

Fiscal Year 2016-17 Information Technology Request

Human Services

IT Systems Interoperability

PROGRAM PLAN STATUS and OIT BEST PRACTICES

2016-013

Approved Program Plan? Date Approved:

The Governor's Office of Information Technology (OIT) was an active participant in writing the planning grant. The implementation of interoperability will be accomplished in cooperation with OIT and will align with their enterprise health IT architecture model.

PRIORITY NUMBERS

Prioritized By	Priority	
DeptInst	2 of 3	
OSPB	4 of 4	Prioritized and recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2016-17	FY 2017-18	Future Requests	Total Cost
CCF	\$1,281,594	\$928,852	\$928,852	\$1,857,704	\$4,997,002
FF	\$11,534,346	\$8,359,668	\$8,359,668	\$16,719,336	\$44,973,018
Total	\$12,815,940	\$9,288,520	\$9,288,520	\$18,577,040	\$49,970,020

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2016-17	FY 2017-18	Future Requests	Total Cost
Land Acquisition	\$0	\$0	\$0	\$0	\$0
Professional Services	\$4,015,440	\$3,703,520	\$3,703,520	\$7,407,040	\$18,829,520
Construction	\$0	\$0	\$0	\$0	\$0
Equipment	\$6,000,000	\$3,300,000	\$3,300,000	\$6,600,000	\$19,200,000
Miscellaneous	\$0	\$0	\$0	\$0	\$0
Contingency	\$0	\$0	\$0	\$0	\$0
Software Acquisition	\$2,800,500	\$2,285,000	\$2,285,000	\$4,570,000	\$11,940,500
Total	\$12,815,940	\$9,288,520	\$9,288,520	\$18,577,040	\$49,970,020

PROJECT STATUS

This is a continuation request. Phase I of the project was funded on FY 2015-16. The department has not encumbered any funds as all financial obligations incurred prior to federal approval will not be eligible yet for the 90/10 match.

PROJECT DESCRIPTION / SCOPE OF WORK

The Department of Human Services (DHS) is requesting a combination of state funds and federal funds spending authority for the second year of a five-year project to create a new system for implementing and maintaining an interoperable environment. Interoperability is defined as the ability of two or more systems or applications to exchange information. The department says this shared information environment will provide better coordinated services to improve the lives of children, youth, and families in Colorado.

During this project, the department plans to put into place interoperability standards and framework, such as the necessary technical components, security, and governance to allow the data contained within these systems to be

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made available without removing the data from the core systems. Specifically, this does not remove or eliminate current data systems but does reduce the need to build and maintain custom data interfaces between IT systems. The department reports that over 500 custom data interfaces were found in a study of 18 of its IT systems.

Federal match. The department expects a continuation of spending in the out years on a 90/10 percent match funding model under a time-limited, specific exception to the cost allocation requirements set forth in the federal Office of Management and Budget Circular A-87 (Section C.3). The federal program that requires benefitting state programs to pay their share of the costs associated with building state-based information technology systems. This funding model allows federally-funded human services programs to benefit from investments in the design and development of state eligibility determination systems for state-operated exchanges, Medicaid and the Children's Health Insurance Program (CHIP). DHS says that this funding model will apply to implementing and maintaining an interoperability environment. The federal funds will be secured through submission to the Centers for Medicare and Medicaid Services (CMS). A requirement for federal approval is demonstrating that the state has committed the 10 percent funding.

PROJECT JUSTIFICATION

According to DHS, the department has no standard policy, procedure, or practice addressing interoperability. The department's IT systems are diverse, requiring hundreds of unique interfaces that move programs, services, clients, and financial data to 95 federal, state, and county IT systems using 28 different methodologies. The department has no ability to view or analyze data in its entirety without significant manual intervention. One of the projected outcomes of interoperability is to automate performance management reports and to look at performance across various data systems.

The department believes that its IT future lies with a new connected approach that provides a roadmap for improved business processes and program performance resulting from:

- selecting and deploying new foundation technologies based on service oriented architecture (SOA) that enable cross-agency collaboration, information access, and process coordination;
- creating a connected "hub" or Enterprise Service Bus (ESB) that provides users with individual and family centric views of data and enables performance management capabilities across the offices of the department and partnering agencies through a "single pane view" using single sign-on methodology;
- enhancing and extending existing applications by developing shared services that can be leveraged by multiple agencies and business processes; and
- assessing current business processes that will be affected by the new enterprise architecture and identifying areas that will benefit from improved processes and procedures prior to the implementation of the new technologies.

Project alternatives. The department says that it can continue to build custom interfaces at costs ranging from \$10,000 to \$80,000 each, depending on complexity. Industry standard annual maintenance costs for interfaces, for which the department has over 500, are between \$10,000 and \$30,000 per year. The department says it is not funded to maintain its interfaces at this level.

PROGRAM INFORMATION AND IMPLEMENTATION PLAN

According to DHS, the interoperability roadmap provides the following multiple work streams of initiatives:

- **Governance Work Stream:** This stream will build a governing council, data stewards and develop processes. Some deliverables and activities include creating: (1) the initial Interoperability Advisory Council (IAC) / Data Governance Councils (DGC) governance structure; (2) Business Data Architects to engage all divisions of the agency and formalize data stewardship activities and processes; and (3) Proof of Concept, Communications, and

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Change Management planning documents.

- Metadata Repository Work Stream: Metadata is the information about the data in a system. This work stream will be used as a utility source for information and knowledge management, development, and data discovery. Some deliverables and activities include creating: (1) documentation of existing systems, data inventory, and system cross-reference; (2) a baseline for interoperability and data sharing decisions; (3) DHS enterprise data models and mappings; (4) authoritative data sources for all data types; (5) an enterprise data dictionary and taxonomy; (6) data solutions that serve multiagency business needs; (7) a metadata repository; and (8) interoperability data and systems efficiency targets to ensure quality, reliability, and integrity of the data.
- Key Stakeholder Implementation Work Stream: The goal of this work stream is to effectively communicate and engage stakeholders as early as possible. Some deliverables and activities include creating: (1) internal dissemination of the Colorado Client Information Sharing Systems (CCISS) implementation plan to develop an agency-wide plan and agreement; (2) an CCISS interoperability implementation plan for external key stakeholders; (3) communications and change management work group under governance structure to establish the structure for change; (4) a process to record, collate, and use key stakeholder feedback; and (5) documentation of external partners such as Colorado Department of Education, OIT, HCPF, State Judicial, Colorado Integrated Criminal Justice Information System, County Human Services staff, Colorado Regional Health Information Organization, Health Information Exchange organizations, Connect for Health Colorado, and others identified by the Executive Planning Team (EPT).
- Business Process Improvement Work Stream: This work stream will entail an examination of work flows and processes of the systems and offices that will be affected. Some deliverables and activities include creating: (1) documentation of areas that should be included in the business process improvement (BPI), and then conducting a BPI analysis of applicable systems and offices; (2) documentation of BPI future state processes; and (3) documentation of training and monitoring.
- Change Management and Communication Work Stream: The goal of this work stream is to implement an effective change management program that will: (1) improve organizational outcomes and performance; (2) enhance employee satisfaction, morale, and engagement; and (3) improve service quality. Deliverables include the Communications Plan, Training Plan, Process Development Plan, and communication materials.

COST SAVINGS / IMPROVED PERFORMANCE OUTCOMES

According to the department, the return on investment is predominately in cost avoidance by aligning services, reducing fraud, reducing program administrative burdens, and creating an IT environment that is easier to support and maintain. Additional return on investment will be achieved by replacing some of the 500 current interfaces with a standardized ESB distributed middleware system for integrating IT applications. The cost of this is estimated to be \$15,000 per year, per interface. By eliminating 80 of these interfaces, the savings is potentially \$1,200,000. These cost benefits and savings will be verified during the first year of implementation and will be balanced with potential cost allocations that are currently under exploration with the HCPF and Human Services CMS.

SECURITY AND BACKUP / DISASTER RECOVERY

According to the department, the infrastructure will be designed to meet federal and state IT architecture, security, and business continuity requirements. Interoperability and the associated systems will follow the state cybersecurity policies set forth by OIT's Security Department. Interoperability will follow the National Institute of Standards and Technology (NIST) 800-53 requirements that focus on access management and identity management for implementing electronic authentication. The Colorado Client Information Sharing System Interoperability Roadmap will follow established security protocols.

BUSINESS PROCESS ANALYSIS

The department's Office of Children, Youth, and Families was the recipient of a planning grant from the federal Administration for Children and Families. Its Office of Child Support Enforcement used it to implement a sustainable, strategic pathway to connect all DHS internal systems to make data and human services records available without

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removing the data from the source systems. The department will use the interoperability roadmap in a phased approach that will feed into a larger and more fully developed strategy.

Stakeholders were extensively engaged in the interoperability planning and will also be involved in implementation. Stakeholders include the Governor's Health IT Coordinator and representatives from HCPF, OIT, and the Colorado Department of Public Health and Environment. This group meets regularly as the Health Information Technology workgroup. Other stakeholders include the Colorado Department of Education through ongoing data sharing efforts, and the Department of Public Safety.

PROJECT SCHEDULE

The schedule is pending federal approval for funding. Please refer to Question #2 in the "Staff Questions and Issues" section for more information.

	Start Date	Completion Date
Governance & Key Stakeholder Engagement	July 2015	Ongoing
Metadata Repository	July 2015	June 2017
Identity Management, Security, ESB	July 2015	June 2017
Data Systems into Interoperable Environment	July 2015	June 2020
Professional Consumer Portal	July 2015	June 2017
Business Intelligence and Analytics	July 2015	June 2020

OPERATING BUDGET

DHS is requesting \$1,323,360 in operating expenses, 5.0 FTE for OIT, and 15.0 FTE for DHS, as part of this IT budget request. These costs are not reflected in the analysis. JTC staff recommends that the committee refer this portion of the request to the JBC for approval.

The department says the five-year implementation plan will use a 90/10 federal funds split for design, development, and implementation. Beyond the five-year implementation, the \$1,323,360 will be included in the department's maintenance and operating budget, which the department says will receive a 75/25 federal funds match.

STAFF QUESTIONS AND ISSUES

1. The FY 2015-16 budget request for this project indicated that funding was requested under a 75/25 percent match funding model. This request indicates that the funding match model will be 90/10 percent. Why did the ratio change?

Currently, the Department is requesting funding that utilizes a 90/10 percent match funding model under the OMB Circular A-87 Cost Allocation Exception for implementing and maintaining an interoperable environment. The Department will request General Fund for 10% and federal funds for 90%. The expiration date of this funding split is currently December 31, 2015. However, federal partners have verbally committed to extending the 90/10 match beyond 2015, which is an increase over the 75/25 match as noted in the FY 2015-16 request. Formal authorization of the extension of 90/10 funds is expected by the end of the calendar year and the Capital Construction request reflects this funding match model.

2. Please explain the federal approval process in the Request for Proposal section of the request. Has the process begun? How long is it expected to take? What is required of DHS? What factors will lead to approval or denial?

The official submission is via an Advanced Planning Document (APD) to the Centers for Medicare and Medicaid Services (CMS). CMS has asked the State to split our request into two parts, a Planning Advance Planning

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Document (P-APD) to first approve 90/10 funding for additional detailed requirements gathering, administrative costs, and to help pay for the additional documentation that they require. This will be followed by an Implementation Advance Planning Document (I-APD) request for the balance of the funding to develop and implement Interoperability.

We are on version 5 of the P-APD and nearing final draft. If approved as currently written it will provide \$2,803,221 in total funds (\$2,522,899 FF and \$280,322 GF) for additional requirements development.

Upon submission of documents to CMS they have 60 days to respond. If they respond with additional questions, the 60 day clock resets when the Department submits answers. This results in a lengthy approval process.

The factor that contributes the most is demonstrating the benefit to Medicare and Medicaid by implementing Interoperability.

3. Please explain the reason CMS split DHS's request into two parts: (1) P-APD (Planning Advance Planning Document) and (2) I-APD (Implementation Advance Planning Document) for the balance of the funding to develop and implement interoperability. Please confirm that P-APD was submitted on November 23, 2015 and DHS plans to submit the I-APD January 2016 depending on the results of the P-APD submission.

CMS desired additional detailed planning and an update to the planning grant work since submission in January 2014. Yes, the P-APD was submitted by HCPF, as the identified state Medicaid agency, to CMS on November 23, 2015. No, the I-APD will be submitted later as it will be dependent on some of the P-APD planning work and not just P-APD approval.

4. Please list the milestones or deliverables that will be used with the FY 2016-17 appropriation.

FY 15-16 and FY 16-17 funding will build the foundational elements of the Interoperability environment. In addition to the basic infrastructure with FY 16-17 funding, two to three DHS systems will be connected to the Interoperability environment to make data available in the single client view or for analytics purposes. Additional deliverables from the Planning Advanced Planning Document (P-APD) submitted to the Centers for Medicare and Medicaid Services (CMS) include additional data discovery analysis between HCPF and DHS systems; gap analysis of existing systems for Interoperability; detailed analysis of existing workflows; and alternatives analysis.

5. Based on the timeline given in the estimated project timetable, each of the "steps to be completed" should have begun in July 2015. Has this happened? If not, which steps have yet to be initiated and why?

Efforts are focused on completing the Federal approval process for 90/10 matching funding from CMS. A procurement and contract was awarded to bring in a consultant to assist the State in completing CMS approvals. The consultant started in June 2015. CDHS is working with HCPF, who as the assigned Medicare agency, must submit all requests for 90/10 funding matches to CMS.

Additionally stakeholders and potential stakeholders are updated periodically and provide input on cases for Interoperability, proposals for data governance and to gather best practices on implementing Interoperability.

6. DHS mentions both a request for information (RFI) and a request for proposal (RFP). What is the timetable for issuing them?

The RFI is under development and should be issued in December 2015 or January 2016. It is at no cost and therefore is not dependent on federal approval. The RFI will identify strategies to procure design, development, and implementation strategies for Interoperability. The responses to the RFI will be compiled with the previous planning work to become the business requirements in the RFP(s) to be issued upon federal approval of the I-APD.

7. Please confirm that only Medicare and Medicaid IT systems are eligible for federal funding. Please confirm that the ROI in the FY 16-17 budget request included only these eligible systems. Please include any partial funding options for non-Medicare and non-Medicaid systems.

The ROI is based on a variety of DHS systems, however, systems that are eligible for federal funding are the ones

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that CMS identifies as beneficial to connect to Medicare and Medicaid whether or not they are directly a Medicare or Medicaid IT system. At this time, partial funding options have not been identified.