



NATIONAL LEADERSHIP GRANTS FOR LIBRARIES

Sample Application LG-260195-OLS-26
Project Category: Community-Centered Implementation

University of Maryland, Baltimore Campus

Amount awarded by IMLS:	\$99,953
Amount of cost share:	\$0

The University of Maryland, Baltimore's Health Sciences and Human Services Library will implement the creation of a unified, publicly accessible digital portal for the nation's first public medical school. The project will consolidate and modernize over 2,900 digitized items composed of extensive physical historical collections documenting two centuries of medical, pharmaceutical, dental, nursing, and social work education. The project will use Islandora and the Archival Artificial Intelligence (AI) Protocol and will implement governed AI workflows for transcription, metadata enhancement, and sensitivity review while ensuring ethical, transparent practices. The project will produce sustainable access platforms, five community informed digital exhibits, and an openly available White Paper with reusable workflows and configuration models.

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.

From 1807 to America 250: Preserving and Sharing the History of the Nation's First Public Medical School

Introduction

The University of Maryland, Baltimore (UMB)'s Health Sciences and Human Services Library (HSHSL) requests \$99,953 in National Leadership Grant for Libraries funding for a 24-month Community-Centered Implementation project that would enable us to open national access to historically significant materials from the nation's first public medical school. HSHSL's Historical Collections preserve a uniquely comprehensive record of American medical, dental, pharmaceutical, nursing, and social-work education dating back two hundred years to the University's nineteenth-century origins, offering one of the most deeply layered archival views of health-sciences development in the United States.

Our collections include more than 2,900 digitized historical items currently stored in the university's institutional repository, as well as extensive physical Historical Collections such as manuscripts, rare books, institutional records, early medical theses, photographs, and ephemera. These materials are dispersed, unevenly described, and difficult to discover. This project will enable us to bring them together in one public portal using open-source software and present them via an interactive set of accessible digital exhibits. The collections in this environment will serve researchers, learners, practitioners, and the broader public. Our primary published output will be an openly accessible White Paper with reusable configuration and workflow components.

We will collaborate with the UMB Medical Alumni Association, the Maryland State Medical Society (MedChi), and the Maryland State Archives (MSA). Graduate Student Workers from the UMD iSchool and MSA interns will contribute to processing, AI-assisted transcription review, metadata enhancement, and documentation.

Project Justification

Digitizing historical health-sciences collections presents distinct ethical and technical challenges that complicate open access. Many materials contain sensitive or inaccessible content (such as graphic clinical imagery, outdated language, and privacy-implicating patient information) that require careful review and controlled access models (Lattal, Hosseini, & Holmes, 2025; Dong, Ilieva, & Medeiros, 2018). At the same time, these collections often exist in fragile or obsolete formats and remain difficult to discover, while privacy laws and restricted content further hinder access. Dong, Ilieva, and Medeiros emphasize that without proactive digitization and governed workflows, historically valuable medical records remain at risk of loss and underuse (Dong et al., 2018).

We aim to remove access barriers and modernize description for nationally significant collections documenting two centuries of American medical education, public health, pharmacy, and scientific inquiry. The holdings capture 19th-century student life, early scientific discoveries (including pioneering rabies research), and original pharmacy recipe books. Many items carry minimal legacy description or outdated subject language, and more than 2,900 items that have already been digitized require modernization, sensitivity review, transcription, and migration to a more appropriate platform.

Why This Project Now

A unified, governed digital environment will support research, teaching, and public engagement during and after the America 250 period. By modernizing description, clarifying rights, consolidating discovery, and applying governance principles derived from subject-matter experts, we ensure that innovative archival processing methods do not compromise privacy, provenance, or public trust (Lo, 2026; Jones et al., 2023).

How We Build on Existing Models

We will employ a combination of open-source and emerging technologies, guided by a newly published protocol that enables library and archives professionals to streamline intensive archival workflows while safeguarding donor trust and institutional ownership.

Islandora is an established open-source digital asset management framework widely adopted by academic libraries for integrating IIIF image delivery, Solr search, and flexible content modeling. Recent case studies (including UNLV's implementation of Islandora 2 to unify archival discovery and migrate legacy systems) demonstrate its sustainability, extensibility, and suitability for complex historical collections. Additional peer-reviewed analyses highlight Islandora's robust architecture and adaptability for managing diverse materials and metadata across both humanities and scientific domains (Jones et al., 2023).

The Archival AI Protocol (AAIP), newly released by the University of Virginia Library, provides one of the first comprehensive governance frameworks for integrating AI into archival workflows. Its core principle, "no access without institutional control," sets standards for provenance, reversibility, and ethical use of archival materials in AI systems, offering a model widely discussed and endorsed across cultural heritage communities (Lo, 2026).

Together, these two models allow us to pair a robust access platform with a transparent, ethically aligned governance framework for working with sensitive historical collections.

Who Will Benefit

This project reaches the field as well as the public. Health sciences libraries and archives will gain a tested, reusable implementation model for using AI strategically for developing accessible digital exhibits of historical materials using Islandora. The emerging LIS workforce will accrue more than 1,300 student hours of hands-on experience in AI governance, metadata, accessibility, and digital collections. UMB learners and educators will receive

improved access and interpretive context across medicine, pharmacy, nursing, law, dentistry, and social work. Researchers and the public will gain trustworthy access to our historical collections and primary sources.

Project Work Plan

Total period: 24 months (9/1/2026–8/31/2028). Our work plan is intentionally paced and progressively layered so that technical development, governance implementation, content transformation, and community collaboration mature together.

Phase 1: Platform & Governance Foundation; Recruitment & Training (Months 1–8)

Purpose. This initial phase establishes the technical and procedural backbone upon which all later project activities depend. Our goal is to build a stable, transparent, and interoperable environment that supports long-term digital stewardship while ensuring that ethical, governed use of AI is embedded from the outset. To accomplish this, we focus on configuring a production-ready Islandora environment; designing governance frameworks grounded in the AAIP; and preparing the project team (especially Graduate Student Workers and interns) for sustained, high-quality participation. By treating platform configuration and governance development as parallel, mutually reinforcing efforts, we ensure that the project launches on a foundation that is technically sound, policy-aligned, and ready for iterative growth.

Activities. During this phase, we conduct a systematic installation and configuration of Islandora, our chosen open-source digital asset management and access platform. This includes establishing core standards that define how different types of materials—textual records, images, audiovisual assets, and compound objects—are structured and represented. We will also tune Solr, the system’s search and indexing engine, to ensure accurate retrieval, faceted discovery, and responsive performance across several metadata fields and legacy description patterns.

To support robust user engagement and accessibility, we plan to deploy IIIF viewers that enable high-resolution, deep-zoom interaction with historical images, manuscripts, and early theses. After implementation, we will run a suite of acceptance tests designed to measure search accuracy, viewer responsiveness, metadata display quality, accessibility conformance, and backup/recovery reliability. These tests ensure that the platform can provide a stable and professional user experience and can sustain the complexity of historical collections at scale.

In parallel with technical work, we will adapt the AAIP for the specific risks and requirements of health-sciences historical collections. This process includes defining reversibility and provenance requirements for all AI-assisted steps; drafting governance

decision logs that document human oversight and provide auditability; and incorporating contract language to enforce transparent, ethical use of AI contributors and tools.

A critical component of Phase 1 is building team capacity. We will engage student workers and interns early (collectively contributing approximately 700 hours to the project in Year 1) and provide structured training on Islandora workflows, metadata standards including Medical Subject Headings (MeSH) and Library of Congress Subject Headings (LCSH), accessibility best practices, and governed AI review procedures. This early investment ensures that emerging information professionals can meaningfully support processing, review, and documentation throughout the project.

To validate our platform readiness and governance model, we plan to select and publish a 50–75-item pilot set drawn from the sub-collections that have already been digitized and need optimization (more details about these collections can be found in this proposal's Supporting Documents). This pilot enables us to test the full workflow (including ingestion, metadata enhancement, and AI-assisted transcription review) and then review outcomes with project partners. Their feedback will guide refinements before moving on to large-scale processing in subsequent phases.

Roles. Project staff will lead all platform configuration, technical decision-making, and governance design. The student workers' focus will be to provide human-in-the-loop review of AI outputs, metadata normalization aligned with medical and archival standards, and documentation of workflows and decisions. Interns will contribute through transcription correction, Optical Character Recognition (OCR) cleanup, and sensitivity review. All of these roles working in collaboration will ensure that content is accurate, accessible, and respectful before public release.

Risks & mitigations. Recognizing risks early allows us to embed safeguards into Phase 1 work. Technical instability during Islandora deployment is mitigated through staged acceptance testing, allowing us to detect and address indexing, metadata, or viewer issues before expanding content. Privacy and sensitivity concerns (especially salient for medical or personally identifiable materials) are addressed through an AAIP-aligned screening workflow, which includes human review checkpoints and documented sign-offs prior to publication.

Deliverables. By the end of this phase, we will have:

- A fully functional Islandora test instance configured for the project's needs;
- A complete AAIP governance workflow package including decision logs, reversibility checks, and contractual safeguards;
- Training records documenting student onboarding and skill development;

- And a curated internal pilot set, reviewed with partners and incorporating their feedback to ensure cultural, historical, and contextual accuracy.

Phase 2: Digitization, Description, and AI-Assisted Workflows (Months 6–18)

Purpose. The purpose of Phase 2 is to carry out the core technical and interpretive transformation of the collections: digitizing priority materials, conducting high-quality transcription and sensitivity review, modernizing and standardizing metadata, and applying governed AI to accelerate (but not replace) human expertise. This phase is where the project’s infrastructure begins to produce visible, public-facing value. By the end of Phase 2, hundreds of items will have been processed under an approach that is transparent, replicable, and compliant with archival, ethical, and accessibility standards.

Activities. We begin by conducting condition-safe digitization of materials selected for priority processing. Many items fall into categories such as fragile manuscripts, early theses, institutional records, and rare books that require controlled handling to prevent deterioration. To support this, we use preservation-grade supplies, including cradles, weights, gloves, and archival enclosures to stabilize bound or brittle materials during capture. Digitization workflows generate both preservation masters (high-resolution, uncompressed files suitable for long-term storage) and access derivatives optimized for online delivery.

Once items are captured, we integrate governed AI tools, specifically Archivault.ai, to assist with technical processes such as boundary detection, OCR/transcription, metadata prompt generation, and Personal Identifiable Information (PII)/Protected Health Information (PHI) flagging. The project does not rely on AI for unsupervised description; instead, all automated outputs undergo human-in-the-loop verification, where staff, Graduate Student Workers, and interns validate accuracy, correct failures, and ensure compliance with AAIP requirements. This includes running reversibility checks, ensuring that every AI-supported output is linked to a traceable input and can be discarded, corrected, or audited as needed.

Metadata work during this phase involves substantial normalization and enhancement. Staff lead the application of MeSH and LCSH headings, cross-checking terminology and ensuring both historical and contemporary forms of subject language are accurately connected. Where legacy description includes outdated terms, we preserve them for archival integrity while adding contextual notes or replacing them in public-facing fields through strategic practices.

Discovery optimization runs concurrently. We develop synonym sets, tune Solr facets, and test filtering behavior to ensure that users with different research needs (such as researchers, students, and community historians) can navigate materials intuitively. Accessibility is integrated at each stage. Staff and student workers validate Web Content Accessibility Guidelines (WCAG) compliance, ensuring that transcripts, images, and metadata display formats meet national accessibility expectations.

In parallel to technical processing, the team drafts exhibit storyboards and item-level interpretive narratives for materials identified as strong candidates for thematic digital exhibits. These drafts will be circulated to project partners in the next phase for review and refinement.

Targets. By the end of this phase, we expect to process up to 800 items, with up to 75% receiving governed AI-assisted transcription. All publicly released materials will include standardized rights statements and harmonized MeSH/LCSH metadata to support reliable and expanded discovery.

Roles. Project staff will oversee digitization strategy, metadata architecture, and all governance checkpoints. Student workers will focus on validating AI outputs, correcting OCR/transcriptions, normalizing metadata, and documenting workflows. Interns contribute to high-volume cleanup tasks, sensitivity review, and transcription corrections.

Risks & mitigations. Fragile manuscripts and handwritten items present risks of physical damage or transcription inaccuracy. To mitigate these issues, we will use staged capture workflows and quality-control gates to detect early errors before finalizing any record. For AI-related risks (such as model hallucination, bias reinforcement, or failures in PII detection) we plan to employ the AAIP-guided dual-review workflow, requiring at least two sets of human eyes on sensitive or ambiguous content.

Deliverables. The phase concludes with:

- A large, high-quality corpus of digitized and processed materials meeting technical thresholds;
- Draft exhibit outlines and interpretive narratives ready for partner review;
- A discovery tuning report summarizing adjustments to Solr, facets, terminology, and accessibility.

Phase 3: Interpretation, Workshops, and Public/Professional Programs (Months 12–22)

Purpose. Phase 3 shifts the focus from processing to interpretation, community engagement, and usability testing. This is where the historical collections take on interpretive depth through collaborative reflection with partners, practitioners, and community members. By inviting multiple voices into the interpretive process, we will ensure that exhibitions and descriptive materials are not only accurate but also resonant, appropriate, and reflective of distinctive viewpoints. This phase also pilots public programming to test the educational and civic value of the project.

Activities. The interpretive process will begin with structured review sessions involving the Co-Design Group, which includes representatives from MedChi, the UMB Medical Alumni Association, the Maryland State Archives, practicing clinicians, faculty, and early-career

health-sciences professionals. During these sessions, we will collectively review draft interpretive texts, exhibition labels, and contextual narratives.

Parallel to interpretive work, the project will deliver a mixture of four public and professional programs designed to explore historical materials through contemporary lenses. These may include discussions of early laboratory science, pharmaceutical practices, medical curriculum evolution, or ethics in research. At least one program will present our AAIP implementation model, offering a rare, practical look at how governed AI can support digital-collections work in health-sciences contexts.

To ensure strong user experience, we will conduct three rounds of task-based usability testing with internal and external testers. Participants (most likely student workers, interns, and library staff volunteers) will complete structured tasks, such as: locating specific documents, navigating facets, exploring exhibits, or using IIIF tools—while staff track performance, accessibility barriers, and interpretive clarity. Insights from these tests guide interface refinements, facet adjustments, accessibility fixes, and enhancements to descriptive notes.

Roles. Project staff will coordinate facilitation, synthesize feedback, and apply changes to metadata, exhibits, and interface design. Student worker will help capture workshop data, analyze usability results, and prepare updated materials. Interns will assist in logistics, note-taking, and integrating testing feedback into the documentation ecosystem.

Risks & mitigations. Interpretive feedback from different groups may conflict, particularly around terminology, historical framing, or sensitive information. To manage this, we will maintain transparent decision logs, documenting the rationale for interpretive choices. Accessibility issues surfaced during usability testing are addressed through iterative adjustments followed by verification via accessibility audits.

Deliverables. By the end of Phase 3, we will have:

- Finalized exhibit texts and interpretive labels, enriched through multi-stakeholder review;
- Updated metadata reflecting community input and sensitivity review;
- A full set of program recordings and materials;
- Usability testing reports informing final refinements ahead of launch.

Phase 4: Launch, Evaluation, and Dissemination (Months 18–24)

Purpose. Phase 4 brings the project to its public culmination. This phase focuses on open release of the digital portal, rigorous evaluation of project outcomes, and wide dissemination of the resulting workflows, governance models, and scholarly insights. The longevity and national impact of the project depend on the strength of this phase—ensuring

the work is discoverable, reusable, and influential for other institutions seeking to implement governed AI in cultural heritage contexts.

Activities. We will begin by launching the public Islandora portal, where users can engage with manuscripts, images, early theses, institutional records, artifacts, audiovisual materials, and the full interpretive exhibits. The site will include clear notices describing provenance, rights, and—in cases where AI contributed to transcription or description—transparent governance statements indicating how those processes were overseen.

Evaluation will occur across several timescales using multiple methods:

- Monthly analytics (using Google Analytics and Crazy Egg site layers) track user behavior, item engagement, and system performance.
- Quarterly AAIP audits review governance compliance, decision-log completeness, and reversibility tracking.
- Semiannual metadata accuracy checks ensure descriptive integrity over time.
- Start/middle/end user surveys assess the portal's usability, clarity, and educational impact.
- Accessibility audits confirm WCAG alignment post-launch.

These data will collectively demonstrate how well the portal meets its goals and serve as evidence for future sustainability and enhancement work.

The capstone scholarly output, an openly-accessible White Paper, synthesizes all technical, methodological, and governance insights. It will describe how Islandora and AAIP integrate in a real-world context, outline decision frameworks used during digitization and AI review, document lessons learned about sensitivity review and description modernization, and provide templates for future adopters. All reusable materials (including config files, ingest profiles, mappings, workflow diagrams, and training modules) will be deposited in a public Git repository for maximum transparency and impact.

Finally, the team will carry out dissemination activities with both in-person and virtual conference presentations. Based on conference schedules available during the project period, we anticipate supporting one major conference presentation. To reach the largest community of open-source implementers while keeping travel costs low, we will also plan a virtual presentation at IslandoraCon 2027, though we will also pursue opportunities with the Medical Library Association (MLA), Mid-Atlantic Regional Archives Conference (MARAC), Society of American Archivists (SAA), or Librarians, Archivists, and Museum Professionals in the History of Health Sciences (LAMPHHS) where feasible.

Deliverables.

By the end of the project we will deliver:

- A fully functional production Islandora portal;
- A comprehensive set of evaluation datasets and AAIP audit records;
- A published White Paper with detailed methodology and governance frameworks;
- A public Git repository containing all reusable assets;
- And completed dissemination activities, including at least one presentation.

Project Results

We will deliver a transformative, responsibly governed access model for health-sciences history that other institutions can adopt without starting from scratch.

Unified Digital Access Portal

A publicly accessible, high-performance Islandora portal will consolidate up to 2,900 historical items into a cohesive discovery environment with IIIF viewing, modern search/faceting, rights and provenance visibility, and persistent identifiers, which will replace fragmented systems with a single, sustainable platform.

Five Community-Informed Digital Exhibits

We will launch five exhibits developed with MedChi, the UMB Medical Alumni Association, the Maryland State Archives, and other members of the health science community. Exhibits will move beyond item-level description to incorporate layered interpretation on themes such as early infectious-disease response, early pharmaceutical practices, the student experience in 19th-century medical education, and the evolution of laboratory science at UMB.

Governed AI-Enhanced Collections

A substantial corpus of AI-assisted transcriptions and descriptions will be created under strict AAIP governance with documented provenance, reversibility checks, and decision logs, offering a transparent model for safe, ethical AI use in health-sciences archives.

Documented Workflow Infrastructure

Openly licensed documentation will capture the full lifecycle of digitization, migration, metadata normalization, AI governance, exhibit development, and accessibility testing. Outputs include ingest profiles, crosswalks, decision matrices, sample sensitivity-review protocols, and workflow diagrams ready for adoption or adaptation.

White Paper (Primary Publication)

An openly accessible White Paper will synthesize technical, methodological, and governance insights, demonstrate how Islandora and AAIP integrate for sensitive health-related collections, present lessons learned, and provide replicable templates for institutions of

different sizes and capacities. All supporting materials will be available in a public Git repository.

Dissemination and Conference Participation

Because the project budget includes \$1,200 for travel, we anticipate the ability to support one major conference presentation during the grant period. We will prioritize events where audiences include archivists, health-sciences information professionals, and digital library practitioners. Based on currently available schedules, national organizations such as SAA and MLA have posted dates only through 2026, and LAMPHHS and MARAC list schedules through 2026; therefore, we will plan a virtual presentation at IslandoraCon 2027, aligning with our open-source focus and minimizing travel costs while reaching the core implementer community.

Ultimately, this project allows the Historical Collections to function as both a record of where American health professions have been and a guide to where they are going. By illuminating how ideas about medicine, pharmacy, dentistry, nursing, and social work have evolved across two centuries, we provide essential context for the challenges and innovations of today. The digital portal, governance framework, and interpretive work developed through this project will not only safeguard these materials but also activate them: transforming archives into shared tools for education, research, and community understanding.

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