



Request for Proposal (RFP): Patient Data Tokenization and Privacy-Preserving Record Linkage Services for MLSC Biobank Program

Ends on Fri, Apr 17, 2026 11:59 PM

1. Background and Purpose

The Massachusetts Life Sciences Center (MLSC) is a quasi-public economic development agency of the Commonwealth of Massachusetts. MLSC is launching a statewide Biobank Program designed to accelerate biomedical research, translational discovery, and innovation by enabling secure, equitable, and governed access to high-quality biospecimens and associated patient data. As part of this initiative, MLSC seeks proposals from qualified vendors to provide patient data tokenization and privacy-preserving record linkage services. The selected vendor will support secure de-identification, tokenization, and longitudinal linkage of patient data contributed by multiple participating academic medical centers and healthcare institutions. The goal of this RFP is to identify a vendor capable of enabling cross-institutional data integration while maintaining patient privacy, regulatory compliance, and strong governance controls, thereby supporting research use cases across academia, industry, and public-private partnerships.

2. Scope of Work

The selected vendor will provide a scalable, secure, and compliant tokenization solution that supports the following capabilities.

A. Patient Identity Tokenization

- Generation of consistent, privacy-preserving tokens from identifiable patient data supplied by participating institutions.
- Support for deterministic and probabilistic matching approaches, as appropriate.
- Ability to tokenize data without exposing or centralizing direct identifiers.
- Clear separation of identifiable data from tokenized datasets.

B. Privacy-Preserving Record Linkage

- Enable longitudinal linkage of patient data across:
 - Multiple healthcare systems and collection sites
 - Multiple data types, including clinical, demographic, molecular, imaging, and longitudinal data
- Support linking of biospecimen data to associated clinical and outcomes data over time.
- Minimize false positives and false negatives, with transparent matching performance metrics.

C. Security and Compliance

- Compliance with applicable federal and state regulations, including HIPAA and relevant Massachusetts data protection requirements.
- Support for de-identified and limited datasets aligned with research and governance needs.
- Encryption of data at rest and in transit.
- Robust access controls, audit logs, and monitoring.

D. Integration and Interoperability

- Ability to integrate with:
 - Institutional clinical data systems
 - Centralized biobank data storage and curation platforms
 - Support for standard data formats and interoperability frameworks where applicable.
 - Clear APIs or secure data exchange mechanisms for token generation and linkage workflows.

E. Governance and Controls

- Ability to align with MLSC-defined governance frameworks, including:
 - Broad consent models
 - Data use limitations
 - Tiered access controls for different user groups
 - Support for revocation or suppression of tokens if required by consent changes or regulatory updates.

F. Reporting and Quality Assurance

- Regular reporting on:
 - Token generation volumes
 - Linkage success rates
 - Error rates and data quality indicators
 - Ongoing quality control and validation processes.

3. Vendor Qualifications

Proposing vendors should demonstrate:

- Experience providing patient data tokenization and privacy-preserving record linkage services in biomedical, healthcare, or life sciences research settings.
- Proven ability to operate in multi-institutional or consortium-based environments.
- Experience supporting large-scale datasets and longitudinal data.
- Strong information security practices and compliance posture.
- Organizational stability and sufficient staffing to support a statewide initiative.

4. Implementation and Support

Proposals should describe:

- Proposed implementation approach and timeline.
- Onboarding process for participating institutions.
- Required inputs from MLSC and contributing sites.
- Ongoing technical support, maintenance, and issue resolution.
- Training or documentation provided to MLSC and participating institutions.

5. Proposal Submission Requirements

Proposals must include the following sections:

1. **Executive Summary:** Overview of the proposed solution and its alignment with MLSC program goals.
2. **Technical Approach:** Detailed description of tokenization methodology, linkage approach, and system architecture.
3. **Security and Compliance:** Description of compliance standards, certifications, and security controls.
4. **Experience and References:** Relevant prior engagements and at least two references.
5. **Implementation Plan and Timeline**
6. **Pricing and Cost Structure:** Clear description of pricing model, including:

- One-time implementation costs
- Ongoing operational costs
- Any volume-based or usage-based fees

7. Assumptions and Dependencies

6. Evaluation Criteria

Proposals will be evaluated based on:

- Technical merit and robustness of the proposed solution
- Privacy protection and regulatory compliance
- Experience with similar multi-institutional initiatives
- Scalability and long-term sustainability
- Ease of integration with existing and future systems
- Cost and overall value to the program

7. Timeline

Deadline: 4.17.2026

Evaluation Period: Proposals will be weighted based on technical expertise, alignment with the MLSC's needs and cost-efficiency. Finalists may be interviewed in mid/late May. A decision will be made in May/June with a tentative commencement in June.

MLSC reserves the right to modify this timeline at its discretion.

8. Additional Terms

For questions regarding this RFP, contact: BioBank@masslifesciences.com

This RFP does not constitute an obligation for the MLSC to fund any proposals. The MLSC reserves the right to modify or cancel this RFP at any time and may request further clarifications or conduct interviews as part of the selection process.

Thank you for your interest in the MLSC Biobank Program

Please read the scope of work prior to submitting the proposal.

Requirements

Proposal Requirements

Responding organizations must submit a complete proposal that addresses the following elements. Proposals that do not include all required components may be considered non-responsive.

Applicant Information

Legal Name of Organization (required)

Primary Point of Contact Name (required)

First Name (required)

Last Name (required)

Primary Point of Contact Email (required)

Primary Point of Contact Phone (required)



Company Website (required)

Headquarters Location (required)

Country (required)

Select... ▼

Address (required)

Address Line 2 (optional)

City (required)

State, Province, or Region (required)

Zip or Postal Code (required)

Section 1: Executive Summary

1.1 Solution Overview (required)

Provide a concise summary of your patient data tokenization and record linkage solution and how it aligns with the goals of the MLSC Biobank Program.

1.2 Value Proposition (required)

Limit: 300 words

Briefly describe the unique strengths of your solution and why it is well suited for a statewide, multi-institutional biobank initiative.

Section 2: Technical Approach

2.1 Tokenization Methodology (required)

Limit: 300 words

Describe your approach to patient identity tokenization, including whether deterministic, probabilistic, or hybrid methods are used.

2.2 Privacy-Preserving Record Linkage (required)

Limit: 300 words

Explain how your solution enables longitudinal linkage of patient data across institutions and data types while preserving privacy.

2.3 Matching Performance and Accuracy (required)

Limit: 300 words

Describe how you assess and report linkage accuracy, including strategies to minimize false positives and false negatives.

2.4 System Architecture (required)

Limit: 300 words

Provide a high-level description of system architecture, including where tokenization occurs and how data flows between institutions and central platforms.

Section 3. Security and Compliance

3.1 Regulatory Compliance (required)

Limit: 300 words

Describe your compliance with applicable regulations, including HIPAA and relevant state data protection requirements.

3.2 Security Controls (required)

Limit: 300 words

Detail your security measures, including encryption, access controls, audit logs, and monitoring.

3.3 Certifications and Audits (required)

Choose File

Upload a file. No files have been attached yet.

Acceptable file types: .csv, .doc, .docx, .odt, .pdf, .rtf, .txt, .wpd, .wpf, .gif, .jpg, .jpeg, .png, .svg, .tif, .tiff

List any relevant certifications or third-party audits (for example SOC 2, ISO 27001)

Section 4. Integration and Interoperability

4.1 Institutional Integration (required)

Limit: 300 words

Describe how your solution integrates with healthcare systems and data sources at participating institutions.

4.2 Platform Integration (required)

Limit: 300 words

Explain how your solution can integrate with centralized biobank data storage and curation platforms.

4.3 APIs and Data Exchange (required)

Limit: 300 words

Describe available APIs or secure data exchange mechanisms that support tokenization and linkage workflows.

Section 5. Governance and Controls

5.1 Alignment with Research Governance (required)

Limit: 300 words

Describe how your solution supports research governance requirements such as broad consent, data use limitations, and tiered access.

5.2 Consent Changes and Revocation (required)

Limit: 300 words

Explain how your system handles consent updates, token suppression, or revocation if required.

Section 6. Experience and References

6.1 Relevant Experience (required)

Limit: 300 words

Describe prior experience supporting patient data tokenization, record linkage, or similar services in biomedical or life sciences research.

6.2 Multi-Institutional Deployments (required)

Limit: 300 words

Provide examples of deployments involving multiple healthcare institutions or consortia.

6.3 References (required)

Limit: 300 words

Provide at least two references, including organization name, contact name, and email.

Section 7. Implementation and Support

7.1 Implementation Plan and Timeline (required)

Limit: 300 words

Describe your proposed implementation approach and estimated timeline.

7.2 Institutional Onboarding (required)

Limit: 300 words

Explain how participating institutions would be onboarded and supported.

7.3 Ongoing Support and Maintenance (required)

Limit: 300 words

Describe ongoing support, maintenance, and issue resolution processes.

7.4 Training and Documentation (required)

Limit: 300 words

Describe any training materials or documentation provided to MLSC and participating institutions.

Section 8. Pricing and Cost Structure

8.1 Pricing Model (required)

Limit: 300 words

Describe your pricing structure, including implementation costs and ongoing operational costs.

8.2 Volume or Usage-Based Fees (required)

Limit: 300 words

Indicate whether pricing varies based on data volume, number of institutions, or usage.

8.3 Assumptions and Dependencies (required)

Limit: 300 words

List any assumptions that affect pricing or delivery.

Section 9. Additional Information and Certifications Upload

9.1 Please upload documentation for all applicable security, privacy, and compliance certifications held by your organization. (required)

Choose File

Upload a file. No files have been attached yet.

Acceptable file types: .csv, .doc, .docx, .odt, .pdf, .rtf, .txt, .wpd, .wpl, .gif, .jpg, .jpeg, .png, .svg, .tif, .tiff

Examples include, but are not limited to:

- SOC 2 Type II
- ISO/IEC 27001
- ISO/IEC 27701
- HITRUST CSF
- Other relevant third-party audits or certifications

9.2 Optional Comments

Limit: 300 words

Any additional information you would like MLSC to consider.

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Apply

Drafts may be visible to the administrators of this program.