ADOA-ASET

Project Investment Justification

Version 01.01

A Statewide Standard Document for Information Technology Projects

Project Title: Arizona State Hospital Quality & Risk Management System

Agency Name:	**Arizona Department of Health Services**
Date:	**April 27, 2015**
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Hover for Instructions

I. Management Summary*

The Arizona State Hospital (ASH) is a long-term, in-patient, behavioral healthcare facility that provides treatment services to the most seriously mentally ill Arizonans, as well as residents of the Arizona Community Protection and Treatment Center (ACPTC). The Quality Resource Management (QRM) department oversees the quality and appropriateness of patient care through its Quality & Risk Management program, which includes incident reporting and analysis. Incident analysis is a key component of mandatory reporting to external entities, including The Joint Commission, the hospital's accrediting body. The hospital's Risk Management system is currently a combination of paper processes and automated systems that no longer meet regulatory compliance needs.

The hospital has selected a third-party, Commercial-Off-the-Shelf (COTS) product called Midas Plus as the solution to meet its Risk Management needs. Midas Plus is a product of the Xerox Corporation and is widely used in the health care industry. This Project Investment Justification (PIJ) is requesting approval to purchase the software, hardware, and professional services needed to implement the Midas Plus software suite. All products and services will be purchased from existing State contracts.

II. Project Investment Justification (PIJ) Type*

☐ **Yes** ☒ **No** Is this document being provided for a Pre-PIJ / Assessment phase?

If Yes,

Identify any cost to be incurred during the Assessment phase.	$
Based on research done to date, provide a high-level estimate or range of development costs anticipated for the full PIJ.	$

Explain:
Click here to enter text.

☐ **Yes** ☒ **No** Will a Request for Proposal (RFP) be issued as part of the Pre-PIJ or PIJ?

Business Case

*A. Business Problem**

The QRM department collects and analyzes information about risk-related events that may affect patient or staff safety. Certain risk events are classified as "incidents" and are reported through the incident reporting process. Examples of incidents include patient-on-patient assaults, patient-on-staff assaults, patient falls, and the use of seclusion and restraint. These types of incidents must be reported to external governing entities, such as The Joint Commission**.** (The Joint Commission is an independent body approved by the by the Centers for Medicare and Medicaid Services (CMS) to provide accreditation for health care organizations that wish to participate in the Medicare program. Health care organizations that achieve Joint Commission accreditation are determined to meet CMS requirements for quality and safety and are eligible to receive payments from CMS.)

QRM reports are used internally and externally to measure trends over time and for comparative analysis against other state psychiatric hospitals.

The incident report itself is currently a fillable PDF form that is typically filled out by treatment unit staff and e-mailed to the QRM department. QRM staff must then enter the reports into the Incident Reporting Database (IRD). Other components of the risk process are filled out on paper forms, entered into the Avatar Electronic Medical Record (EMR) system, or kept in spreadsheets.

The IRD was developed in Visual Basic 6.0 by a contractor and implemented in 2005; it has not been significantly modified since. The IRD interfaces with the Avatar EMR and with several Access 2003 databases that were developed for reporting purposes. Attempts to make modifications to the reporting databases have resulted in failures that prevented critical reports from being generated. The data for mandatory reporting is now generated from various sources and compiled in Excel spreadsheets.

Because of the number of data sources and duplicate data entry into various systems, the integrity of the data has become a significant issue. Data validation measures have been put into place but involve time-consuming manual processes that divert QRM resources from the more critical functions of risk and quality of care analysis. Inaccurate data could compromise patient safety and puts the hospital at risk of sanctions for non-compliance with regulatory standards. The current system of multiple manual and semi-automated systems is completely inadequate for an effective Risk Management program.

Another component of Risk Management in a direct care setting is tracking Employee Health information. Employee Health data tracks current immunizations, exposures, etc. Employee Health data is currently tracked in a series of custom-built screens within the Avatar EMR. These screens will not be migrated to the new installation of Avatar scheduled for May 2015, in part due to time and cost constraints, and because the goal is to limit customization of the core product to the extent possible. Another solution for tracking Employee Health data is needed to avoid reverting back to a completely manual system. Note: Prior to implementing Midas, Employee Health Records will either be kept temporarily on paper and entered into Midas after go live, or the old Avatar system will be made temporarily available for continued use only for Employee Health records.

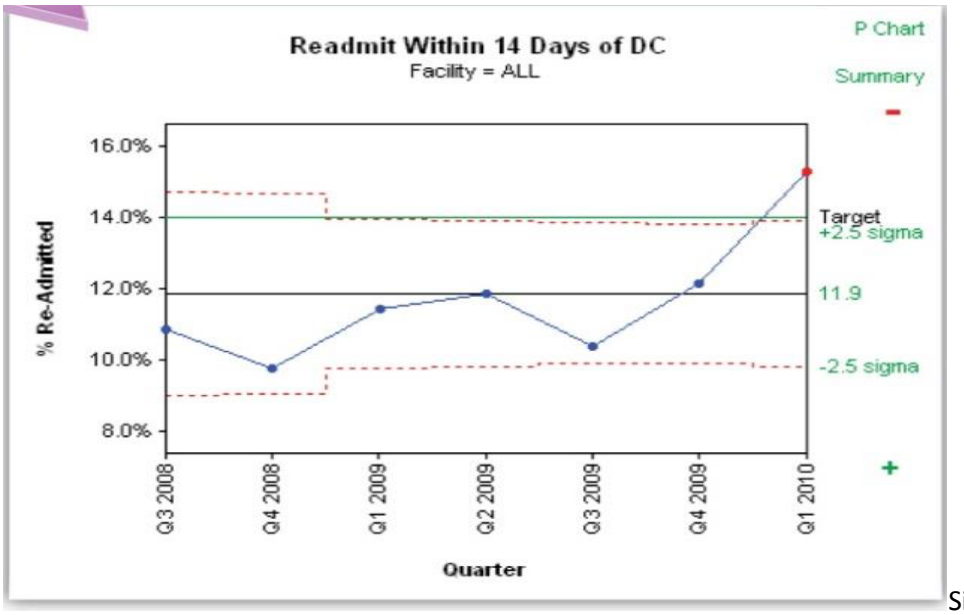
*B. Proposed Business Solution**

The proposed solution is to implement a comprehensive Quality and Risk Management software package, Midas Plus. The system is bundled into four functional subsystems: Registration, Encounter, Quality Management, and Risk Management, and includes a variety of other reporting and utility subsystems. The Risk Management subsystem contains a Risk Management module that will replace the outdated Incident Reporting system, as well as an Employee Health module that will replace the Avatar data entry screens. These are the immediate needs. However, within the four functional subsystems are additional modules such as Infection Control, Patient Relations (Grievances and Compliments), and Peer Review, that together will deliver a complete Quality & Risk Management solution.

Since the system is modular, functionality can be implemented all at once, or phased in. It is likely that the Risk Management (Incidents) and Employee Health modules will be implemented first, since these

are the most immediate and critical needs, with Infection Control, Patient Relations and Peer Review implemented shortly afterward. A final business decision on the implementation strategy will be made during Project Initiation; however, that decision will not impact the overall cost or timeline for the project.

The system comes with standard dictionaries, forms, and workflows that can be configured to meet the specific needs of an organization. It also comes with a tool called Focus Studies that allows the customer to define custom data fields, forms, and performance indicators. Web-based dashboards, graphs, and trending tools are provided, as well as an SQL report writer for user-designed reports and a letter generating tool. The Midas Plus Statit Performance Indicator and Management Dashboard (Statit piMD) application is also included in this proposal. Among the features of this Web-based tool are user-defined home pages that allow individuals to monitor indicators based on their specific job functions and the ability to generate charts based on specified rule sets, as in the example below.



Since the system is

This proposal includes Professional Services to assist with planning, installation and configuration of the software and databases, interface development, and training. A maintenance agreement with Xerox will include software updates, database maintenance, and help desk support for users and technical staff. This proposal also includes the cost of two new servers (one for the production application and one for test) and additional SAN storage to house the Midas Plus data. See Section III for additional details.

*C. Quantified Benefits**

X	Service enhancement
	Increased revenue
	Cost reduction
X	Problem avoidance
X	Risk avoidance

Explain:

Service Enhancement:

- Streamlining current manual efforts will free up staff time to perform quality and risk analyses, which will benefit patients and staff.
- Improved ability to objectively assess the quality of care will enhance service to patients.

Problem Avoidance:

- Decommissioning the existing IRD, which is over ten years old, will avoid a potential catastrophic failure.

Risk Avoidance:

- Improved data integrity and reporting to external entities will reduce the risk of potential sanctions or penalties.

III. Technology Approach

*A. Proposed Technology Solution**

Midas Plus Quality and Risk Management is a Microsoft .NET client/server application. The Statit piMD Reporting Tool is browser-based and compatible with IE 7 and above. The database is Intersystems Cache, the same database used by the Avatar EMR and standard within the health care industry. A standard HL7 Interface between Avatar and Midas will be developed for patient data that needs to be captured in Midas. Security access is controlled by user IDs and passwords based on user roles.

Two new servers will be purchased, one for Production/Training and a separate server for Test. Application and database updates will be installed in the test environment prior to installation in production and training. A SAN will be purchased to store the Midas data and any supporting documents that are scanned in. A maintenance contract will be established with Xerox for application and database support. Failover capabilities are provided through the Cache database journal files.

The following hardware items will be purchased for this project:

- HP BLc7000 Platinum Enclosure with 1 Phase 6 Power Supplies
- HP Virtual Connect Flex10/10D Module
- HP ProLiant BL460c Gen9 blade servers
- EMC e3200 SAN

B. Technology Environment

Technology Environment:
Currently, there is no infrastructure dedicated for MIDAS in the agency.

The following technical environment, which has been reviewed with the vendor, will be established for the Midas project:

- One Application/Data Base Server will be purchased and configured with separate database instances for Production and Training.
- A separate Application/Data Base server will be purchased and configured for the Test environment. This will allow application and database updates to be installed and tested prior to being promoted to the production and training environments.
- The servers will be located in the secure server room at the State Hospital.
- Additional SAN storage will be purchased and installed in the server room at ASH.
- Backups will be implemented using the standard ADHS NetBackup infrastructure and procedures.
- Failover is provided through Cache database journal files.
- The Avatar EMR environment is externally hosted in a fully redundant environment with DR capabilities. Patient demographic data will be securely transmitted from Avatar to Midas through the dedicated MPLS established for the EMR.
- The Midas application is not mission critical (incidents can be generated in paper format) and does not warrant the expenditure for a DR environment.
- Vendor connectivity to the servers for support will be provided through a VPN connection.

C. Selection Process

ASH considered four options and selected the fourth, Midas Plus, for the reasons cited below.

1) Information Technology Services (ITS) considered converting the IRD to current technology and rebuilding the Access reporting databases in a SQL environment. Since the applications and data bases do not meet current needs, this would have been a lengthy development project requiring additional resources. This option was rejected.

2) The project team assessed the capabilities of the Avatar EMR Incident Reporting module. It was determined that the core product did not meet the needs of the hospital and significant customization would be needed. In addition, it did not address the requirements for Employee Health.

3) ITS provided a demo of an internally developed Incident Reporting system. The functionality would have met the hospital's need for incidents but did not address the requirements for Employee Health, or other aspects of hospital risk management.

4) The hospital contacted and visited various hospitals that use Midas Plus, including those with behavioral health facilities, and user satisfaction was extremely high. Several staff members currently at the hospital have previous experience using Midas Plus at other facilities and highly recommend it. The vendor provided an on-site demo to thirty staff from QRM, nursing, management, and ITS. The consensus was that it is a comprehensive, flexible product that will meet the Risk Management needs of the hospital.

IV. Project Approach

*A. Project Schedule**

Project Start Date: 5/1/15 **Project End Date**: 12/31/2015

B. Project Milestones

Note: Dates are estimates only pending finalization of contract. Total project duration is expected to be six months after the hardware is procured and installed.

Major Milestones	Start Date	Finish Date
Procurement Process – Hardware and Software	5/1/15	6/1/15
Hardware/Software Installation	6/1/15	6/30/15
Application Configuration and Testing	7/1/15	11/30/15
End User Training & Go Live	12/1/15	12/31/15

V. Roles and Responsibilities

A. Project Roles and Responsibilities

Janet Mullen, Deputy Director, Division for Planning & Operations
This position will be accountable to ensure resource availability at the Agency level and to meet the goals within the budget and timeline.

- Monitoring business value

Donna Noriega, CEO, DBHS/ASH – Project Sponsor
This position will provide approval for project scope. Specific responsibilities will include (but not be limited to):

- Project champion, provides direction and support to the team
- Approves project scope and funding
- Assigns appropriate end user resources to provide management decision making, end user testing, training and requirements.

Information Technology Executive – Paula Mattingly, Assistant Director / Chief Information Officer
This position will be accountable to assign the necessary Information Technology resources to meet the goals within the budget and timeline. Specific responsibilities will include (but not be limited to):

- Project champion, provides direction and support to ITS team
- Implement necessary Infrastructure and meet the immediate business needs
- Monitoring business value
- Management of IT staff or other resources

Chief Financial Officer – James Humble
This position will be accountable to ensure resource availability at the Agency level to meet the goals within the budget and timeline

ITS Application Services Manager - Raghu Ramaswamy
This position will provide overall leadership and oversight of solution delivery and efforts necessary to align technology to meet the Department needs. This position will report to CIO. Specific responsibilities will include (but not be limited to):

- Coordinating resources assigned to the project
- Assessing needs and bridging gap between Technical and functional needs
- Direct and delegate approved plan
- Providing status reports to the Executive Management and GITA as required
- Coordinating the operational needs and performance troubleshooting and resolution

Information Technology Project Manager – Janet Slawinski
This position will provide leadership and overall project management and efforts described in this document and for the future technology needs of the State Hospital. Specific responsibilities will include (but not be limited to):

- Coordinating resources assigned to the project
- Allocating resources to ensure project completion on schedule, within scope, and within budget

- Providing status reports to Executive Management and ASET as required
- Coordinating operational needs
- Oversight of Implementation
- Change control processes, issue tracking

Information Technology Technical Services Manager - David Gilbert
This position will provide leadership and oversight for providing the technology needs to support the Project. Coordinate the delivery, installation, and configuration of hardware and software.

Project Team:
State Hospital: Functional experts will be assigned from QRM, Nursing, and Employee Health.
Information Technology Services: Technical support staff will install and configure the hardware. Applications staff will assist with interfaces and reports.

Vendor Responsibilities: Project management, software installation and configuration, training, ongoing support.

B. Project Manager Certification

	Project Management Professional (PMP) Certified
X	State of Arizona Certified
	Project Management Certification not required

C. Full-Time Employee (FTE) Project Hours

Total Full-Time Employee Hours	370
Total Full-Time Employee Cost	$11,100

VI. Risk Matrix, Areas of Impact, Itemized List, PIJ Financials

VII. Project Approvals

*A. Agency CIO Review**

Key Management Information	Yes	No
1. Is this project for a mission-critical application system?	**Y**	
2. Is this project referenced in your agency's Strategic IT Plan?	**Y**	
3. Is this project in compliance with all agency and State standards and policies for network, security, platform, software/application, and/or data/information as defined in http://aset.azdoa.gov/security/policies-standards-and-procedures, and applicable to this project? If **NO**, explain in detail in the "XI. Additional Information" section below.	**Y**	
4. Will this project transmit, store, or process sensitive, confidential or Personally Identifiable Information (PII) data? If **YES,** in the "XI. Additional Information" section below, describe what security controls are being put in place to protect the data.	**Y**	
5. Is this project in compliance with the Arizona Revised Statutes (A.R.S.) and GRRC rules?	**Y**	
6. Is this project in compliance with the statewide policy regarding the accessibility to equipment and information technology for citizens with disabilities?	**Y**	

*B. Project Values**

The following table should be populated with summary information from other sections of the PIJ.

Description	Section	Number or Cost
Assessment Cost (if applicable for Pre-PIJ)	II. PIJ Type - Pre-PIJ Assessment Cost	**$**
Total Development Cost	VII. PIJ Financials tab	**$295,857**
Total Project Cost	VII. PIJ Financials tab	**$394,439**
FTE Hours	VI. Roles and Responsibilities	**370**

*C. Agency Approvals**

Contact	Printed Name
Project Manager:	Janet Slawinski
Applications Services Manager	Raghu Ramaswam
ASH CEO & Project Sponsor:	Donna Noriega
Agency CFO:	Jim Humble
Agency CIO/CISO:	Paula Mattingly
Deputy Director, Planning & Operations	Janet Mullen

VIII. Optional Attachments

A. Vendor Quotes

IX. Glossary

X. Additional Information

The Arizona Department of Health Services (ADHS) leverages administrative controls, technical controls, and physical controls to protect PII. To ensure the protection of all sensitive and confidential Arizona Department of Health Services electronic data from unauthorized use, modification, destruction, or disclosure, ADHS implemented multiple security policies. ADHS Information Security Policy framework was created to enforce the rules and guidelines for the purpose of providing the confidentiality, integrity, and availability of all ADHS electronic information. All ADHS employees and contractors are bound by that Information Security framework which includes ITS-005 Acceptable Use Policy and sign a confidentiality agreement. Training is provided for new work force members (employee's and contractors) and annually on Information Security and Privacy, which includes the Information Security policies for ADHS and State of Arizona.

The data created and stored in the Storage Area Network (SAN) is only accessible via Access Control Lists (ACLs) or Role-Based Access Control. ACLs are used to provide more granularity to users and groups file permissions. ADHS uses a three-tier architecture comprising of front-end servers, middleware, and back-end databases.

Multiple firewalls are also used to provide a line of defense from the outside. The first tier only accepts specified requests and will only authorize approved users to access the data. Access to the ADHS domain is controlled by the use of domain accounts. Database roles are also used in order to limit access to

preapproved users. Users are placed in groups that have implicit permissions necessary to perform their duties.

Links:

ADOA-ASET Website

ADOA-ASET Project Investment Justification Information Templates and Contacts

Email Addresses:

Strategic Oversight

ADOA-ASET_Webmaster@azdoa.gov