting the uptake and use of evidence," as policy-makers in international development, food security, and other non-health domains rely on high-quality evidence synthesis for decision making (Oliver, et al., 2018, p. 305).

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Year 1: 2020-2021												
Activity	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**
Update and expand workshop curriculum												
Develop online toolkit												
Develop evaluation form												
Create institute website and registration form												
Advertise Institute 1												
Screen applications for Institute 1												
Invite Institute 1 participants												
Distribute readings and logistics information to participants												
Institute 1 held												
Collect Institute 1 evaluations												
Revise curriculum based on evaluations												
Advertise Institute 2												
Screen applications for Institute 2												
Invite Institute 2 participants												
Distribute readings and logistics information to participants												
Institute 2 held												
Collect Institute 2 evaluations												
Revise curriculum based on evaluations												
Send evaluations to Institute 1 participants												

Year 2: 2021-2022												
Activity	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**
Revise curriculum based on evaluations												
Advertise Institute 3												
Screen applications for Institute 3												
Invite Institute 3 participants												
Distribute readings and logistics information to participants												
Institute 3 held												
Collect Institute 3 evaluations												
Send evaluations to Institute 2 participants												
Revise curriculum based on evaluations												
Advertise Institute 4												
Screen applications for Institute 4												
Invite Institute 4 participants												
Distribute readings and logistics information to participants												
Institute 4 held												
Collect Institute 4 evaluations												
Send evaluations to Institute 3 participants												
Revise curriculum based on evaluations												

Year 3: 2022-2023												
Activity	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**
Advertise Institute 5												
Screen applications for Institute 5												
Invite Institute 5 participants												
Distribute readings and logistics information to participants												
Institute 5 held												
Collect Institute 5 evaluations												
Send evaluations to Institute 3 participants												
Revise curriculum based on evaluations												
Advertise Institute 6												
Screen applications for Institute 6												
Invite Institute 6 participants												
Distribute readings and logistics information to participants												
Institute 6 held												
Collect Institute 6 evaluations												

DIGITAL PRODUCT FORM

INTRODUCTION

The Institute of Museum and Library Services (IMLS) is committed to expanding public access to digital products that are created using federal funds. This includes (1) digitized and born-digital content, resources, or assets; (2) software; and (3) research data (see below for more specific examples). Excluded are preliminary analyses, drafts of papers, plans for future research, peer-review assessments, and communications with colleagues.

The digital products you create with IMLS funding require effective stewardship to protect and enhance their value, and they should be freely and readily available for use and reuse 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

If you propose to create digital products in the course of your IMLS-funded project, you must first provide answers to the questions in **SECTION I: INTELLECTUAL PROPERTY RIGHTS AND PERMISSIONS.** Then consider which of the following types of digital products you will create in your project, and complete each section of the form that is applicable.

SECTION II: DIGITAL CONTENT, RESOURCES, OR ASSETS

Complete this section if your project will create digital content, resources, or assets. These include both digitized and born-digital products created by individuals, project teams, or through community gatherings during your project. Examples include, but are not limited to, still images, audio files, moving images, microfilm, object inventories, object catalogs, artworks, books, posters, curricula, field books, maps, notebooks, scientific labels, metadata schema, charts, tables, drawings, workflows, and teacher toolkits. Your project may involve making these materials available through public or access-controlled websites, kiosks, or live or recorded programs.

SECTION III: SOFTWARE

Complete this section if your project will create software, including any source code, algorithms, applications, and digital tools plus the accompanying documentation created by you during your project.

SECTION IV: RESEARCH DATA

Complete this section if your project will create research data, including recorded factual information and supporting documentation, commonly accepted as relevant to validating research findings and to supporting scholarly publications.

SECTION I: INTELLECTUAL PROPERTY RIGHTS AND PERMISSIONS

A.1 We expect applicants seeking federal funds for developing or creating digital products to release these files under open-source licenses to maximize access and promote reuse. What will be the intellectual property status of the digital products (i.e., digital content, resources, or assets; software; research data) you intend to create? What ownership rights will your organization assert over the files you intend to create, and what conditions will you impose on their access and use? Who will hold the copyright(s)? Explain and justify your licensing selections. Identify and explain the license under which you will release the files (e.g., a non-restrictive license such as BSD, GNU, MIT, Creative Commons licenses; RightsStatements.org statements). 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.

All content created for this project will be released under a Creative Commons BY license, so they can be reused and remixed by any user.

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.

It is the policy of the University of Minnesota, Cornell, and Carnegie Mellon that faculty members and other similar employees own the copyrights in all of the academic materials they produce. All of the University of Minnesota employees who will be contributing to this project fall into this category, and thus will be able to individually authorize the application of a Creative Commons license to the materials they produce for this project. It is unlikely that project materials will include any items subject to any other practices of these universities or policies around ownership of non-tangible research outputs, but to the extent that that is possible, the institutions also consider themselves bound by public access and open licensing requirements of any grants for which it is a recipient. In the event either of those policies may apply, the terms of the grant would control.

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.

NA

SECTION II: 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.

Digital toolkit content: Slide decks (est. qty. 2), pdf and pptx format; Protocol templates (est. qty. 6) pdf and docx format; Resource lists (est. qty. 5) pdf format; Handouts (est. qty. 10) pdf and doc format; Bibliographies (est. qty. 3) zotero and ris format

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

Software: Microsoft Word, Microsoft PowerPoint, Adobe Acrobat, Zotero

A.3 List all the digital file formats (e.g., XML, TIFF, MPEG, OBJ, DOC, PDF) you plan to use. If digitizing content, describe the quality standards (e.g., resolution, sampling rate, pixel dimensions) you will use for the files you will create.

PDF, PPTX, DOCX, RIS

Workflow and Asset Maintenance/Preservation

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

Content will be evaluated in an ongoing basis as part of preparation for workshops. There will also be a form for users to suggest content which will be evaluated by the team of project partners.

B.2 Describe your plan for preserving and maintaining digital assets during and after the award period. Your plan should 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).

After the grant period, materials will continue to be shared in perpetuity on the Open Science Framework. They will continue to be updated by the project partners as long as they continue offering the workshops.

Metadata

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

NA

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

NA

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).

NA

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, delivery enabled by IIIF specifications).

All materials will be made openly available online under a Creative Commons BY License using the Open Science Framework platform.

D.2. Provide the name(s) and URL(s) (Universal Resource Locator), DOI (Digital Object Identifier), or other persistent identifier for any examples of previous digital content, resources, or assets your organization has created.

Search Strategy Repository Prototype: https://osf.io/wda5p/
Evidence Synthesis: How Librarians Can Help:
https://www.library.cornell.edu/services/evidence-synthesis/how-librarians-can-help
Preparation Checklist for Structured Literature Reviews: https://osf.io/2edg9/
Evidence Synthesis Articles Bibliography:
https://www.zotero.org/groups/2418750/evidence_synthesis_articles/library

SECTION III: SOFTWARE

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.

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

Technical Information

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

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

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

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

B.5 Provide the name(s), URL(s), and/or code repository locations for examples of any previous software your organization has created.

Access and Use

C.1 Describe how you will make the software and source code available to the public and/or its intended users.

C.2 Identify where you will deposit the source code for the software you intend to develop:

Name of publicly accessible source code repository:

URL:

SECTION IV: RESEARCH DATA

As part of the federal government's commitment to increase access to federally funded research data, Section IV represents the Data Management Plan (DMP) for research proposals and should reflect data management, dissemination, and preservation best practices in the applicant's area of research appropriate to the data that the project will generate.

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

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?

A.3 Will you collect any sensitive information? This may include personally identifiable information (PII), confidential information (e.g., trade secrets), or proprietary information. If so, detail the specific steps you will take to protect the information while you prepare it for public release (e.g., anonymizing individual identifiers, data aggregation). If the data will not be released publicly, explain why the data cannot be shared due to the protection of privacy, confidentiality, security, intellectual property, and other rights or requirements.

A.4 What technical (hardware and/or software) requirements or dependencies would be necessary for understanding retrieving, displaying, processing, or otherwise reusing the data?

A.5 What documentation (e.g., consent agreements, data documentation, codebooks, metadata, and analytical and procedural information) will you capture or create along with the data? Where will the documentation be stored and in what format(s)? How will you permanently associate and manage the documentation with the data it describes to enable future reuse?

A.6 What is your plan for managing, disseminating, and preserving data after the completion of the award-funded project?

A.7 Identify where you will deposit the data:

Name of repository:

URL:

A.8 When and how frequently will you review this data management plan? How will the implementation be monitored?