

Maternal and Child Health Data System

Request for Proposal # 24-75386

1 Scope of Work Introduction

The Indiana Department of Health (IDOH, or State) is initiating this Request for Proposal (RFP) to obtain a Contractor to provide design, development, and implementation (DDI) and maintenance and operations (M&O) services (including enhancements) for a Maternal and Child Health (MCH) Data System to support IDOH's MCH Division and its partners.

Although the State prefers a cloud-based system that leverages Commercial-Off-the-Shelf (COTS) solutions to the extent possible, the State is open to proposed solutions and recommendations from Respondents to optimally fulfill the State's needs, as described in this RFP. The State anticipates that an 18-month DDI phase will be necessary to meet the stated requirements of this RFP.

2 Background

2.1 Current State Overview

The MCH Division is currently using systems that draw data from various sources to track important health information for children and their families. IDOH uses the current systems and the data stored within them to support MCH business practices to meet the core programmatic goals of improving perinatal health and reducing infant mortality. The current systems aim to:

- Consume data from multiple existing data sources
- Link data sources for the purposes of connecting maternal perinatal health with birth outcomes
- Allow for the referral to—and evaluation of:
 - Resource usage and availability
 - Community engagement, such as providing educational resources to:
 - families
 - medical students
 - other members of the community

The systems are outdated and do not provide actionable data to the MCH Division and its partners in a timely fashion. Moreover, the systems do not support all of the workflows of the MCH Division and its partners, requiring the State to develop multiple stand-alone solutions and manual work-around processes. The State has recognized the need for improvement with the current systems and, as a result, is seeking a new system through this RFP that better supports MCH business practices.

2.2 MCH Program Areas

The following is a high-level description of the program areas supported by the current MCH data systems. These program areas will continue to be supported in the new MCH system.

2.2.1 Early Hearing Detection and Intervention (EHDI)

The EHDI program monitors the universal newborn hearing screening (UNHS) at birthing facilities to identify hearing loss, helping to ensure that children enroll in early intervention services as needed. Services include audiological testing, identification of hearing loss, enrollment in early intervention services, and support for the medical home for deaf and hard-of-hearing children in Indiana.

2.2.2 Epidemiology

Epidemiology provides support for MCH program areas and staff by collecting, analyzing, and sending out public health data and information and investigating public health threats. These activities help determine causes of disease and effective disease prevention. Epidemiology also plays a key role in forming and implementing public health policy.

2.2.3 Indiana Birth Defects and Problem Registry (IBDPR)

IBDPR is a statewide surveillance system that collects information about all children born in Indiana with birth defects and birth problems to promote fetal health, prevent birth defects, reduce infant mortality, and improve the quality of life of Indiana residents. The IBDPR site uses information gathered to inform the community on needed resources for healthcare services and prevention programs.

2.2.4 Newborn Screening (NBS)

Indiana's NBS law requires that every baby born in Indiana be tested for over 50 conditions (including sickle cell anemia, cystic fibrosis, hearing loss, critical congenital heart disease, severe combined immunodeficiency, and spinal muscular atrophy). NBS helps identify the health of newborns via a special set of three tests (heel stick screen, hearing screen, and pulse oximetry screen).

2.2.5 Safe Sleep

The Safe Sleep program aims to educate the community on how to create a safe sleeping environment for babies, preventing sleep-related deaths—namely, sudden unexpected infant deaths (SUIDs).

2.2.6 My Healthy Baby (MHB)

Through the My Healthy Baby program, IDOH proactively reaches out to pregnant women

insured by Medicaid and offers to connect them to home visiting programs in their own community.

2.3 Current MCH Systems and Applications

At the highest level, the MCH Division leverages four internal systems and applications in its current environment. These systems will continue to provide data for the new MCH system. There are currently approximately 26,000 internal and external system users.

2.3.1 Indiana Newborn Screening Tracking & Education Program (INSTEP)

The INSTEP system contains three distinct applications:

- The **Child Health Information Profile (CHIP)** is the central profile that allows the MCH Division to have a single view of each child known in the system.
- The **Safe Sleep site** is an online portal for outreach providers to report the distribution of cribs to families in need of a safe place for newborns or infants to sleep.
- The **IBDPR site** provides the MCH Division a way to monitor and validate/invalidate birth defects and problems reported to the State by physicians, hospitals, and birthing facilities. The IBDPR site contains two features that serve as portals for physicians and hospitals:
 - The **Physician Reporting** site is an online portal for physicians to report congenital conditions or other conditions identified later in the life of a child as required by law.
 - **Hospital Discharge (HD) Upload** is an application that allows hospitals to upload monthly discharge billing codes that suggest possible birth defects.

2.3.2 EHDI Alert Response System (EARS)

EARS is a web-based system that collects hearing screening results from hospitals and audiologists and alerts the appropriate EHDI staff when follow-up actions shall be taken. The system allows for patient-level updates to be made, similar to an electronic health record.

2.3.3 Dumper

Dumper is a tool used to merge duplicate records into a single record and is leveraged by users of the CHIP and IBDPR features in the INSTEP system, as well as users of the EARS system.

2.3.4 My Healthy Baby Helper Tool

The MHB Helper Tool is used to gather data provided from Enterprise Data Warehouse (EDW) regarding referrals for pregnant women currently covered (or presumed eligible for) Medicaid. This data is processed for import into Visionlink. The Helper Tool also collects referral interaction data from Visionlink and imports this back into the central MCH data base for analysis and data integrity checks.

3 Desired Future State

3.1 Future State Concept

MCH Division and its stakeholders have worked together to define the functionality and system integration required to alleviate current challenges and to help enable the State and its partners to provide timely and relevant services to women and children.

Together, they have developed the following possible solutions to address several identified challenges, including:

- How can the MCH Division identify pregnant women and connect them with services?
- How can the MCH Division integrate services with those of its partners and grantees?
- How can the MCH Division obtain a consolidated view of services provided to a particular woman or child?
- How can the MCH Division obtain a consolidated view of the services provided in a particular county or city?
- How can the MCH Division proactively receive access to actionable data for immediate analysis?
- How can the MCH Division automate workflows so that staff spend more time on connecting women and children to services and less time on administrative tasks?

Conversations with stakeholders inspired integrated and innovative future state business processes and requirements to inform design of a new data system. The emphasis in the future state business processes is on timeliness, transparency, and collaboration, resulting in a Continuum of Care that includes the State, its partners, its grantees, and others who share the goals of healthy pregnancies and healthy babies in Indiana.

The desired future system will be a common data system used by the State and strategically rolled out to partners, grantees, and others who have met prerequisites for inclusion. It will include health information profiles for the birth mother and the child, primary parent records that identify the current caregivers, provider records, test results, birth defect records, vital records data, referrals, and referral outcomes (including program enrollments). Please see Attachment O, the Functional Technical Requirements for additional details.

The desired future system supports integrated collaboration by the Continuum of Care, which includes the State, its partners, its grantees, and others who share the goals of healthy pregnancies and healthy babies in Indiana. The solution will have automated interfaces that reduce manual work and provide actionable, timely data. The solution will support optimized business processes and provide the ability for the State to refine system workflows and be extensible to new workflows, as needed.

3.2 Anticipated External Users

The following sections describe anticipated external users of the MCH system, and how they

may interact with the system based on known requirements. The Contractor and State may identify additional users as new requirements are defined during requirements analysis and system design.

The Contractor shall create a Communication Plan (D05) that details how to approach and engage external users, with a focus on users anticipated to have a high frequency of interaction with the MCH system and State team. The Contractor will propose the Communication Plan (D05) for the MCH Division to approve. At a minimum, the Communication Plan (D05) should include:

- Defining the purpose of communications
- Target of communications
- Nature of communications
- Frequency of communications
- Applicable contact information

The MCH Division's Project Manager will be responsible for internal focused communications, such as with business teams and communications with hospital partners. It is expected that the Contractor will work closely with the MCH Project Manager to ensure the Communication Plan (D05) is executed appropriately.

3.2.1 Hospitals and Birthing Centers

Hospitals and birthing centers will provide newborn and infant records to the MCH Division that include diagnosis codes, newborn screenings, health status, and parent contact information. The MCH system will receive this data via an automated interface. See Section 6: System Interfaces for more information.

Additionally, hospital staff and various providers will interact with the system to provide the results of follow-up screenings and treatment. These staff will need training on the features that apply to their roles. Staff may include (but are not limited to):

- Administrators/Monthly Summary Reporters (MSRs)
- Audiologists
- Healthcare Providers
- Medical Assistants

3.2.2 Program Providers (Local Implementing Agencies/LIAs)

Program providers must learn how to review and update program enrollments, program completions, and client outcomes. Additionally, LIA end-users may receive communications within the system.

3.2.3 Outreach LIAs

LIAs must learn how to add or update outreach records in the MCH system. Additionally, LIA end-users may receive communication within the system.

3.2.4 Healthcare Providers

Healthcare providers must learn how to interact with the MCH system. They may receive communication within the system, such as client referrals and alerts to provide information to the MCH Division.

3.3 MCH Business Processes

IDOH envisions that the MCH Division and the Continuum of Care—including the State, its partners, its grantees, and others who share the goals of healthy pregnancies and healthy babies in Indiana—will minimally perform four future state business processes. Table 1 provides the business processes and the primary goals they support.

Table 1: Primary Goals for Business Processes

MCH Business Process Name	Primary Goal
Identify Pregnant Woman and Connect Her with Available Programs and Resources	Healthy Pregnancies
Identify Newborn and Connect the Newborn's Parents with Available Programs and Resources	Healthy Newborns
Ensure That Newborn Receives Mandated Screenings and Appropriate Follow-Up Care	Timely Follow-Up Care
Provide Timely Reporting and Comprehensive Care Maps	Comprehensive, Actionable Reporting

3.3.1 Identify Pregnant Woman and Connect Her with Available Programs and Resources

This process identifies a pregnant woman, creates, or updates her health profile, connects her to services, and notifies her of healthy pregnancy programs and resources that are available.

In the future state, internal and external groups with access to the MCH system will create or update the woman's health profile (including pregnancy status). Based on pregnancy status, the woman's ZIP code, and other factors, the system will auto-notify the woman of the healthy pregnancy programs for which she is qualified. Care coordinators will then create program referrals for the woman upon request or enroll the woman directly in programs if the coordinator is authorized to perform enrollments.

3.3.2 Identify Newborn and Connect the Newborn's Parents with Available Programs and Resources

As required by 2019 House Enrolled Act 1007, this process identifies a newborn, creates or updates the newborn's health profile, creates a birth mother's profile (if needed), creates primary parent records, connects the parents of the newborn to services or provides outreach (if possible), and notifies the parents of healthy baby programs and resources that are available. In addition, this process registers birth defects and collects data on maternal, fetal, and infant mortalities.

In the future state, this process begins with the automated creation or update of a newborn's

health profile based on incoming records from the hospital or Vital Records. Based on the newborn's ZIP code and other factors, the system will auto-notify the parents of healthy baby programs for which the newborn is qualified. Care coordinators will then create program referrals for the newborn upon request or enroll the newborn directly in programs if the coordinator is authorized to perform enrollments.

3.3.3 Ensure That Newborn Receives Mandated Screenings and Appropriate Follow-Up Care

This process provides same-day screening results directly from the hospital/birthing center or lab, follows up when tests are missing or not received, and connects the infant to additional care in the case of an abnormal screening.

In the future state, this process begins with the automated receipt of newborn screenings from the hospital, birthing center, or NBS Lab. It may also begin with an alert that indicates that a specific test has not been received within an expected timeframe, and now requires an automated reminder for the hospital. The process will remind the MCH Division and the hospital/birthing center when a newborn receives an abnormal test result and needs to receive a follow-up screening. If needed, the process will continue based on an abnormal result and will begin the follow-up care workflow, which will result in an echocardiogram for an abnormal pulse oximetry screening or referrals to care for an abnormal diagnostic audiology evaluation (DAE). Over time, as MCH capacity increases, the scope and nature of follow-up care coordination will change, and the future state system will support the design of a new workflow.

3.3.4 Provide Timely Reporting and Comprehensive Care Maps

This process allows MCH system users to build custom reports from both system data and federal or State data uploaded into the system. It focuses on: 1) the State's needs to assess programs provided by grantees and partners, and 2) the needs of epidemiologists to provide predictive, analytical reports with data that is both cumulative and recent.

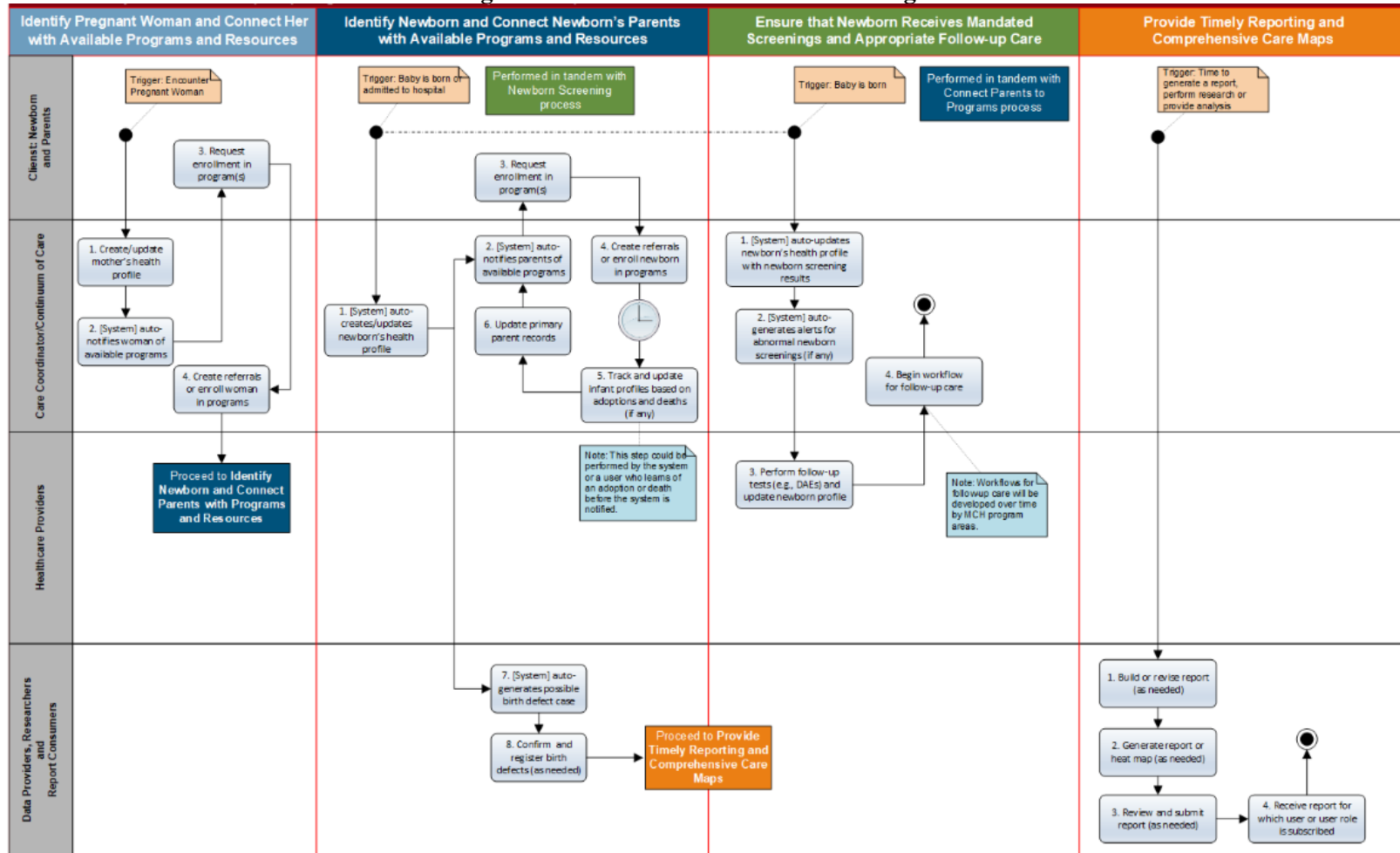
In the future state, this process starts with a need for reporting, such as a mandated reporting or quarterly reporting by grantees. This process may also start with the desire to research specific information, such as the services available in a certain ZIP code, or the need to perform analysis. If desired, the user will access the system and use it to build or generate a certain report. Additionally, a user may enter data in advance of a reporting deadline or upload an external file to include in reports. Depending on configuration, the system may deliver a report to subscribed users, and/or the user generating the report may produce and provide the report in a variety of formats.

Many MCH program areas are likely to provide data for reporting. These include (but are not limited to) Obstetrics (OB) Navigator programs, My Healthy Baby, Maternal Health programs, and Safe Sleep. However, any program area may need to create and generate a report from the MCH system.

3.3.5 Business Process Overview Diagram

Figure 1, the Business Process Overview Diagram, provides a high-level view of the four future state business processes.

Figure 1: Business Process Overview Diagram



3.4 Authentication (Access Indiana)

The proposed solution is expected to integrate with Access Indiana. The [IN.gov Program](#) is tasked with implementing a single sign-on authentication mechanism and Identity Provider for online applications for the State of Indiana, referred to as Access Indiana. The benefits of a standard authentication solution, integration strategy, integration process, and more can be found at [Access Indiana Authentication](#).

3.5 Web Access

The State anticipates that the MCH System will be accessible via a web portal, to ensure ease of access for all users/parties. The portal must be accessible by all regularly used web browsers.

4 Functional and Non-Functional Requirements

4.1 Functional Requirements

The State has developed and documented functional requirements for the MCH system in the following business areas:

- General
- Client Management
- Operations Management
- Provider Management
- Case Management
- Program Management

Respondents must respond to the functional requirements following the instructions in Attachment F: Technical Proposal Template.

4.2 Non-Functional Requirements

The State has developed and documented non-functional requirements for the MCH system in the following categories:

- Security
- Audit and Compliance
- Interoperability
- Hosting
 - Note: The Respondent shall propose a cloud-solution hosted through the Contractor. The State is open to a State-hosted solution as well. If proposing a State-hosted option, provide estimated cost-savings the State can expect in Attachment D: Cost Proposal and accompanying assumptions in Attachment F: Technical Proposal Template
- Platform/Architecture
- Usability
- Analytics

Respondents must respond to the non-functional requirements following the instructions in Attachment F: Technical Proposal Template

5 Data Migration and Conversion

The Contractor shall be responsible for developing a Data Migration and Conversion Plan (D06) and owning and leading data migration and conversion in close collaboration with the State. At a minimum, the plan will require details as to how migration of the data held within the following systems will be transferred to the completed MCH system:

System	Average Annual Records	Year of Data Origin
My Healthy Baby	80,000	2019
Visionlink	54,000	2019
INSTEP	80,000	2007
EARS	80,000	2000

(NOTE: The data contained in these systems includes Protected Health Information (PHI)/Personal Identifiable Information (PII))

The State has not identified a specific approach to data migration and conversion. Rather, in Attachment F: Technical Proposal Template, the State seeks Respondents' recommended approach to migrating and converting data for the MCH system.

The State is currently developing a comprehensive Data Dictionary, which is expected to be available for the Contractor at a later date, but is not able to be shared at this time. It is expected that the Contractor would assist in the development of the Data Dictionary at a future state.

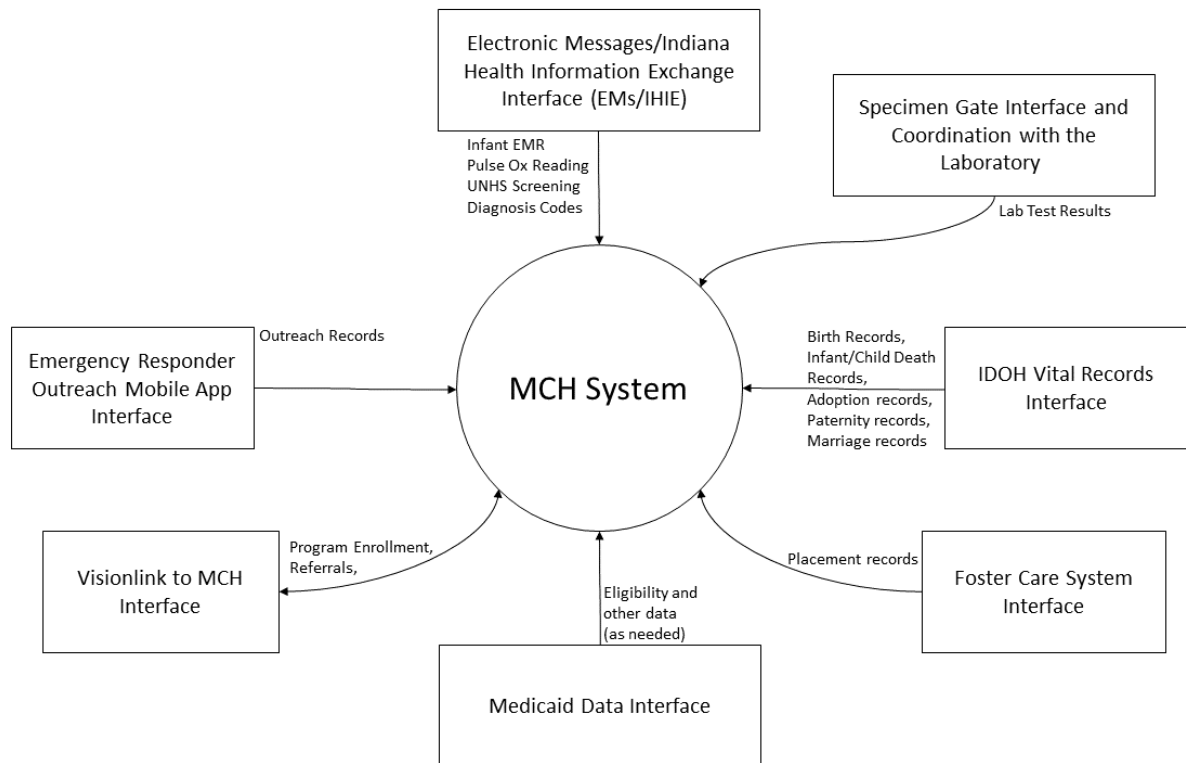
6 System Interfaces

The State expects that the MCH system will interface with a number of external systems to send and receive data that supports MCH business processes. This section provides an overview of desired interfaces at this time. The State expects that the Contractor will work with the MCH Division to identify additional needs during the requirements validation and identify a final set of interfaces needed for the implementation. It is anticipated that the MCH system will have to interface with the State's Immunization Information System (IIS) in the future.

The proposed solution must be able to integrate/interface using standard interfaces/methods to other agency/stakeholder systems (on-prem/cloud). The State has robust and comprehensive data transmission standards that operate enterprise wide. IOT established and maintains these standards. The State's standardized technologies are MuleSoft for APIs and GoAnywhere for managed file transfer. The IOT Data Exchange and IOT Security divisions recommend the use of MuleSoft and GoAnywhere (option dependent upon complexity of data and file transfer) to facilitate secure data transmission. The State strongly prefers to use these technologies; however, if the proposed solution does not support these technologies, the State is willing to consider alternatives.

Figure 2 on the following page includes a future-state context diagram, which provides a high-level abstracted view of incoming and outgoing data.

Figure 2: MCH System Context Diagram



6.1 Electronic Messages/Indiana Health Information Exchange Interface (EMs/IHIE)

6.1.1 Data

The MCH system will receive newborn/infant EMs that include diagnoses (ICD-10 codes¹), pulse oximetry readings, and UNHS screenings from hospitals, birthing centers and home births. This information will allow the MCH Division to confirm that an infant received legally required newborn screenings, as well as appropriate follow-up care. It also allows the MCH Division to identify infants that have a probable birth defect, which must be recorded in the Indiana Birth Defects and Problems registry, and to begin the process of confirming or invalidating the probable birth defect.

6.1.2 Automated Interface

The MCH system will have an automated interface with hospital and birthing center EMs and will receive updates at a minimum daily, but preferably near real-time. Incoming EMs will update existing client records or cause the system to create new records, as needed.

The Contractor will accept EMs in IHIE format. The Contractor will work with IHIE to

¹ 10th Revision of the International Statistical Classification of Diseases and Related Health Problems

expand or update the IHIE format, as needed, to supply client data stored in the MCH system.

Please note that the current receipt time for client data is within 45 days, and this receipt time relies upon hospitals and birthing centers to perform manual uploads. Thus, the future state system will immediately improve data timeliness, and the differing refresh rates will make it difficult to perform a one-to-one comparison of client data between legacy systems and the new MCH system.

6.2 Specimen Gate Interface and Coordination with the Laboratory

6.2.1 Data

The MCH system will receive lab test results. This information will allow the MCH Division to confirm that an infant received legally required newborn screenings.

Currently, the Laboratory relays two sets of test results to the MCH Division: 1) heel stick screenings performed at the lab, and 2) manually entered test results from hospitals and birthing centers. NBS lab will send results to IHIE where the respondent will need to be able to retrieve data.

6.2.2 Automated Interface

The MCH system will have an automated interface with the Specimen Gate system and receive updates at a minimum daily, but preferably near real-time. Incoming Specimen Gate records will update existing client records or cause the system to create new records, as needed.

6.3 IDOH Vital Records Interface

6.3.1 Data

The MCH system will receive vital records that identify the newborn or infant, including birth, death, adoption, paternity, and marriage records. The MCH system will receive any data item that could update a child's client record or create a new client record. This data includes parent and guardian updates, as well as client address information. This data will allow the MCH Division to locate an infant and communicate with caregivers to coordinate legally required screenings and follow-up care, if needed.

6.3.2 Automated Interface

The MCH system will have an automated interface with the Vital Records system and will receive updates at a minimum daily, but preferably near real-time. Incoming vital records will update existing client records or cause the system to create new records, as needed.

6.4 Foster Care System Interface

6.4.1 Data

The MCH system will receive foster care placement data. This data will allow the MCH Division to locate an infant and communicate with caregivers to coordinate legally required screenings and follow-up care, if needed.

6.4.2 Automated Interface

The MCH system will have an automated interface with the foster care system and will receive updates at a minimum daily, but preferably near real-time. Incoming placement records will update existing client records or cause the system to create new records, as needed.

6.5 Medicaid Data Interface

6.5.1 Data

The MCH system will receive eligibility and other Medicaid data for parents. This data will allow the MCH Division to determine a client's eligibility for available programs and services.

6.5.2 Automated Interface

The MCH system will have an automated interface with the Medicaid system and will receive updates at a minimum daily, but preferably near real-time. Incoming records will update existing client records or cause the system to create new records, as needed.

6.6 Visionlink to MCH Interface

6.6.1 Data

The MCH System will send and receive two types of records from Visionlink: client referrals and program enrollments. These records will allow the MCH Division to connect women and children with providers and programs that improve health and wellbeing during pregnancy and childhood.

6.6.2 Automated Interface

The MCH system will have an automated interface with Visionlink and will receive updates at a minimum daily, but preferably near real-time. Incoming client referral or program enrollment records will update existing client records or cause the system to create new records, as needed.

The MCH system will have an automated interface with the Visionlink system that updates Visionlink at a minimum daily, but preferably near real-time. Outgoing client referral or program enrollment records will update existing client records or cause Visionlink to create new records, as needed.

6.7 Emergency Responder Outreach Mobile App Interface

6.7.1 Data

The MCH system will receive outreach records from the Emergency Responder Outreach Mobile App. These records will allow the MCH Division to determine outreach services that Emergency Responders have provided within the community.

6.7.2 Automated Interface

The MCH system will have an automated interface with the Emergency Responder Outreach Mobile App and will receive data at a minimum daily, but preferably near real-time. Incoming outreach records will update existing client records or cause the system to create new records, as needed.

7 Compliance

7.1 System Security Requirements

The Contractor shall ensure that the MCH system has appropriate security to meet applicable State and federal requirements and protect the integrity and confidentiality of program data.

The State has robust and comprehensive security standards that permeate all levels of the organization. IOT has been tasked with establishing and maintaining these security standards. The security standards include assessing security risks, developing, and implementing effective security procedures, and monitoring the effectiveness of those procedures. The following is to be used to request access to the IOT Information Security Framework: [Information Security Framework](#). Respondents will be required to sign an NDA to access the IOT Information Security Framework; Respondent's should review the IOT Information Security Framework, and ensure their proposed solution meets all standards therein.

For any installation, the Contractor shall consult and support IOT in completing a review of a Security Plan (D12) and/or security documentation provided to the State no later than 150 days from Contract execution and every two (2) years thereafter. The Contractor must update the review document throughout the life of the Contract as industry standards change, new State and/or federal requirements are issued, or new security concerns are discovered.

In the case of a cloud-based COTS implementation, the Contractor shall provide its published Security Plan (D12).

The Security Plan (D12) must address the following:

- a. The location and description of the controls at each of the physical facilities where Contract-related activities occur to protect data from unauthorized use and access.
- b. The controls over the hosting environment hardware and software to protect data from unauthorized use and access.

- c. The virus and malware controls to protect data from unauthorized use, access, contamination, or corruption.
- d. An approach for handling Protected Health Information (PHI) and/or Personal Identifiable Information (PII)
- e. Results of any recent Service Organization Control (SOC) 1 or SOC 2 audits of the hosting/data center and/or plans to conduct such audits.
- f. The Contractor's incident response plan.
- g. The Contractor's data breach reporting procedures and processes.
- h. Audit controls and logging procedures.

Role-Based Permissions

Role-based permissions provide a method of controlling access to a system based on the roles of the user. The access is the permission the user has to perform tasks. Roles define the required functions of a user position. With role-based permissions, an IDOH administrator is able to configure a number of components that create a definition of who has access to which aspects of the system; they are able to create, modify, and remove roles as needed. An individual user could have multiple roles assigned to their permissions. Additionally, roles are expected to have the flexibility of page and field level permissions/restrictions, the configurations of which should be flexible to allow for regulation changes in a future-state. The MCH system will have at least the following roles:

Role	Access Needs of the Role
Clinic User	Access to schedule or reschedule appointments, check patients in for appointments.
System Administrator	Access to all aspects of the MCH system
Reporting Administrator	Access to all relevant data needed to generate reports.
State User	Access needs will differ and will be determined at the time of the role's creation

Cloud Questionnaire

Respondents are required to review and respond to the questions included in the Attachment L: Cloud Questionnaire if the proposed solution is not hosted on the State's infrastructure or managed cloud solutions. In addition to completing the Cloud Questionnaire, a respondent may be requested to provide the following documentation:

- a. A SOC 2 Type II audit report. SOC 2 is a security framework that specifies how organizations should protect customer data from unauthorized access, security incidents, and other vulnerabilities. SOC 2 Type I reports evaluate a company's controls at a single point in time. SOC 2 Type II reports assess how those controls function over a period, generally 3-12 months. We would request the Type II report.
- b. Applicable security policies, procedures, or runbooks. A security policy (also called an information security policy or IT security policy) is a document that spells out the rules, expectations, and overall approach that an organization uses to maintain the confidentiality, integrity, and availability of its data. It clearly spells out how compliance is monitored and enforced. We would like samples or snippets of what things a vendor does to protect our State of Indiana data. Could be referred to as an ISF (Information Security Framework)
- c. A penetration test report. Penetration testing is security testing in which assessors mimic real-world attacks to identify methods for circumventing the security features of an application, system, or

network.

- d. Static code testing results. This is an application testing method in which an application's source code is examined to detect potential security vulnerabilities.
- e. Dynamic code testing results. Dynamic testing is the method of debugging an application's source code in a run-time environment, i.e., when the application is running. It is used to identify security vulnerabilities while the program is running.
- f. Infrastructure as code scan testing results. Infrastructure as code, also known as software-defined infrastructure, allows the configuration and deployment of infrastructure components faster with consistency by allowing them to be defined as a code and enables repeatable deployments across environments. It is used to identify security vulnerabilities in the deployment process.
- g. An application or systems diagram. Describes the solution's architecture, dataflows, and/or topology. As a high-level diagram that shows the information system's basic structure, software components, relationships to other important services, and their properties. We are seeking clarity on the relationships the vendor solution has with external (cloud) components such as users, databases, and services.

Please note that the Contractor must coordinate and cooperate with IOT to help ensure up-to-date system security is in place.

7.2 State and Federal Requirements

Table 2 includes the minimum applicable federal laws, regulations, and program instructions with which the Contractor shall comply.

Table 2: Laws and Regulations

Citation	Topic
Health Insurance Portability and Accountability Act (HIPAA)	Notice of Privacy Practice for the IDOH Newborn Screening Program
House Enrolled Act 1007	Supports OB Navigator Program (MHB)
House Enrolled Act No. 1484	Report on the results of assessment and tools administered to deaf and hard-of-hearing children, as well as their language and literacy competency in relation to their enabled peers on or before August 20, 2020
Indiana Code 16-38-4 Chapter 4	Indiana Birth Defects and Problems Registry
Indiana Code 16-41-17	Chapter 17. Prevention and Treatment Programs: Examination of Infants for Phenylketonuria, Hypothyroidism, and Other Disorders (Supports Newborn Screening) Indiana Administrative Code – TITLE 410 INDIANA STATE DEPARTMENT OF HEALTH
Indiana Code 16-41-17-2	Every infant shall be given a physiologic hearing screening examination at the earliest feasible time for the detection of hearing loss; birthing facilities and hospitals are required to report screening results and referral information to the EHDI program each month
Indiana Code 20-35-11-4	Reporting required by House Enrolled Act No. 1484
Public Law 91-1999	Screening for hearing loss

Citation	Topic
Title 410 IDOH, Article 39 Perinatal Hospital Services	Per legislative rules: IDOH will provide the facility with a written survey report within thirty (30) days of completing the on-site survey; survey report shall include a description of any deficiencies
Title V MCH Services Block Grant Program	National Outcome Measures, National Performance Measures, and Evidence-Based Strategy Measures (ESMs)
Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. § 794d).	Section 508 requires federal and electronic and information technology to be accessible to people with disabilities, including employees and members of the public
Federal Information Security Management Act (FISMA)	Requires federal agencies to implement a mandatory set of processes and system controls designed to ensure the confidentiality, integrity, and availability of system-related information
Health Information Technology for Economic and Clinical Health Act (HITECH)	Encourages healthcare providers to adopt electronic health records (EHR) and improve privacy and security for healthcare data
National Security Agency (NSA) Security Recommendation Guides	Configuration guidance offered by the NSA to promote enhanced security, for both open source and proprietary software solutions.
Indiana Office of Technology Information Security Framework (ISF)	The State's ISF that sets policy, establishes control objectives and controls, and describes the standards that are necessary to sure the State's technology resources ² .
Indiana Office of Technology Cloud Product and Service Agreements, Standard ID: IOT-CS-SEC-010	The State's terms and conditions for Software-as-a-Service (SaaS) engagements.

8 Reporting

8.1 Standard Reports

The Contractor shall provide the State with the ability to run standard reports within the system, available for output in multiple formats, including Microsoft (MS) Excel and Adobe PDF format, at a minimum. Available reports will align with current MCH report outputs. Example reports include:

- Birth defect cases by maternal race/ethnicity for a given time period (e.g., annually, quarterly, etc.)
- Birth defect cases by maternal age for a given time period
- Birth defect cases by gender for a given time period
- Birth defect cases by county
- Number of infants reported to IBDPR
- Number of case abstractions completed monthly per system user
- Number of case abstractions reviewed monthly

² Source: [Information Security Framework](#)

8.2 Ad Hoc Reports

The Contractor shall provide the State access to all portions of the system to allow for State teams to produce Ad Hoc reports as necessary. Additionally, the Contractor may be required to produce Ad Hoc reports. In such an event, the following deadlines shall be applied, with the urgency type determined by the State:

- Type 1: One (1) - Two (2) business days turnaround time
- Type 2: Five (5) business days turnaround time
- Type 3: Ten (10) business days turnaround time

8.3 Dedicated Reporting Environment

The Contractor must provide a separate, optimized, dedicated reporting environment, with real-time (or near real-time) access to all data collected and managed within the production environment. Use of this dedicated environment will have no performance implications on the production environment, allowing for processor-intensive reports to be run offline, as needed, without Contractor intervention. Further, the reporting environment will be able to be queried using standard SQL functions, and will be able to be used for BI functionality.

8.4 State Access to Raw Data

The State (e.g., the IDOH Data and Analytics team) shall retain ownership of and have direct access to the raw System data to connect to and extract data through an API or other interface for reporting, dashboarding, and other needs.

9 Project Management

9.1 Approach to Project Management

The Contractor must employ, maintain, and execute a project management methodology that complies with the Project Management Institute® (PMI®) standards.

9.1.1 Project Management Plan

The Contractor shall develop and follow a Project Management Plan (PMP) (D03) conforming to the Project Management Body of Knowledge (PMBOK®). The PMP (D03) shall be comprised of the subsidiary plans described below but may include other additional information related to the Contractor's approach to schedule management, budget management, quality management, requirements management, process improvement, resource management, risk management and mitigation, issue identification and resolution, tracking of service level-related metrics, and preparation of status reports.

The Contractor must deliver the PMP (D03) and the corresponding subsidiary plans for State approval within thirty (30) calendar days of the Contract start date. The Contractor must integrate the subsidiary plans described below into the PMP (D03).

- a. Internal Communication Management Plan.** The Contractor must develop an Internal Communication Plan that helps ensure timely and appropriate generation, collection, and dissemination of project information. The Internal Communication Plan shall account for all stakeholders involved in the project, including the State, other related State Contractors, the Contractor and its Subcontractors, authorized vendors or providers, and local and federal partners, as applicable. The Internal Communication Plan shall detail how communications amongst and between stakeholders will be delivered and managed. The Contractor shall work with the IDOH Communications Director to implement the Internal Communication Plan. At a minimum, it must include:
- Project team roles and responsibilities
 - Escalation contacts and process
 - Communication channels (diagram format)
 - Communication protocols and procedures for reporting project issues to State stakeholders
 - Communication deliverables
 - Process for coordinating, scheduling, and running remote and in-person meetings
- b. Schedule Management Plan.** Schedule Management encompasses activities related to accurately defining, monitoring, and controlling the time factors of the project. The Contractor must have processes in place for effective Schedule Management, as detailed in the Schedule Management Plan, including:
- Activity definition
 - Sequencing and dependencies
 - Resource estimating
 - Duration estimating and assumptions
 - Schedule development
 - Schedule control and reporting
- c. Change Management Plan.** The Contractor must work with the State to develop a Change Management Plan, in alignment with the State's preferred change order process (Section 14.1), to establish the change management roles and responsibilities, policies, guidelines, processes, and procedures necessary for controlling and managing changes during the life of the project. The Change Management Plan must include the use of a change management tool for changes made to the existing production system during project implementation, thus helping to ensure the system incorporates all applicable changes at the time of deployment. The Change Management Plan must include the following components:
- **Change Control Process.** The Contractor shall clearly define the Change Control Process in the Change Management Plan. The process must include formally identifying the impact of any change or correction that modifies scope, deliverables, timeframes, budget, risk, or resource allocations. It also determines the disposition of the requested change or correction. The Change Control Process could be initiated by events such as legislative changes in State or federal legislation, State changes in business processes or policies, new business requirements, or project modifications.

The Contractor must follow a State-approved Change Control Process that:

1. Spans the entire project life cycle
 2. Provides a clear scope of what is included and excluded from each change order request
 3. Delineates the system downtime required to implement any change(s), when applicable
 4. Requires the successful completion of regression testing before the implementation of the change
 5. Incorporates multiple levels of priority for change orders (e.g., critical, must-have, desired)
 6. Supports the Change Control Process by estimating impacts (including cost, legal, timelines, resources, risks, other projects, and business activities), investigating solutions, identifying alternatives, updating information in project tracking tools, participating in decisions-, and implementing the agreed-upon solution
- **Configuration Control Plan.** As part of its Change Management Plan, the Contractor must develop a Configuration Control Plan that addresses the proposed methodology and tools for managing configuration control throughout the project. At a minimum, the methodology must include:
 1. An outline of all configuration points and responsible parties including:
 - Functionality configurable by the MCH Division
 - Functionality configurable by the Contractor
 2. Decision and communication processes required before configuration changes can be made
 3. For implementations, the technical and security architecture, including:
 - Server – physical and logical hardware, environments, capacities, and performance specification
 - Networking equipment and schema
 - Software, including system/operational/utility/diagnostic, and application
 - Database
 4. Version/release numbers of all proposed software and schedules for the implementation of all architecture components in all environments (Production, Testing, etc.).

The Contractor must execute the Configuration Control Plan throughout the project. The State must approve any deviation from this plan in writing prior to the change.

d. Risk Management Plan

The management of project risks through risk identification, tracking, and closure is a key activity that the Contractor must perform throughout the project life cycle. The

Contractor must have a methodology for tracking risks through to closure and communicating risk status to project stakeholders. The Contractor must work cooperatively with the State to agree on the process and tools for documenting and maintaining risk information that will provide, at a minimum, the following:

1. Description of the risk
2. Priority of the risk
3. Probability of the risk occurring
4. Impact to the project if the risk occurs
5. Dependencies and plans for management of the risk (e.g., mitigation, acceptance)
6. Risk owners
7. Required actions
8. Escalation activities, if appropriate

e. Resource Management Plan

The Contractor shall be responsible for meeting all duties and Service Level Metrics included in this scope and any future enhancements. Insufficient staff does not constitute a valid reason for failing to meet agreed upon Service Level Metrics and delivery dates; the Contractor is responsible for adjusting staffing levels as necessary to meet the needs of this scope. As such, the Contractor must describe in a Resource Management Plan the processes that deal with planning and managing the Contractor's project team. The Contractor must have processes in place to define, monitor, and control:

1. Resource loading and leveraging
2. Roles and responsibilities
3. Organizational structure and decision-making authority
4. Project team orientation and training
5. Knowledge transfer and turnover

As part of the Resource Management Plan, the Contractor must provide and maintain a current staffing plan that identifies the staff who will fulfill the services described in this RFP. The staffing plan must address the following:

1. Job title, qualifications, and descriptions for each staff position
2. Subcontractors and responsibilities, if necessary
3. Contractor service evaluation and progressive disciplinary policies
4. Plans for the replacement of departing temporary and permanent staff
5. Updated organizational chart that shows the reporting structure and responsibilities of Contractor's and Subcontractor's staff, as applicable

9.1.2 Project Schedule

The Contractor must develop an initial fully integrated Project Schedule (D04) in MS Project that includes a detailed listing of scheduled activities, resources, timeframes, and high-level estimates of effort. The Contractor must be able to interface with or utilize the State's online project management system for tracking all project activities. The Project Schedule (D04) must contain appropriate version control to establish the initial baseline and changed versions. Subsequent Project Schedule (D04) updates must include the current start and finish dates and

the percentage completed for the activities without modifying the original baseline. The Contractor must provide a rationale for changes to the baseline, and the State must approve changes using the formal change management process.

The Project Schedule (D04) must be maintained throughout the life of the project and shall be updated at a frequency agreed upon by IDOH to reflect the accurate status of the project.

9.1.3 Project Status Reports

The Contractor must meet with the State program team and provide written Project Status Reports (D01) weekly, or as otherwise negotiated. Written Project Status Reports (D01) are due to the State two (2) business days prior to the status update meetings, and must provide status information on all planned, ongoing, and completed project activities. The Contractor's proposed format and level of detail for the Project Status Reports (D01) is subject to State approval. Additionally, minutes from each meeting are to be submitted to the State no later than one (1) business day after the meeting has taken place.

At a minimum, Project Status Reports (D01) must include:

- a. Minutes from the previous status meeting
- b. Updated Project Schedule (D04)
- c. Status of current tasks/deliverables, including any notification of schedule slippage
- d. Anticipated tasks to be completed during the next reporting period
- e. Project risk tracking log, with risk mitigation strategies
- f. Test results, when applicable
- g. Identification of Contractor project staff assigned to specific activities
 - i. Planned absence of Vital Position and their anticipated return date
 - ii. Modification of any known key staffing changes
- h. Action items to be completed by the Contractor and by the State

9.1.4 Project Library

The Contractor shall use a State-owned electronic project library that the entire project team shall use. The Contractor is responsible for helping to ensure that all necessary State staff (as determined by the State) receive access to the project library at no additional cost. The Contractor must manage all deliverables and documents related to this project in the project library, including administrative information regarding budget, schedule, and project progress, as well as any other correspondence, reports, or project-related information.

The project library must be in a format accessible by the State's standard suite of software and designated versions. State-standard software includes, but is not limited to, the MS family of products (Word, PowerPoint, Excel, Access, SharePoint, Project) and Adobe Acrobat.

The Contractor shall work with the State to ensure that the project library is logically organized.

9.1.5 Project Onboarding

The two (2) month Project Onboarding period will consist of the following activities.

- a. Conduct Project Kickoff meeting. The Contractor shall conduct a kickoff meeting with appropriate State staff at the program's office in Indianapolis, IN, or virtually, at the discretion of the State. The Contractor shall develop a Project Kickoff Presentation (D02) for review and approval of the State before conducting the kickoff meeting with project stakeholders. During the kickoff meeting, the Contractor shall at a minimum elaborate on the general approach, plan, and methods for providing the services outlined in this scope of work. At a minimum, Vital Positions must attend the kickoff meeting in person (or virtually, at the discretion of the State). Other Contractor staff who may be critical to project initiation shall also attend.
- b. Finalize Project Management Plan within 30 days of Contract start
- c. Finalize the Project Schedule
- d. Finalize the Project Status Report format and content expectations
- e. Set up the Project Library

10 Project Staffing

To help ensure the quality and consistency in the delivery of services, the Contractor shall be fully staffed to meet the State's service level needs, as described in this RFP.

10.1.1 Vital Positions

The State has identified six (6) specific roles that the Contractor must consider a Vital Position. Additionally, in Attachment F: Technical Proposal Template, the State seeks Respondents' recommendations on other staff that shall be considered a Vital Position. Respondent's must submit an accompanying resume, in Attachment F, for all individuals proposed to fulfill a role of a Vital Position.

Vital Positions are subject to approval by the State. The Contractor may not make any temporary or permanent changes to a Vital Position without fifteen (15) business days prior notice to the State and the State's prior written approval.

With any Vital Position change, the Contractor shall submit the resume and references for a proposed replacement no later than fifteen (15) business days from notification of a resignation or request for removal, or within a timeframe agreed upon by the State. The replacement shall be of equal or greater ability and qualifications. The Contractor must receive State approval prior to placing the replacement staff member on the project team. The State may also request a meeting with the proposed replacement before providing approval.

Vital Positions shall be available on-site at the State's offices when requested; requests will be provided by the State a minimum of five (5) business days in advance of expected onsite time.

The following roles are considered a Vital Position:

Role	Responsibilities	Required Skills
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Executive Lead	<ul style="list-style-type: none"> • Directs project oversight • Liaises with IDOH and various other State stakeholders • Responsible for ensuring adequate and qualified staffing to execute the scope of work • Addresses escalated issues 	<ul style="list-style-type: none"> • A minimum of ten (10) years of experience in managing and/or leading large-scale IT system projects • At least three (3) years of years of experience with the solution proposed by the Contractor or with a system of similar size and capabilities • Applicable experience with the proposed solution preferred
Project Manager	<ul style="list-style-type: none"> • Coordinates overall DDI project tasks • Serves as the single point of contact between the Contractor and the State for all communications on all system related issues • Ensures performance standards are sustained, and deliverables are submitted on time • Full-time dedicated to the Contract during the DDI phase and during Stabilization M&O; responsible for coordinating activities relevant to success of Stabilization M&O responsibilities • Be onsite as required 	<ul style="list-style-type: none"> • A minimum of seven (7) years of experience in managing and/or leading large-scale IT system projects • At least three (3) years of years of experience with the solution proposed by the Contractor or with a system of similar size and capabilities • At least five (5) years of experience with system DDI, maintenance, and operations • Applicable experience with the proposed solution preferred • Project management certification preferred • Strong written and communication skills
Account Manager	<ul style="list-style-type: none"> • Oversees and is responsible for coordinating activities relevant to success of Steady-State M&O responsibilities 	<ul style="list-style-type: none"> • At least two (2) years of account management experience for government clients • At least three (3) years of experience with the solution proposed by the Contractor or with a system of similar size and capabilities • Applicable experience with the proposed solution preferred • Strong written and communication skills
Lead Architect	<ul style="list-style-type: none"> • Drives the solution architecture and mapping of required functionality to minimize the need for custom development • Leads the architectural design and documentation at a technical reference model level as well as at a system or subsystem level • Leads application and data modeling, building block design, applications and role design, systems integration, etc. • Ensures system alignment with the technical requirements and goals 	<ul style="list-style-type: none"> • At least three (3) years of experience developing web applications • At least three (3) years of experience managing systems architecture and systems development projects • At least three (3) years of years of experience with the solution proposed by the Contractor or with a system of similar size and capabilities • Applicable experience with the proposed solution preferred

	<ul style="list-style-type: none"> Oversees development technical procedures and documentation Available from the start of the Contract to system go-live Available onsite with three (3) business days advance notice 	
Implementation Lead	<ul style="list-style-type: none"> Oversees system implementation Tracks performance standards to ensure that established metrics are achieved Manages escalated issues Full-time dedicated to the Contract and onsite presence during implementation planning activities and implementation execution Available onsite with three (3) business days advance notice 	<ul style="list-style-type: none"> At least three (3) years of years of experience with the solution proposed by the Contractor or with a system of similar size and capabilities At least two (2) years of experience managing the implementation of web applications (preferred experience having implemented the proposed solution for another client)
Data Migration Lead	<ul style="list-style-type: none"> Develops the Data Conversion and Migration Plan and results reports Leads all data conversion, migration, synchronization, and cleanup related duties Works with the State to develop the archival strategy 	<ul style="list-style-type: none"> At least five (5) years of experience in large system data conversion and migration

10.1.2 Personnel Background Checks and Requirements

Background Check Standards. The Contractor shall complete criminal background checks, at no cost to the State, and provide the results to the State for review.

The State reserves the right to consider the arrest and conviction record of any proposed Contractor staff as grounds to disapprove of their selection for a role related to this project. Arrests and convictions discovered during the background check process that have not been sealed or expunged by judicial action may be cause for the State to exercise any available remedies or corrective actions under the terms of the Contract. Any applicant that has applied for a position that has been found to have either been coded in the State personnel system as ineligible for employment due to a previous code of "Not Eligible for Rehire" (NEFR) as a former employee of the State of Indiana or any code that denotes removal from a previous contract assignment due to performance/disciplinary concerns, falsification of a State of Indiana application, or has been found to have had convictions that are deemed to be related to the position applied for, will be removed from the assignment at the request and discretion of the State as well as from consideration from the position applied for.

The State reserves the right to consider any conviction, including but not limited to the falsification of documents, forgery, fraud, check deception, or theft related to the work completed within the State. This list is not all inclusive and the State reserves the right to consider other factors, including but not limited to recidivism of the applicant.

Background Check Documentation

- a. As a condition of employment and for purposes of determining a person's qualifications for employment, the Contractor shall, at their own expense: undertake a criminal history record background check for all Contractor and subcontractor personnel assigned to work on the Contract. For all Contractor and subcontractor personnel assigned to work on the Contract on Day 1 of the Contract, the fingerprints required to complete the criminal history record background check shall be submitted by the 90th day of the Contract.
- b. All Contractor staff must be in good standing with the State and not fall in the "Not Eligible for Rehire" (NEFR) category or in any comparable category code given to Contractor staff which relates to poor work performance, disciplinary concerns or violation of the State standard policies or practices. Contractor is charged with verification of eligibility of rehire status with the State of Indiana prior to assignment to the State.
- c. The Contractor shall submit to the Indiana State Police Bureau of Identification (SBI) an "application" fingerprint card, a request for criminal history record information form, and the appropriate fee for all Contractor and subcontractor personnel it may assign to work on the Contract.
- d. The Contractor shall not permit any newly hired, re-hired, or transferred personnel to work on this Contract until the SBI has furnished the results of the criminal history record background check to the Contractor and the Contractor has verified that the resulting report has no convictions that represent a nexus to the duties assigned to Contractor staff.
- e. The criminal background check shall encompass the following areas:
 - Convictions of any State or Federal crimes shall be considered if they are deemed to demonstrate a nexus to the work duties assigned to the Contractor staff
 - Referenced under: IC 10-13-3-33.5; IC 4-13-2-14.7; IC 4-15-22-10; IC 4-15-22-30; IC 12-24-3-2; IC 22-5-1.7; IRS Pub. 1075; HEA1079-2017; Arrests & Convictions Policy
 - Exclusions by the US Office of Inspector General
- f. The Contractor shall be required to retain the results of an individual's criminal history background check as long as that person is assigned to the Contract. If a currently assigned individual is promoted to a role having increased responsibility, the Contractor shall, at its own expense, perform a new background check. The results of the criminal history background check shall be made available to the State upon request. If a conviction has been found in the subsequent background check to be related to the new role of increased responsibility, then the Contractor employee shall be removed from the assignment.
- g. If the Contractor has had a State Police background, criminal, and fingerprinting check performed for the employee that meets the exact criteria specified above, the check may be accepted by the State at the State's sole discretion. Any such reference checks must have been done within six months of the Contract start date.
- h. The Contractor is fully responsible for the conduct of its employees and its subcontractor's employees. If there is any need for intervention by State personnel because of behavior, security breaches, or general misconduct, the Contractor shall immediately remove the employee from the Contract work and replace this employee on a permanent basis. Further occurrences may result in the termination of the Contract.
- i. Contractor staff applying for employment with the State who have been found to have not successfully completed the background check due to convictions determined to have a nexus to the applied for position or due to the confirmed falsification of the application, shall be removed from the assignment immediately.
- j. Civil or administrative judgments that may adversely affect the employee's integrity (a professional license, etc.) may cause, at the discretion of the Contractor and/or the State, removal from the assignment.

- k. Contractor shall require that its employees are responsible for reporting to their supervisor any arrests or convictions within five (5) calendar days from the date of the arrest or conviction. Contractor shall ensure the enforcement and administration of this provision and shall notify the State, via email within two (2) business days of being made aware of such arrest(s) and/or conviction(s).
- l. The Contractor staff may not work in the direct line of supervision of a relative who is employed by the State. "Relative" means any of the following: a spouse, parent or stepparent, child or stepchild, brother, sister, stepbrother or stepsister, niece or nephew, aunt or uncle, and daughter-in-law or son-in-law. An adopted child of an individual is treated the same as a natural child of the individual. "Brother" and "sister" include a brother or sister by half blood. Contractor will require Contractor staff to report to Contractor if they work in the direct line of supervision of a relative who is employed by the State.

10.1.3 Replacement of Contractor or Subcontractor Staff

During the course of the Contract, the State reserves the right to require replacement of any Contractor or Subcontractor staff found unacceptable to the State. Reasons for unacceptability include, but are not limited to, the inability of the individual to carry out work assignments, or unsatisfactory job performance as determined by the State. The individual must be removed within ten (10) business days of the request for removal, or sooner if requested by the State, and be replaced within thirty (30) calendar days after the position is vacant, unless a longer period is approved by the State.

11 Design, Development, and Implementation (DDI)

The State estimates that the DDI activities will run for 18-months. If the Contractor completes all activities outlined below, the activities and responsibilities pertaining to Maintenance and Operations as outlined in the Section 12 would commence earlier than estimated.

11.1 Requirements Analysis and System Design

Prior to detailed design or the start of any configuration or development, the Contractor shall develop and provide a Requirements Traceability Plan detailing the methodology for tracking functional and non-functional requirements. The Requirements Traceability Plan (D07) shall include the methods and tools used to manage a Requirements Traceability Matrix (RTM) (D08) to help ensure traceability between the requirements, how the system will specifically provide the functionality, and results of all testing phases.

The Contractor shall lead and facilitate the process of reviewing and validating the Functional and Non-Functional requirements documented in Attachment O: Functional Technical Requirements. The Contractor shall also conduct Joint Application Development (JAD) sessions to fully understand the requirements for the MCH system and identify gaps in the proposed solution that the Contractor shall address to meet the requirements.

The Contractor shall develop functional and technical documentation as part of the system design phase of the project. The anticipated deliverables are outlined below.

11.1.1 Functional Specification and System Design Document

The Functional Specification and System Design Document (D09) shall include, at a minimum, the following components:

- a. A comprehensive list of functional requirements to implement the MCH Division's desired functionality
- b. Business rules definition
- c. Reporting capabilities and configured reports
- d. User profiles and security role permissions
- e. System functionality traceable back to the RTM (D08)
- f. Use cases and list of workflows mapped to business processes and system requirements

11.1.2 Data Integration and Interface Design Document

The Data Integration and Interface Design Document (D10) shall include, at a minimum, the following components:

- a. Data flow diagrams
- b. Data dictionary for all data integration points and/or interfaces
- c. Data transformation and loading specifications

11.1.3 System Architecture Document

The System Architecture Document (D11) shall include, at a minimum, the following components:

- a. A conceptual architecture
- b. A logical architecture
- c. A physical architecture that defines the services of the system

11.1.4 Data Dictionary

The Data Dictionary (D13) shall provide a complete inventory of all data elements that exist in the system. The Data Dictionary (D13) shall also include, at a minimum, the following components for each data element:

- a. Data definition
- b. Data type
- c. Table location
- d. Data values

11.1.5 Disaster Recovery and Business Continuity Plan

The Disaster Recovery and Business Continuity Plan (D14) shall provide the Contractor's plan to restore operations following a disaster event. The plan shall include, at a minimum, the following components:

- a. Back-up, protection, and failover/fallback plans and procedures

- b. Recovery time and recovery point objectives
- c. Risk analysis and risk mitigation for each core business process/workflow

Respondents may propose additional and/or alternatives to any of the components of the functional and technical documentation outlined above.

11.2 System Configuration and Development

The Contractor shall perform system configuration and development activities in accordance with the deliverables accepted by the State during the Requirements Analysis and System Design phase to help ensure the Contractor develops the system according to the functional and non-functional requirements. The Contractor shall follow industry standard Systems Development Life Cycle (SDLC) processes and federal project management/SDLC requirements for supporting any approved enhancement/change request, defect fix, and M&O related activity within this Contract. For this Contract, the State prefers to use Hybrid Agile but is willing to consider other SDLC approaches. Please note that this scope is written for the Hybrid Agile approach but if the Contractor proposes a different approach (e.g., Waterfall), the State may consider modifications to the SDLC approach during Contract finalization.

The State prefers the use of the Azure DevOps toolkit for Application Lifecycle Management (ALM) activities. However, the State is open to alternative tools of the Contractors' suggestion. The Contractor shall configure and develop the system according to the functional and non-functional requirements. The Contractor shall support the initial configuration of the workflows MCH requires to be fully operational. Examples of MCH workflows include:

- a. Track a Provider Referral to Outcome
- b. Track a Program Referral to Outcome
- c. Capture and Track Required Pulse Oximetry Reading(s) for an Infant
- d. Capture and Track Required Heel Stick Screening(s) for an Infant
- e. Capture and Track Required Universal Newborn Hearing Screening(s) for an Infant
- f. Confirm That an Echocardiogram is Scheduled (when required)
- g. Confirm That an Echocardiogram is Uploaded to the Client Record (when required)
- h. Receive Alert for First Abnormal UNHS and Schedule Second Screening
- i. Find Newborns With No UNHS Results
- j. Introduce Parents to DAE and Schedule DAE (if possible)
- k. Reschedule DAE (as needed)
- l. Perform a Possible Birth Defect Case Abstraction and Review
- m. Track Enrollment for Maternal or Child Health Program
- n. Report Outcomes for Maternal or Child Health Program
- o. Report an Instance of Outreach (e.g., Safe Sleep)
- p. Certify Hospitals for Perinatal Levels of Care

The Contractor shall develop the following documentation as part of the System Configuration and Development phase of the project.

11.2.1 Technical Design Document

The Technical Design Document (D15) shall include the following components:

- a. Detailed description of the system architecture
- b. Entity relationship diagrams
- c. Business processes mapped to system components
- d. Security and privacy controls

Respondents may propose additional and/or alternatives to any of the components of the documentation outlined above.

11.3 Testing

The Contractor is responsible for providing thorough testing of the initial implementation and all software releases, reference database table updates, bug fixes, and other system changes.

The Contractor shall develop a Test Plan (D16) for the initial system implementation and subsequent system changes that details the activities, dependency risks, contingencies, assumptions, and resources required to fully test the change. The Test Plan (D16) shall include the test schedule, approach, and a statement of required and assigned resources with associated roles and responsibilities. The Test Plan (D16) shall also include a go/no-go date for implementation that the Contractor will agree upon with the State. Identification of testing tools that the Contractor shall use and their purpose, and a method to track and manage test issues, shall also be included. The Contractor shall develop Test Scripts (D17) that systematically exercise all functions of the system, and shall cover all applicable test stages and elements, as listed in the following subsections.

11.3.1 Unit Testing

The Contractor must test all components as stand-alone entities. Unit testing helps ensure that a single component is resilient and will function correctly on a stand-alone basis (e.g., the modified component can take inputs and produce expected outputs).

11.3.2 Integration Testing

Integration testing shall help ensure that all components, including software and hardware, work together. The Contractor shall complete integration testing before system testing begins.

11.3.3 System Testing

The Contractor must perform and validate system testing for all components and functional areas of the Contractor's system before delivery. This includes functional testing to help ensure that all components of the MCH system work correctly.

11.3.4 Interface Testing

The Contractor must perform interface testing for all interfaces to help ensure that files are properly formatted, transmitted, received, edited, accepted, confirmed, and processed according to design.

11.3.5 User Acceptance Testing (UAT)

UAT provides system users the opportunity to test system functionality (including configured workflows) and helps ensure compliance with system design requirements. During UAT, testing participants shall follow detailed Test Scripts (D17) developed by the Contractor and approved by the State, if applicable. Further, the State anticipates the use of automated testing as appropriate during M&O phases, to improve process efficiency over time.

The Contractor shall develop Test Cases (D18) that must cover all facets of the system's operations and test all the system processing options and environmental conditions. Test Cases (D18) shall include:

- a. Test case number
- b. Date created
- c. Author
- d. Description of case
- e. Type of test
- f. Inputs
- g. Steps
- h. Expected results
- i. Actual results
- j. Pass/fail
- k. Run date
- l. Tester
- m. Failure reason

11.3.6 Regression Testing

After the Contractor corrects the errors found in UAT, the Contractor and IDOH shall perform a separate round of testing to test the functions where the errors occurred (to help make sure that they have been corrected). The Contractor will test all other functions of the system to help ensure that new errors were not introduced with the corrected code. The State expects that the Contractor shall complete regression testing using both automated and manual test processes.

11.3.7 Performance Testing

The Contractor shall carry out performance testing (e.g., load and stress testing) to help ensure that attributes (e.g., responsiveness, speed, stability) of the system work as expected under a variety of load conditions. The Contractor must use results from the performance testing to formulate a system capacity model to determine the appropriate hardware and software requirements and configuration.

11.3.8 UAT Error Logging System

The Contractor shall provide a system for user acceptance testers to log errors identified during UAT. Table 3 provides the criteria that the State will use to classify errors that testers find. IDOH will be the final decision maker with regard to error severity.

Table 3: UAT Error Severity Levels

UAT Error Severity Level	Criteria
1	<ul style="list-style-type: none"> • Critical error • Does not allow testing to continue • Major malfunctions in the system • Defect found in the processing component of the system
2	<ul style="list-style-type: none"> • Major component failure • Does not allow testing to continue • Defect or malfunction found in certain areas of the system • Problem must be resolved
3	<ul style="list-style-type: none"> • Minor functional problem • Testing can continue • Functions in certain components do not work properly • Components can still work with other components in the system
4	<ul style="list-style-type: none"> • Minor error • Testing can continue • Minor editing error found in a system component • Cosmetic change needed
5	<ul style="list-style-type: none"> • Minor error • Testing can continue • Design clarification issue • Implementation issue

The Contractor must propose a process and timeline to fix all errors in a timely fashion to allow rapid retesting and verify that the Contractor has corrected all errors. At a minimum, the Contractor must correct all Level 1 and 2 severity errors within two (2) business days from the Contractor's knowledge of the error. The Contractor must correct all Level 3 severity errors within five (5) business days from the Contractor's knowledge of the error, and the Contractor must correct all Level 4 and 5 severity errors within fifteen (15) business days from the Contractor's knowledge of the error. The Contractor must correct all identified errors before the State confirms the system is ready for full implementation.

11.3.9 Test Results & Defect Reports

The Contractor must provide Test Results & Defect Reports (D19) describing the results of each test performed, as well as additional retesting required. Test Results & Defect Reports (D19) must describe the intended scope and results from the tests, any necessary system modifications and a timeframe for these modifications and any defects found as a result of the testing. In the case of a cloud-based implementation, the Contractor must provide a report of the results of each test for items specific to the State (e.g., interface testing, or overall testing against features Contracted or funded solely by the MCH Division).

The Contractor must submit Test Results & Defect Reports (D19) no later than ten (10) business

days following the completion of each test.

The Contractor must revise system documentation (e.g., Functional Specification and System Design Document) to reflect system modifications identified and resulting from testing. If revisions are required, the Contractor must submit updated system documentation no later than ten (10) business days following the completion of the modification, unless the State approves another timeline in writing. The Contractor shall complete all updates to system documentation at no additional cost to the State.

11.4 Training

The Contractor shall develop a detailed Training Plan (D20). The Training Plan (D20) shall include the following:

- Roles and responsibilities of the Contractor and/or any Subcontractors
- Roles and responsibilities of the State staff
- Overview of the proposed training strategy
- Proposed training schedule
- Type of training materials to be developed by the Contractor and/or Subcontractors
- Metrics for measuring effectiveness of training
- Knowledge transfer strategy to prepare State staff for responsibilities they may have related to supporting the system after implementation

The State expects the Contractor to employ a “Train-the-Trainer model” for internal State users. The train-the-trainer model is a framework for preparing a small number of State users to pass methods and expertise on to other State users and external end-users, who may then become trainers themselves. The Contractor shall provide Training Material (D21) for each release, including initial training on the overall solution, and subsequent trainings on new features and functionality. The initial training must occur prior to the system implementation date.

The Contractor and State will agree upon final training formats during Contract negotiations, but training is expected to consist of:

- Live Training (either in-person or via webinar): The Contractor may design live trainings for Subject Matter Experts (SMEs) or MCH Division trainers (i.e., using a “train-the-trainer” approach). This format shall be used for internal MCH system users. Anticipated to be three (3) in-person training sessions, estimated to be for 20 individuals, at the time of system implementation.
- On-Demand Training: The State prefers that the Contractor provide on-demand tutorials on various modules of the solution, accessible by users of all skill levels. This training format shall be developed for both internal and external system users.
- Leave-Behind Materials: The Contractor must provide recorded sessions of any virtual and/or in-person training sessions, accessible to the State. These are not expected to include proprietary training modules developed by the Contractor.
- Training Guides: The Contractor must provide training guides in various formats, such as web-based (Hypertext Markup Language (HTML) or PDF, to users of all skill levels. This training format shall be developed for both internal and external system

users.

11.5 Implementation

The State prefers a phased implementation approach. The State anticipates that an implementation that phases in services by region would be the most efficient. However, the State seeks Respondents' recommendations regarding their proposed optimal approach to system implementation as part of Respondents' Proposals.

The Contractor shall provide the State with an Implementation/Cutover Plan (D22) in the timeline agreed upon with the State and articulated in the Project Schedule (D04). The plan shall include:

- A strategy for implementing all system requirements with pre-defined success criteria to key go/no-go decisions points
- Key points of contact
- Description of the major tasks involved in the implementation
- Implementation schedule including key milestones
- Implementation problem management (e.g., on-site, off-site, and Help Desk support procedures)
- Rollback criteria and procedures
- Post-implementation performance monitoring and verification plan
- Implementation contingency plans

11.6 DDI Closeout

The Contractor shall develop a Closeout Report (D23) at the conclusion of the DDI phase of the project. The Closeout Report (D23) shall provide, at a minimum, the following documentation:

- A list of all applicable deliverables and the status of each deliverable
- Validation that all the applicable deliverables have been submitted, approved, and available in the project library
- Validation that all exit criteria have been met
- Lessons learned summary

12 M&O

The Contractor shall work with the State to help ensure operational integrity through M&O activities throughout the length of the Contract. The M&O responsibilities and activities commence at the end of the DDI phase, which is estimated at 18-months but may end earlier if all conditions are met before the estimated timeline. In the first six (6) months of M&O, the Contractor shall provide Stabilization M&O services. After six (6) months, the Contractor will switch to providing Steady State M&O services, which is expected to need less resources with the reduction in issues, defects, and help desk tickets.

MCH system operations include updates, patches and repairs, defect resolution, software

upgrades, and technical support during the term of the Contract. Additionally, the Contractor must update all impacted documentation, including training materials, in parallel with enhancements so that all artifacts are updated at the time of implementation.

The Contractor shall meet all the requirements outlined in this RFP and the resulting Contract. The Contractor's Project Manager shall manage ongoing communications with the State on all operations within the program scope and must immediately notify the State of any issues or problems.

Required ongoing communications include periodic status reports and status meetings with the Contractor's Project Manager, other project staff as needed, and the State. The State shall request other reports and meetings as needed. Of particular importance is the advance notification from the Contractor of scheduled system downtime.

12.1 Ongoing Maintenance

The Contractor must work with the State to coordinate implementation, release, and regularly scheduled maintenance of updates, patches, and repairs for the MCH system. The Contractor must fully and successfully test all updates, patches, and repairs before migration to production. Please see Section 11.3: Testing for additional requirements related to testing system changes.

The Contractor must notify the State and address all system defects, issues, and system performance failures. Please see Section 12.2.1: Production Issue Management for severity level classifications and resolution times. For implementation of system repairs, the Contractor must work with the State to coordinate release of the repairs.

12.1.1 System Monitoring

The Contractor shall monitor system operations on a daily basis and make necessary adjustments to maintain peak operation efficiency so that system users are not adversely affected. Such adjustments will not negatively affect configuration customizations previously made by the MCH Division. Ongoing monitoring applies to all system components including the operating systems, third-party components, database, and all related components. The Contractor must recommend maintenance activities, including whether or not to upgrade older versions to current versions. For a State-hosted solution, the State has a comprehensive application performance management (APM) standard that operates enterprise statewide. IOT established and maintains these standards. The State's standardized technologies are AppDynamics for (APM), ThousandEyes for synthetic network monitoring and testing, and Secure Application for 24/7/365 continuous security monitoring of business-critical applications. The State strongly prefers to use these technologies; however, if the proposed solution does not support these technologies, the State is willing to consider alternatives.

The Contractor shall perform an in-depth analysis and probe of all system components as requested to test the database integrity and system performance. The Contractor shall further determine if actions are required to meet or improve on Service Level Metrics (see Section 16.3: Service Level Metrics).

12.1.2 Database Management

The Contractor shall perform timely database tuning as needed in order to keep the database running as efficiently and effectively as possible. At a minimum, the Contractor shall report performance findings and results of any tuning activities in written, quarterly Database Performance Reports (D24) to the State.

12.2 Technical Support

The Contractor shall properly plan and conduct services to minimize the occurrence of incidents with the system components.

12.2.1 Production Issue Management

If issues arise in the production environment, the Contractor shall work with the State to resolve issues in a timely manner. The Contractor shall have a clear escalation procedure through the appropriate chain of command to help ensure that the production issue is getting the appropriate attention to meet the level of urgency.

Table 4 outlines production issue severity levels, and the Contractor's expected resolution times.

Table 4: Production Issue Severity Levels and Resolution Times

Severity Level	Description	Example	Resolution Time
Critical	System failure: no further processing is possible	Critical to solution availability, results, functionality, performance, or usability	Within four (4) hours of identification
High	Unable to proceed with selected function or dependents	Critical component unavailable or functionally incorrect (acceptable workaround is not available)	Within one (1) business day of identification
Medium	Restricted function capability: however, processing can continue	Non-critical component unavailable or functionally incorrect; incorrect calculation results in functionally critical key fields/dates (acceptable workaround is available)	Within five (5) business days of identification or resolution time approved by State
Low	Minor cosmetic change needed	Usability errors: screen or report errors that do not materially affect the quality and correctness of function, intended use, or results	Within two (2) weeks of identification or resolution time approved by State

Production issues shall be recorded and tracked in an issue tracking tool provided by the Contractor. Critical severity issues must be reported to designated State staff within one (1) hour of discovery.

The Contractor shall provide Incident Reports (D25) for all Critical and High severity issues.

The Incident Reports (D25) must include the affected areas of the system, date of report, date of incident, reference number, start and end times of the incident, issue type, issue impact summary, detailed description of the issue, immediate resolution, permanent solution, and who resolved the issue.

The Contractor must provide initial incident reports for critical and high severity incidents within twenty-four (24) hours from the start of the system incident. If the incident report does not include the permanent solution to the incident, that report must be updated every twenty-four (24) hours to reflect the most current status of the incident until it is resolved. The Contractor must provide a follow-up incident report no later than twenty-four (24) hours after the Contractor has defined the permanent solution for critical and high severity incidents. For medium and low severity levels, initial incident reports must be provided within five (5) business days, or a timeline approved by the State.

If the Contractor cannot resolve an issue within the established resolution time for its severity level, the Contractor must submit a plan and revised timeline for issue resolution to the State in the Incident Reports (D25).

12.2.2 Help Desk

12.2.2.1 Help Desk Tiers

The Contractor must be able to provide help desk services that support the intake, triage, and resolution of Help Desk tickets and calls. The Contractor and State will agree upon final Help Desk support during Contract negotiations, but Help Desk support is expected to be required Monday - Friday, 8 am ET - 6 pm ET, with surge support required for critical support issues, and may include the following tiers:

- a. Tier 1 – Questions easily addressed by the State or Contractor team. Examples include user access issues and basic program or status inquiries. Tier 1 tickets or calls must be resolved in one (1) business day if addressed by the Contractor team.
- b. Tier 2 – Issues that require more technical and/or program knowledge. These may require some follow-up/intervention to resolve. Tier 2 tickets or calls must be resolved within three (3) business days if addressed by the Contractor team.
- c. Tier 3 – Issues that require extensive technical and/or program knowledge and may lead to a system change. Before a Tier 2 ticket or call may be escalated to Tier 3, the State must be notified and grant escalation approval. Tier 3 tickets must be resolved in a timeframe that is approved by the State.

The Contractor must have a process for capturing and determining common issues that might indicate a system-wide defect, an area where a system modification may be needed to enhance system use, or the need for additional user staff training. The Contractor must address system issues reported by users to the Help Desk according to the applicable severity level's resolution time, as described in Section 12.2.1: Production Issue Management. Additionally, the Contractor must meet with the State at least once per month to review a summary of common Help Desk issues (both for hardware and system support).

The Contractor must have an established escalation protocol to help ensure that tickets are handled in an appropriate manner and within the timelines described above.

NOTE: Specific historical data for Help Desk services is not available at this time. Current user count for the system is approximately 26,000. The State expects Respondents to employ their subject matter expertise in estimating the level of need for a Help Desk for this service.

12.2.2.2 Help Desk Training and Resource Access

The Contractor must establish a process and frequency for providing training to all Help Desk as new staff (whether State or Contractor) are hired and/or as additional modifications are made to the system prior to the implementation of such modifications so that staff is fully knowledgeable of the changes.

Help Desk staff must have access to management and/or technical resources to support the handling of service tickets in a timely and appropriate manner, according to the tiered requirements described above in Section 12.2.2.1: Help Desk Tiers. This may include the Contractor providing the State's technical support staff access to the production and test/training environments so that they can research issues in real-time.

12.2.3 Technical Consultation

The Contractor must provide technical consultation to the State, which may include attendance at technical meetings with State staff and external partners. Example technical consultation topics include:

- a. MCH system operations
- b. Interfaces with external systems
- c. Purchase, upgrade, testing, and deployment of peripheral equipment needed to operate the MCH system in the field
- d. Technical feasibility, estimated development effort, and business and system impacts associated with:
 - Proposed enhancements
 - Fixes
 - Configuration
 - Converted data items
 - System or software tool upgrades

The Contractor must complete assigned follow-up items, analyses, reports, meeting notes, or other relevant tasks as directed by the State.

12.3 Software Upgrades

For implementation, the Contractor shall provide visibility into its product release plan, including timelines and the content of each release. The Contractor may summarize releases using multiple methods, including published release notes, white papers, on-demand videos, webinars, and end-user documentation. The Contractor shall provide release summaries, in whatever format, to the State at an agreed upon timing prior to any release.

The Contractor must formally present the State with an overview of available software upgrades at least once a year. The Contractor may recommend software upgrades at any time as part of the Contractor's standard system monitoring and maintenance activities (see Section 12.1.1: System Monitoring). In the formal presentation, the Contractor's recommended upgrades may include, but are not limited to, platform upgrades, new software versions, and enhanced features and functionality. The Contractor shall be responsible for identifying and presenting Contractor-developed upgrades.

The State must approve all software upgrades, and in the event that the State does not approve the software upgrade, the Contractor must fully support the system and its functionality as is.

The State expects that Contractor-developed upgrades will not negatively impact prior agreed-upon and implemented MCH Division configurations.

The Contractor must fully and successfully test all upgrades, through regression testing and other types of testing as deemed necessary by the State and provide testing results to the State, before migration to production. For the implementation of approved software upgrades, the Contractor must work with the State to assess system impacts, mitigate risks, minimize downtime, and coordinate the release of the upgrades with regularly scheduled maintenance.

12.4 System Documentation

The Contractor shall update system documentation to reflect the changes made to the system as changes occur. System documentation includes, but is not limited to, source code comments, system design documents (including detailed report descriptions), online help screens, user manuals, video/training tutorials, data dictionaries, or other documents as directed by the State.

12.5 Warranty

The Contractor shall provide a warranty period for the system. During the warranty period, the Contractor shall fix any post-production defects or bugs at no additional cost to the State.

- a. The Contractor represents and expressly warrants all services and deliverables provided under this Contract to be free of defects, properly functioning, and compliant with the terms of the Contract at no additional cost to the State. A defect is defined as any deviation from approved system specifications and requirements, including without limitation failure of system code to perform substantially as described in design documents.
- b. The Contractor agrees to provide corrections for any defects discovered and/or reported by either the Contractor, State, or a State Contractor during the warranty period.
- c. The Contractor further warrants that application software and all materials delivered to the State under this Contract will not infringe any patent, copyright, trade secret, or other proprietary right of any third party.

13 Product Management and Release Management

13.1 Product Management

The Contractor shall provide documentation on their product management policies. The State expects that the Contractor shall adhere to formal product management methodologies to manage the near-term and long-term vision of all offered solutions throughout the software development life cycle (SDLC). Contractor product management resources shall be responsible for:

- a. Alignment of market needs with the needs of the MCH Division
- b. Management of all feature requests
- c. Creation of specification documents for all features; for MCH Division-requested functionality, specifications must be made available to the MCH Division for review and approval
- d. Management of a Product Backlog
- e. Prioritization of functionality for placement on a Product Roadmap
- f. Management of a Product Roadmap
- g. Management of a Release Deployment Plan

The State expects that Contractor product management resources shall work with the State throughout all feature design planning sessions and be the liaison between the State and the Contractor technical and development teams.

13.2 Release Management

13.2.1 Approach to Release Management

The Contractor must effectively manage the release of both major releases (i.e., releases with a critical business impact) and minor releases (i.e., releases with a non-critical business impact). The Contractor must publish a roadmap showing planned functionality for at least three (3) future releases. The Contractor shall follow a consistent product launch workflow for all releases.

For implementations, the Contractor shall plan and schedule release dates with the State directly. For cloud-based implementations, the Contractor shall publish release dates in advance.

The State expects that the Contractor shall maintain fully tested rollback plans for each release, to mitigate any implementation risks.

13.2.2 Release Notes

The Contractor shall draft Release Notes (D27) to the State at least two (2) weeks prior to each release for any modifications that the Contractor may make to the system over the life of the Contract. The Release Notes (D27) will provide an overview of the changes (high-level non-technical description of the change with screenshots as needed) to be used for informing system users of changes. The State will distribute the Release Notes (D27) to system users, as

appropriate. The Contractor shall make documentation available to the State in MS Word format so that the State may create customized documentation, as needed and appropriate.

14 System Enhancements

14.1 Change Order Process

The Contractor shall be responsible for future system enhancements and modifications to improve the operations or functionality of the system, to comply with new federal regulations or requirements, or to comply with changes in State policy and procedure as needed. The State strongly prefers the flexibility of being able to make enhancements/customizations on their own, and as such enhancements that employ the change order process are expected to be minimal.

The State and Contractor shall use the following change order process:

- a. The State will be the primary initiator of change requests (CRs) and will submit them in writing to the Contractor. The CR will include a high-level description of the desired change.
- b. The Contractor will review the request, request clarifications when needed, and then prepare a System Modification Request (SMR) for State review. The SMR will include the Contractor's understanding of the original CR with a higher level of detail than provided in the original CR and include both the estimated impact to the system and risks. Attachment M is the State's standard resource usage template. The Contractor may be asked to complete this document for certain Change Requests
- c. The State will review and approve the SMR as appropriate and notify the Contractor. The Contractor will then prepare a detailed system design document and cost estimate for the requested change.
- d. The State will review the estimate, determine appropriate payment milestones, and notify the Contractor if the State approves it, puts it on hold, or does not approve it. The State will sign approved estimates and return them to the Contractor. The Contractor will then sign and return to the State.
- e. After approval, the State and the Contractor will mutually agree upon an implementation schedule for the change that takes in to account the urgency of the change.

The Contractor shall adhere to the timelines for responding to, commencing, and implementing CRs established in the Service Level Metrics (see Section 16.3: Service Level Metrics).

14.2 Non-Billable Changes

The State does not consider changes to reference tables—such as changing a listing in a dropdown box—billable changes. Rather, the State considers them normal system maintenance activities covered by the Contractor's operations fee. The State will still initiate reference table changes using the change order process, but the State will not require the detailed system design document. The Contractor shall be responsible for making all table changes upon State approval.

As part of ongoing M&O, software upgrades and corrections to system defects and performance issues are not billable.

Corrections/fixes to correct deficiencies based on the most recently updated published system design documentation (or implemented SMRs/estimates where documentation has not yet been updated) are not subject to the change order process and are not billable. Please see Section 12.5: Warranty for other requirements related to fixing post-production defects or bugs.

14.3 Billable Changes

Changes to the system that are above and beyond the project scope as defined in the RFP and the Respondent's proposal will be considered billable and will go through the change order process as described in Section 14.1: Change Order Process.

The State shall determine the method to use for each enhancement through the change order process described in Section 14.1. As a default, the State prefers a fixed-fee approach to pricing all enhancements. If the Contractor provides services in exchange for fixed or not-to-exceed compensation, the Contractor is solely responsible for any costs in excess of the specified compensation. Regardless of the pricing approach, the State shall tie all payment to the Contractor to the completion of enhancement milestones, as determined in the approved SMR.

The Contractor shall provide a capped Enhancements Pool of 1,400 hours a year. The maximum hours invoiced for an individual shall not exceed 40 hours a week, regardless of the number of hours worked by the individual to meet service levels and complete deliverables on time.

14.4 Post-Production Support

The Contractor shall be available for support at the start of the business day (8 a.m. Eastern Time Zone) immediately following the implementation of any system enhancements and modifications to assist State staff in handling Help Desk tickets and calls related to the changes, including updates, fixes to module screens, and other related tasks.

The Contractor shall be prepared to uninstall a release and revert to the previous working system state if significant problems are encountered, and the State approves the reversion to the previous working state.

14.5 Training on System Enhancements

The Contractor shall provide training for all new system enhancements for testers and MCH Division staff as required by the State in writing during the approval of the system enhancement. Training shall occur before deployment unless otherwise specified by the MCH Division. The Contractor shall provide training approaches for system enhancements for approval by the State.

15 End of Contract Turnover

The State seeks to help ensure that program stakeholders experience no adverse impact from the transfer of scope to either the State or to a successor Contractor when the Contract is complete or

terminated early. In addition to the requirements in Attachment B: Sample Contract, clause 13 (Continuity of Services), the following end of Contract turnover requirements apply:

1. Six (6) months prior to the end of the base Contract period, the Contractor must develop, receive IDOH approval, and implement a State-approved Turnover Plan (D26) covering the possible turnover of the MCH system and maintenance and operations activities to either the State or a successor Contractor. The Turnover Plan must be a comprehensive document detailing the proposed schedule and activities associated with the turnover tasks. Further, the Turnover Plan must clarify what in-progress M&O and Enhancement activities will be applicable during the Turnover and how to transition those items to the State and the new Contract. The plan shall describe the Contractor's approach and schedule for transfer of all SDLC and operational artifacts and documentation created, maintained, and updated throughout the Contract term. The Contractor must provide the information on media specified by the State and according to the schedule approved by the State. Turnover task requirements and approximate timeframes are provided below. The dates and data requirements are illustrative only and do not limit or restrict the State's ability to require additional information from the Contractor or modify the turnover schedule as necessary.
2. Four (4) months prior to the end of the base Contract period, or any extension thereof, the Contractor must transfer all solution and project management documentation (requirements, design, BPMs, user interface (UI) specs, form specs, technical specifications, technical configurations, SDLC artifacts, architecture documents, test artifacts, security artifacts, database information (conceptual, physical, and logical data models) and project management documentation) to the State or its agent on a medium acceptable to the State. Clarity must be provided on whether each artifact is historical or currently applicable. The Contractor must also provide for all artifacts an indication of whether they are currently in production, non-production, pending implementation, and/or no longer in production. This requirement applies for both the items within the scope of M&O as well as any in-progress SDLC artifacts and solution components.
 - The Contractor is further to provide:
 - a. A copy of non-proprietary solution components or database(s) used. Please see Section 26 (Ownership of Documents and Materials) in RFP Attachment B (Sample Contract) for requirements regarding ownership of work products
 - b. Location of logs and infrastructure configuration details for load balancing used during the contract to ensure compliance with operational requirements; and
 - c. Other documentation including, but not limited to, user, provider, and operations manuals, and documentation of any interfaces developed to support business activities between the Contractor and other parties.
 - d. The Contractor shall work with the State and the successor contractor on major and minor releases throughout the final four (4) months of the Contract.
3. Four (4) months prior to the end of the Contract or any extension thereof, the Contractor must begin training State staff or a successor Contractor's staff in the M&O activities performed by Contractor staff. The Contractor must complete the training at least two (2) months prior to the end of the Contract. The State's turnover of services to the successor

Contractor will take place two (2) months prior to the end of the Contract. The Contractor shall be available for the last two (2) months of the Contract to provide support as requested by the State.

- a. The Contractor will provide read-only access to all aspects of the infrastructure and ALM starting four (4) months from the end of the Contract.
4. For the first four (4) months of this period, the Contractor will be responsible for promotion of releases to production, as well as maintenance of the production and non-production environments. The State and the successor contractor will be supported by the Contractor in allowing them to shadow all aspects of these releases.
5. For the final two (2) months of this period, the successor contractor will be responsible for promotion of releases to production, as well as maintenance of the production and nonproduction environments. The Contractor will be expected to shadow the successor contractor in all aspects of the non-production and production releases at this time to ensure that no interruption in MCH services occurs.
 - a. The Contractor will ensure that full administrative, edit access is provided to appropriate staff under the successor contractor.
 - b. The Contractor will be transitioned to read-only access in all aspects of the infrastructure and ALM in the final two (2) months of the agreement.
6. The Contractor shall appoint, with State approval, a Turnover Manager who shall manage and coordinate all turnover activities. The Contractor shall submit the Turnover Manager's qualifications as part of the Turnover Plan. The Contractor shall not reduce operational staffing levels during the turnover period without prior approval by the State. The Contractor shall not in any way restrict or prevent Contractor staff from accepting employment with a successor Contractor. The State will work with the Contractor and successor Contractor on the timing of any transition of Contractor staff. The Contractor shall provide to the State, or its agent, within fifteen (15) business days of request all updated data and reference files, scripts, and all other documentation and records as required by the State or its agent.
 - a. If the State exercises the optional Contract terms during turnover activities, these turnover activities shall shift to the next year. If the turnover is halted due to the State exercising an optional term extension, invoices will not include Turnover Manager costs after the State's date to halt turnover activities until those activities resume (with the State's approval) in the following year.
 - b. Turnover costs shall only include the Turnover Manager's costs. M&O fees shall cover additional staff costs, unless otherwise approved by the State.
7. By the end date of the Contract, the Contractor must turn over all State property to the State, and Contractor's access to all State infrastructure and facilities will be terminated.
8. Six months after the Contract ends (either by expiration or termination), the Contractor will delete all State data from their records and systems unless otherwise agreed to by both parties.

16 Service Level Management

The State shall hold the Contractor accountable for service levels under the resulting Contract. This includes, but is not limited to, service in accordance with the Service Level Metrics provided in Section 16.3: Service Level Metrics. In addition to all remedies available at law or in equity, the State specifically reserves the right to enforce the terms of this Contract through Corrective Action Plans (CAPs) and payment withholding as detailed below.

Reports provided by the Contractor must provide sufficient data to help enable the State's verification of the performance criteria and must provide sufficient detail to allow the State to further investigate the activity being reported.

16.1 Corrective Action Plans

In the event that the Contractor fails to fulfill any of its Contractual obligations, including but not limited to those outlined in the Service Level Metrics below, the State may request that the Contractor prepare a CAP. Such CAP will be due to the State within ten (10) business days of the request. If the State uncovers any deficiency, the State will provide written notice of non-compliance (and request for CAP, if appropriate) to the Contractor within fifteen (15) calendar days of the State's discovery of such non-compliance.

At a minimum, the CAP must address the causes of the deficiency, the impacts, and the measures the Contractor is taking and/or recommends to remedy the deficiency, and it must indicate whether the solution is permanent or temporary. It must also include a schedule showing when the deficiency will be remedied, and for when the permanent solution will be implemented, if appropriate (as determined by the State).

The Contractor's must submit the CAP under the signature of the Contractor's Account Executive. If the recommendations in the CAP are not acceptable to the State, the State may provide suggestions and direction to bring the Contractor into compliance.

16.2 Service Level Withhold

1. Within the first ten (10) calendar days of the month, the Contractor shall invoice for 95% of the Contractor's monthly charge (100% of the monthly charge minus the 5% amount) pending verification of the Contractor's performance against the Service Level Metrics for the previous month described in Section 16.3. The State shall administer the service level withholding as further detailed below.
2. The withholding shall be as follows: 5% of the project's monthly invoice amount, unless the Contractor fails to meet three (3) or more program-specific Service Level Metrics in a single month, in which event the withholding percentage for subsequent months shall increase to 10% until resolution has been achieved as described in paragraphs 4 and 5 below.

3. Within the first ten (10) calendar days of the month, the Contractor shall submit detailed Service Level Reports (D28) for the month prior to the month for which the Contractor is submitting the invoice (“service month”) that measure Contractor’s service during the service month in relation to each service level. The Contractor must submit Service Level Reports (D28) to the State no later than the 15th calendar day of the month following the measurement month. The invoice shall include an attestation by the Contractor that the reported data and information is accurate.
4. Following verification that Contractor successfully met the requirements for all Service Level Metrics in each month, the Contractor may invoice the State for the withheld funds described in paragraph 2 above with the subsequent month’s invoice. (For example, if the Contractor successfully meets the Service Level Metrics requirements for January, and verification is completed in February, the portion of the January invoice that was withheld can be claimed with the February invoice).
5. If the Contractor fails to meet the requirements for one or more Service Level Metrics (“missed Service Level Metric(s)”) in each month, the Contractor must submit a CAP to the State within ten (10) calendar days following the documentation of failure to meet the missed Service Level Metric(s). The State shall review and make reasonable efforts to approve the CAP within ten (10) calendar days of receiving the CAP.
 - a. The State will continue to withhold funds for the month in which the Contractor failed to meet the missed Service Level Metric(s) and all subsequent months, subject to the terms of Paragraphs 1 and 2 above, until the Contractor demonstrates that the CAP has been implemented and further successfully meets the missed Service Level Metrics for two (2) consecutive months in the four (4) month period immediately following the month in which the Contractor failed to meet the missed Service Level Metric(s). (For example, if the Contractor fails to meet one (1) Service Level Metric in April 2024, the Contractor shall have until August 2024 to demonstrate successful achievement of that missed Service Level Metric for two (2) consecutive months; see Tables 5 and 6 for further elaboration).
 - b. Following verification that the Contractor has met the missed Service Level Metric(s) for two (2) consecutive months as described in 5.a above, the Contractor may invoice the State for release of all withheld funds.
 - c. If the Contractor fails to demonstrate it has met the missed Service Level Metric(s) for two (2) consecutive months during the four (4) month corrective period as described in 5.a above, the State shall permanently retain the withheld funds for all months during the four (4) month corrective period during which the Contractor failed to meet the missed Service Level Metric(s). (As a continuation of the example in 5.a above, if the Contractor meets the missed Service Level Metric in July 2024, but fails to meet it in May 2024, June 2024, and August 2024, the State shall permanently retain withheld funds for April, May, June and August 2024; see Tables 5 and 6 for further elaboration.) Withheld amounts permanently retained by the State under this provision are not penalties, but rather the payment of lower amounts for lower quality service.

Table 5: Service Level Metric Withholding Example 1

Month	Service Level Metric Met (Y/N)	Contractual Outcome	Impact on Withheld Funds for the Subject Month
April 2024	N	CAP triggered	Permanently retained/Cannot be invoiced
May 2024	N		Permanently retained/Cannot be invoiced
June 2024	N		Permanently retained/Cannot be invoiced
July 2024	Y		Cannot be invoiced
August 2024	N	Failure to meet conditions in 5.c above	Permanently retained/Cannot be invoiced

Table 6: Service Level Metric Withholding Example 2

Month	Service Level Metric Met (Y/N)	Contractual Outcome	Impact on Withheld Funds for the Subject Month
April 2024	N	CAP triggered	Cannot be invoiced
May 2024	N		Cannot be invoiced
June 2024	Y		Cannot be invoiced
July 2024	Y	Met conditions in 5.c above	Released to Contractor/ Can invoice for all withheld funds under the CAP
August 2024	Y	CAP no longer in effect	Released to Contractor/Can be invoiced

The State or a designated State agent, if applicable may perform verification of the Contractor’s success or failure to achieve Service Level Metrics.

16.3 Service Level Metrics

The State shall hold the Contractor accountable for performance according to the Service Level Metrics in Table 7 below. The Contractor must provide a report or other verifiable proof of meeting all Service Level Metrics by the 10th calendar day of each month.

For issues outside of the Contractor’s control or responsibility, the Contractor may request—within three (3) business days of the issue’s identification—that the issue not count toward the applicable “Issue Resolution” Service Level Metric; however, the State shall ultimately decide, in writing, whether to approve such an exception on a case-by-case basis.

Table 7: Service Level Metrics and Deficiencies

#	Service Level Metric	Service Level Deficiency
1	System Uptime. The Contractor shall ensure that the System is available 99.99% of the time, except for periods of regularly scheduled downtime.	Failure to ensure the system is available at the stated levels. The Contractor must provide a report or other verifiable proof of meeting this requirement by the 10th calendar day of each month.
2	Issue Notification and Incident Reports (Critical Severity). The Contractor shall notify designated State staff within one (1) hour in the event of a critical issue. The Contractor must provide incident reports for critical severity issues within 24 hours from the start of the system issue. If the incident report does not include the permanent solution to the issue, that report must be updated every 24 hours to reflect the most current status of the issue until it is resolved. The Contractor must provide a follow-up incident report no later than 24 hours after the permanent solution has been defined.	Failure to provide the initial notification of a critical issue within one (1) hour and follow-up incident reports within 24 hours. The Contractor must provide a report or other verifiable proof of meeting this requirement by the 10th calendar day of each month.
3	Issue Notification and Incident Reports (High, Medium, and Low Severity Levels). The Contractor shall notify designated State staff within the specified timelines for all high, medium, and low severity level incidents. If the incident report does not include the permanent solution to the issue, that report must be updated every business day to reflect the most current status of the issue until it is resolved. The Contractor must provide a follow-up incident report no later than five (5) business day after the permanent solution has been defined.	Failure to provide the initial notification and follow-up incident reports for high, medium, and low severity level issues within the specified timeframes. The Contractor must provide a report or other verifiable proof of meeting this requirement by the 10th calendar day of each month.
4	Critical Severity - Issue Resolution. 98% of all issues in the production environment are resolved within four (4) hours of identification.	Failure to correct 98% of critical issues within four (4) hours of identification.
5	High Severity - Issue Resolution. 98% of all issues in the production environment are resolved within one (1) business day of identification.	Failure to correct 98% of high severity issues within one (1) business day of identification.
6	Medium Severity - Issue Resolution. 98% of all issues in the production environment are resolved within five (5) business days of identification.	Failure to correct 98% of medium severity issues within five (5) business days of identification.

#	Service Level Metric	Service Level Deficiency
7	Low Severity - Issue Resolution. 98% of all issues in the production environment are corrected within two (2) weeks of identification, or within an alternate timeline approved by the State.	Failure to correct 98% of low severity issues within two (2) weeks of identification, or within an alternate timeline approved by the State
8	Change Request Response. Contractor shall provide a high-level written summary of an SMR within fifteen (15) days of the request from designated State staff. The Contractor shall provide written estimates/design documents to designated State staff within thirty (30) days of the approval of the SMR document for small to medium system modifications. Larger SMR's (in excess of 100 hours) must be estimated within sixty (60) days.	Failure to be 100% timely in responding to Change Requests
9	Non-Billable Change Implementation. For non-billable changes, the Contractor shall implement the changes within the time frame agreed-upon in writing by the State.	Failure to be 100% timely in implementing Non-Billable Changes
10	Change Request Commencement. The Contractor's work on change requests of one hundred (100) hours or more must commence within forty-five (45) days of receiving State approval for the change request or within an alternate timeline approved by the State.	Failure to be 100% timely in commencing work on Large Change Requests
11	Change Request Implementation. (Small). Contractor shall implement change requests of fewer than one hundred (100) hours within ninety (90) days of State approval or within an alternate timeline approved by the State.	Failure to be 100% timely in implementing Small Change Requests
12	Change Request Implementation (Large). The Contractor shall implement approved change requests of one hundred (100) hours or more within seven (7) days of the estimated completion date or within an alternate timeline approved by the State.	Failure to be 100% timely in implementing Large Change Requests
13	Reports/Files. Required outbound State reports and files shall be accurate and delivered to the intended party on the approved schedule. The MCH system shall process required inbound files accurately and on time. The Contractor shall notify the State of processing issues outbound and/or inbound files.	Failure is assessed if the Contractor misses any deadline for outbound or inbound report and file processing in any given month (the Contractor shall not be held responsible for any issues outside of its direct responsibilities)
14	System Documentation. All listed system documentation shall be accurate and delivered to the State on the approved schedule.	Failure is assessed if the Contractor misses any deadline for updating system documentation in any given month

#	Service Level Metric	Service Level Deficiency
15	Training. The Contractor shall provide training materials for new features. The Contractor may provide training in a variety of ways (video, supplemental guides, webinar, in-person training, etc.)	Failure is assessed if the Contractor has not provided an accessible form of training for each release
16	Readiness for State UAT. The Contractor must meet the time frame once the start date of UAT is established and agreed upon by the State.	Failure to begin UAT on the agreed upon date when such failure is caused by the Contractor
17	Updates, Patches, and Repairs. The Contractor must conduct regression testing to help ensure all previous updates, patches, and repairs are incorporated by the scheduled release and do not impact operations.	Failure to properly conduct regression testing, resulting in avoidable defects

17 Deliverables and Milestones

17.1 Anticipated Deliverables

Table 8 provides a list of deliverables that the State anticipates the Contractor may develop throughout the life of the Contract, as well as project milestones and an indication of whether or not a payment is associated with the deliverable or milestone.

The State and Contractor will finalize deliverables, payment milestones, criteria to define successful completion of deliverables and milestones, and the payment schedule during Contract negotiations.

Table 8: Anticipated Deliverables/Milestones and Associated Payments

Project Phase	Identifier	Deliverable/Milestone Name	Payment Associated
All Phases (except M&O)	D01	Project Status Reports and Status Meetings	
Project Initiation and Planning	D02	Project Kickoff Presentation	
	D03	PMP	
	D04	Project Schedule	
	D05	Communication Plan	
	M01	Project Initiation and Planning Successfully Completed	X
Requirements Analysis and System Design	D06	Data Migration and Conversion Plan	
	D07	Requirements Traceability Plan	
	D08	RTM	
	D09	Functional Specification and System Design Document	
	M02	Functional Design Successfully Completed	X
	D10	Data Integration and Interface Design Document	

Project Phase	Identifier	Deliverable/Milestone Name	Payment Associated
	D11	System Architecture Document	
	D12	Security Plan	
	D13	Data Dictionary	
	D14	Disaster Recovery and Business Continuity Plan	
	M03	System Design Successfully Completed	X
System Configuration and Development	D15	Technical Design Document	
	M04	Data Migration and Conversion Successfully Completed	X
Testing	D16	Test Plan	
	D17	Test Scripts	
	D18	Test Cases	
	M05	Test Planning Completed	X
	D19	Test Results & Defect Reports	
	M06	UAT Successfully Completed	X
Training	D20	Training Plan	
	D21	Training Material	
	M07	Training Successfully Completed	X
Implementation	D22	Implementation / Cutover Plan	
	M08	Implementation Successfully Completed	X
DDI Closeout	D23	Closeout Report	
	M09	DDI Successfully Closed Out	X
Maintenance and Operations	D24	Database Performance Reports	
	D25	Incident Reports	
	D26	Turnover Plan	
All Phases, Including M&O (As Applicable)	D27	Release Notes	
	D28	Service Level Reports	

17.2 Deliverable Submission and Acceptance

The Contractor shall provide project deliverables and documentation for review and approval by the State. The Contractor must provide electronic copies of draft and final documentation and deliverables to the State through the use of a secure electronic project library (see Section 9.1.4: Project Library). The Contractor shall provide electronic copies using MS Office format, unless otherwise specified or approved by the State. The Contractor shall submit the Project Schedule (D04) in MS Project and Acrobat Adobe PDF formats.

The Contractor shall be required to update and maintain project deliverables and documentation for the duration of the Contract. The Contractor shall update approved deliverables and documents to reflect changes in system design or operations, or as requested by the State. The Contractor shall complete updates to system documentation within ten (10) business days of any

system change, unless otherwise agreed upon with the State.

17.2.1 Deliverable Standards

For each required deliverable or group of related deliverables, the Contractor shall develop a Deliverable Expectations Document (DED) in advance of the scheduled start of any task or subtask that will produce the deliverable. The DED will include a:

- a. Deliverable outline
- b. Sample deliverable format
- c. Methodology, as appropriate
- d. General description of the deliverable content

The State will discuss specific expectations and acceptance criteria for the DED with the Contractor in advance of the DED due date. The State will work with the Contractor to approve each DED. Mutual agreement on the DED sets the expectation levels of the Contractor and the State. The Contractor shall delineate the schedule for these tasks in the Project Schedule (D04).

17.2.2 Formal Transmittal of Deliverables

As appropriate, the Contractor shall test each deliverable to confirm that it meets all Contract requirements before the Contractor submits it as complete. By submitting the deliverable, the Contractor certifies that it meets all Contract requirements. The Contractor shall submit electronic copies of all deliverables, including non-written deliverables (such as source code, software, network configurations, etc.) for each task or subtask.

The Contractor's Project Manager must be responsible for the appropriate quality control of its deliverables. The Contractor shall provide all deliverables in complete form and shall meet all Contract requirements no later than the dates indicated in the approved Project Schedule (D04).

17.2.3 Approval and Rejection of Deliverables

The Contractor shall submit each deliverable to the State for review, comment, and approval. The State's review period will vary with the type, complexity, and volume of the deliverable. The Contractor must include adequate estimates for State review, comment, and any Contractor rework time in the Project Schedule (D04). For the Contractor's estimation purposes, the State's default review period shall be ten (10) business days, unless the Contractor requests an alternative review period length in writing.

In the event the State finds a deliverable to be unsatisfactory, the State shall notify the Contractor of the reason(s) for deliverable rejection in writing. The State shall meet and confer with the Contractor to provide clarifications as requested or needed. The Contractor shall then correct and resubmit the deliverable within agreed time frames that will vary with the type, complexity, and volume of the deliverable. Rejection of a deliverable by the State does not provide permission for delays in delivering subsequent deliverables unless approved by the State.