IT Project Proposal Report - Detail
Agency: 046 - DEPT OF CORRECTIONAL SERVICES
Budget Cycle: 2023-2025 Biennium   Version: AF - AGENCY FINAL REQUEST

IT Project : Electronic Health Records

General Section

Contact Name : Chad Cole	**E-mail :** chad.cole@nebraska.gov	**Agency Priority :**
Address : PO Box 94661	**Telephone :** 402-479-5809	**NITC Priority :**
City : Lincoln		**NITC Score :**
State : Nebraska	**Zip :** 68509-	

Expenditures

IT Project Costs	Total	Prior Exp	FY22 Appr/Reappr	FY24 Request	FY25 Request	Future Add
Contractual Services						
Design	80,000	0	0	40,000	40,000	0
Programming	1,040,000	0	0	520,000	520,000	0
Project Management	380,000	0	0	190,000	190,000	0
Data Conversion	0	0	0	0	0	0
Other	0	0	0	0	0	0
Subtotal Contractual Services	1,500,000	0	0	750,000	750,000	0
Telecommunications						
Data	0	0	0	0	0	0
Video	0	0	0	0	0	0
Voice	0	0	0	0	0	0
Wireless	0	0	0	0	0	0
Subtotal Telecommunications	0	0	0	0	0	0
Training						
Technical Staff	0	0	0	0	0	0
End-user Staff	0	0	0	0	0	0
Subtotal Training	0	0	0	0	0	0

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Expenditures

IT Project Costs	Total	Prior Exp	FY22 Appr/Reappr	FY24 Request	FY25 Request	Future Add
Other Project Costs						
Personnnel Cost	0	0	0	0	0	0
Supplies & Materials	0	0	0	0	0	0
Travel	0	0	0	0	0	0
Other	0	0	0	0	0	0
Subtotal Other Project Costs	0	0	0	0	0	0
Capital Expenditures						
Hardware	0	0	0	0	0	0
Software	0	0	0	0	0	0
Network	0	0	0	0	0	0
Other	0	0	0	0	0	0
Subtotal Capital Expenditures	0	0	0	0	0	0
TOTAL PROJECT COST	1,500,000	0	0	750,000	750,000	0

Funding

Fund Type	Total	Prior Exp	FY22 Appr/Reappr	FY24 Request	FY25 Request	Future Add
General Fund	1,500,000	0	0	750,000	750,000	0
Cash Fund	0	0	0	0	0	0
Federal Fund	0	0	0	0	0	0
Revolving Fund	0	0	0	0	0	0
Other Fund	0	0	0	0	0	0
TOTAL FUNDING	1,500,000	0	0	750,000	750,000	0
VARIANCE	0	0	0	0	0	0

IT Project: Electronic Health Records

EXECUTIVE SUMMARY:

A fully integrated Electronic Health Records (EHR) system is a strategic priority of the Nebraska Department of Corrections (NDCS) in order to provide the highest quality health care to the inmates in our custody in an efficient manner at a reasonable cost to the Nebraska taxpayer. It will provide a secure and complete Health Services Case File, which allows for improved tracking and continuity of care in the areas of Medical Services, Behavioral Health Services, Substance Use and Sex Offender Services and Programming, and Social Work Services from intake through reentry back into the community.

Implementation of the EHR system began in 2019. However, shortly thereafter progress on the project was affected by COVID.   Efforts are now well underway. To date, the main components completed are the Behavioral Health Intake Appraisal and the Update Appraisal, with the implementation of the Medical Intake Appraisal to occur soon. The behavioral Health Intake Appraisal and the Update Appraisal create the foundation upon which further E-HR components will be built. The Diagnosis Codes have also been completed. These efforts include 17 Behavioral Health screens, as well as Diagnosis and Document screens, which are shared by both Behavioral Health and Medical. Nine medical modules are either already in production or staged to go live in the next 60 days. Additionally, there are two Discharge Review screens included as part of the E-HR project already in production and two ADA related screens soon to be moved into production, and diagnosis codes have been updated to match current community standards.

 The Nebraska Department of Corrections, working with OCIO staff, is building a tailored and efficient EHR in-house that will expand on functionality currently in the existing Nebraska Inmate Case Management System (NICaMS) to include Health Services appointment/resource scheduling and electronic charting for key clinical data and medical history. The system will be utilized by NDCS staff, telemedicine staff, and external providers who have contracted services with the department. Security protocols will be put in place to ensure confidentiality to an inmate's private health data.

GOALS, OBJECTIVES, AND OUTCOMES (15 PTS):

The Nebraska Electronic Health Record system (NEHR) will be a data source for business intelligence that can produce clinical analytics to deliver better outcomes that ideally result in cost savings and improved patient satisfaction.

This goal aligns with the mission of the Health Services Department to provide humane, comprehensive, and integrated health care, including program opportunities consistent with standards of quality and scope of services found in communities to promote health and well-being of individuals placed in our custody. Health Services strives to continually improve the health of individuals placed in our custody by developing integrated delivery systems that efficiently provide a continuum of needed, accessible and quality services.

The NEHR will provide an accurate, up-to-date standard method for maintaining written documentation of medical, ancillary, and behavioral health services provided to patients.

Correct and complete medical charts ensure systematic documentation of a patient's medical history, diagnosis, treatment, and care. It will also improve access to patient data, improve communication among clinicians, assist with preventative care, and streamline health provider workflow. The system will ensure protection of patient health information from being disclosed without the patient's consent or knowledge.

This project will include documentation for nursing care, dental care, optometry care and mental health care, including substance abuse and sex offender counseling and treatment.

The 2019 – 2023 strategic plan includes strategies that will ensure clinical assessments occur within 30 days of admission and increase contact with clinical providers prior to treatment. Intake assessments and other referrals will be included as a priority.

PROJECT JUSTIFICATION / BUSINESS CASE (25 PTS):

ROI on Data Collection and Team Efficiencies

The NEHR will decrease the preparation time and increase the accuracy of reports and statistics. It is projected to reduce the paperwork required and improve the workflow throughout the Nebraska Department of Correctional Services areas/programs and between the NDCS and other state agencies to which information is sent or received. EHRs have been proven to reduce the incidence of medical error by improving the accuracy and clarity of medical records and coordination of diagnosis and treatment among health providers. The overall result should be a reduction in paper processing, supply costs, and a redirect of labor. The patient should experience improved clinical outcomes as the care team are cooperatively involved in ongoing health care management.

Alternatives Evaluated

Commercial Electronic Health Records systems were evaluated through an RFP process. While there are many benefits to purchasing an existing EHR system, the proposed costs were anywhere from 5 to 15 times what the projected cost of building the system in-houset, and a vendor product would require interfacing with current mainframe and SQL Server applications as well as ongoing annual support contracts.

TECHNICAL IMPACT (20 PTS):

NDCS currently has Inmate Case Management systems on both the mainframe and SQL Server. The SQL Server suite of applications (NICaMS) contains up to 50 different screens currently dealing with Medical and Behavioral Health Services, Substance Use, Social Work and Sex Offender Services. These applications are highly integrated and tailored to NDCS's business policies and procedures. By building the NEHR system in-house, NDCS will be able to leverage the existing investment in data, technical architecture, and data visualization and reporting and expand from that base.

A modular and incremental approach to building new functionality allows for components to be rolled out along the way with less down-time than is often required when implementing a Commercial Off-The Shelf (COTS) vendor package.

The strategy of expanding on the existing suite of application and current technical architecture minimizes the need to invest in additional hardware, software and more easily complies with current State of Nebraska/NITC standards and guidelines. NE OCIO Security protocols currently in place for the NICaMS applications will continue to be used and supported in the new NEHR system.

While it is often desirable to roll out the full suite of Electronic Health Records functionality at one time, the incremental approach has the advantage of being more flexible and able

to adjust to any necessary changes in priorities when identifying the order of components to be developed and rolled out.

PRELIMINARY PLAN FOR IMPLEMENTATION (10 PTS):

The development approach to be used will be a modified Agile development and deployment methodology. Agile uses an iterative approach to applications development, and the NEHR project intends to build components using a project deliverable/standard iteration that generally takes 10 – 13 weeks per iteration. The following is a description of a standard iteration:

Iteration Milestones Timeline Notes

Discovery 2 weeks NDCS and OCIO staff define existing process and identify gaps. Create new processes.

Design 2 weeks OCIO staff analyze processes and define requirements.

Build 4 weeks OCIO staff build and test system.

Testing 2 weeks NDCS staff test system and provide feedback.

Revise 2 weeks OCIO staff Implement suggested changes from testing.

Testing 1 week NDCS and OCIO staff complete final system testing.

Deploy 1 day System is ready for deployment.

Project Sponsorship will be shared by the Director of NDCS and the Director of Health Services. The Behavioral Health Administrator and the Health Care Administrator will also be stakeholders as well as key decision makers on the project. The other Project Team members will vary based on the topic being developed, but the general team composition will be as follows:

Role Resource Name
Project Manager/Lead Business Analyst(s) PM/Business Analyst – IT (TBD)
Technical Team Architect OCIO Technical Resource (TBD)

Application Developers – up to 3 OCIO Technical Resource (TBD)

Subject Matter Experts Health Services Team Members (TBD)

Project Manager, Business Analyst(s), Architect and Developer resources will pull from the same team currently supporting the NICaMS suite of applications as well as additional staff to be brought on for the duration of the 3-year project. This approach allows the team to leverage resources already highly familiar with the current NDCS environment, applications and business areas.

Existing business analysts each have from 5 – 20 years of experience with NDCS applications; similarly, existing technical resources each have from 5 – 10 years expertise in developing and supporting NDCS systems. Partnering new resources with the existing team will shorten the learning curve and allow new resources to become productive more

quickly.

RISK ASSESSMENT (10 PTS):

A number of risks have been identified at this point in the project planning: Risk Probability Impact Mitigating Actions

Organizational priorities may shift or occur simultaneously. Likely High Activities will need to be rescheduled.

Staff, including Health Services Subject Matter Experts (SMEs) may not be available when needed.

Telemedicine is a major component of patient care. These providers should log into the system and complete their work using NICaMS. They should discontinue use of scanned forms when possible.

Additional needs or system requirements may be discovered during the process analysis. Likely Medium or High Needs will be analyzed to determine relevance to the project scope and interdependency with other processes; timeline to be updated if a new needs is determined to be included in scope.

Interfaces with external vendors/applications may need to be created or modified. Likely Medium Interfaces will have to be costed with the external vendors and then prioritized.

FINANCIAL ANALYSIS AND BUDGET (20 PTS):

High level cost estimates for Project (OCIO) staff are determined using an average rate of $100/hr based on approximately 2,000 annual hours. First year allocations include two Application Developers, while Year 3 includes three Application Developers.

Project Role	Allocation	Rate Annual Hours	Year 1	Year 2	Year 3	Total Cost
Business Analyst/						
Project Manager	90%	$100 1,800	$ 180,000	$ 180,000	$ 180,000	$ 540,000
Architect	20%	$100 400	$ 40,000	$ 40,000	$ 40,000	$ 120,000
Application Developer (1)	90%	$100 1,800	$ 180,000	$ 180,000	$ 180,000	$ 540,000
Application Developer (2)	75%	$100 1,500	$ 150,000	$ 150,000	$ 150,000	$ 450,000
Application Developer (3)	90%	$100 1,800	$ 0	$ 180,000	$ 180,000	$ 360,000
Grand Totals			$ 550,000	$ 730,000	$ 730,000	$ 2,010,000