Indian Health Services: Health Information Technology

Recovery Act funds are modernizing and extending electronic health information technology in the Indian Health Service (IHS) thereby improving access, quality, safety and overall health status of American Indian/Alaska Native (AI/AN) patients and populations. Approximately 95% of Recovery Act funded activities are being carried out through commercial contracts and through amendments to contracts with Tribes or Tribal organizations. IHS is using up to 5% of the funds for administrative costs, project management, and Recovery Act transparency reporting. Approximately 44% of the funds are being competitively awarded to acquire new hardware and network services to modernize security, communications, and infrastructure. In addition, acquisitions for software development and related services are being awarded via contract vehicles and through existing Tribal contracts as appropriate. Several existing competitively awarded General Services Administration (GSA) contracts were accelerated to expedite Recovery Act funded activities.

A. Funding Table

(Obligations in millions)

Program/Project Activity	Total Appropriated	FY2009 Actual	FY2010 Estimate
		Obligations	Obligations
Certified Electronic Health Record	$46.3	$34.2	$12.1
Personal Health Record Adoption	$2.3	$0.0	$2.3
Telehealth and Network Infrastructure	$32.3	$3.4	$28.9
Administration	$4.1	$2.1	$2.0
Total	$85.0	$39.7	$45.3

A. Objectives

- Invest in health information technology within IHS, directly benefiting the economy through the expenditure of funds in the private sector for goods and services.
- Contribute to the revitalization of the American economy through a significant expansion in the use of IT service companies and purchases of hardware from U.S. based information technology companies.
- Modernize and enhance network hardware and software capacity so that all Indian health care sites enhance the delivery of care and benefit from new health care information tools and security.
- Improve network infrastructure, including:

  - Network security enhancements to provide additional protection for patient data.
  - Network upgrades to improve speed, reliability, and redundancy of the network.
  - Video conferencing upgrades to support future telehealth initiatives.
- Deploy enhanced electronic health information technology to expand services, improve patient care quality, decrease service disparities, and expand access by Indians to out-of-network services and reimbursements.
- Improve and leverage the capabilities of the Resource and Patient Management System (RPMS), which is the electronic health information technology solution used by IHS, and the associated network infrastructure.
- Continue RPMS ambulatory certification and achieve RPMS patient certification by the non-profit U.S. certification authority.
- Expand use of the RPMS certified solutions in outpatient and inpatient settings; ensure meaningful use, once it has been defined.
- Improve the RPMS application, including:
  - Modernize the RPMS Electronic Health Record (EHR).
  - Acquire a personal health record capability for RPMS.
  - Improve the existing population health application.
  - Acquire a practice management system.
  - Develop a behavioral health EHR.

A. Activities

Expand Use of Certified Electronic Health Record

- **Comprehensive Health Information**. Improving capabilities across the RPMS suite, including clinical care, support services, and practice management, including activities to address the ease of implementation, support, and usability of the system.
- **Provider Order Entry**. Continued improvements to applications that support the communication of orders and consultations among members of the health care team both on site and remotely, including electronic prescribing.
- **Clinical Decision Support**. Creating and acquiring clinical decision support tools that build additional intelligence into RPMS, supporting quality of care and patient safety.
- **Quality and Performance Reporting**. Expanding existing quality and performance reporting capabilities, and ensuring that quality and performance data are transparent and accessible to consumers of IHS health care services.

- **Health Information Exchange**. Activities to ensure that RPMS meets national interoperability standards and those facilities using RPMS are positioned to participate in exchanges such as the Nationwide Health Information Network.
- **Certification**. Ensuring that RPMS receives national certification as a qualified EHR for inpatient use and for behavioral health settings, and continued certification as an outpatient EHR solution.
- **Deployment**. Intensive support for the deployment of RPMS EHR in all Federal and Tribal inpatient facilities, and optimization of implementation in outpatient settings as well.
- **Meaningful Use**. Ensure that RPMS can be used by providers to demonstrate they meet the requirements of "meaningful use" of electronic health records, once defined.

Personal Health Record Adoption

Development and collaborations to create truly consumer-oriented tools for management and portability of personal health information.

Telehealth and Network Infrastructure

The telehealth and network infrastructure activity is comprised of a number of discrete projects. All of these projects are related to improvements to the IHS network or support of future telehealth initiatives. These projects include a complete upgrade of the network routers, upgrade of network domain controllers, improvement and expansion of the storage area network, network security improvements; upgrade of information technology equipment required to support the deployment of an EHR certified for meaningful use, and upgrade and expansion of video conferencing infrastructure and the purchase of video conference devices for provision of telehealth services.

A. Characteristics

Types of Recipients

- Private-sector firms for computer and networking hardware
- Private-sector software development and project management firms
- Tribes, Tribal organizations, and Urban Indian programs offering needed technology products and services

Types of Financial Awards

- Commercial contracts (estimated funding: $51 million)
- Tribal contracts (estimated funding: $3.5 million)
- GSA contracts (estimated funding: $28 million)

Methods of Selection

- **New competition**. Merit based competition among vendors offering products that meet the specified requirements. Approximately 37% (32 million) will be competed for hardware and infrastructure modernization relating to security, networking, communications, and health information technology. Competitive contracts will also be awarded for new software development activities not covered under the scope of existing contracts.
- **Supplements to standing contracts**. Several competitively awarded GSA contract vehicles have accommodated rapid expansions for work in the near term, consistent with the goal of the Recovery Act to stimulate the economy in as timely a manner as possible.

A. Delivery Schedule

Activities	Supplements	Awards	Milestones	
Certified Electronic Health Record: Comprehensive Health Information	April-June, 2009	August-September 2010	Acquire practice management solution (October-December, 2010) Release of EHR Web interface (July-September, 2011)	July-September, 2011
Certified Electronic Health Record: Provider Order Entry	April-June, 2009	August-September 2010	Release pharmacy multiple drug file enhancement (January-March, 2010) Deploy Consolidated Mail Outpatient Pharmacy (April-June, 2010)	January-March, 2011
Certified Electronic Health Record: Clinical Decision Support	April-June, 2009	None	Release care management functionality (April-June, 2010) Implement ER dashboard application (January-March, 2010)	July-September 2011
Certified Electronic Health Record: Quality & Performance Reporting	April-June, 2009	August-September 2010	Add 2 performance measures to the Clinical Reporting System's Selected Measures Report	July-September 2010

Activities	Contract Supplements	New Awards	Work Milestones	Delivery
Certified Electronic Health Record: Health Information Exchange	April-June, 2009	August-September 2010	Deploy Enterprise Master Patient Index (January-March, 2010) Complete connection to Nationwide Health Information Network (July-September, 2010)	July-September 2010
Certified Electronic Health Record: Certification	April-June, 2009	August-September 2010	Complete EHR inpatient certification (July-September, 2010)	July-September 2010
Certified Electronic Health Record: Deployment	April-June, 2009	None	Implement use of RPMS in at least eighty (80) Alaska Village Clinics (July-September, 2010)	July-September 2011
Personal Health Record Adoption	April-June, 2009	August-September 2010	Complete requirements for initial PHR (October-December, 2010)	July-September 2011
Telehealth and Network Infrastructure	April-June, 2009	July-September 2009	Implementation plans complete (July-September, 2009) Begin Implementation May 2010Complete May 2011	December 2009-2011

Note: The above activities are a combination of multiple projects. Many aspects are currently underway through existing contracts.

A. Environmental Review Compliance

All Recovery Act projects are reviewed for environmental compliance. Projects comply with National Environmental Policy Act and National Historic Preservation Act and other environmental regulations as applicable.

A. Measures

Outputs	Frequency Measured	Measures Available for Public Access
Uptime of IHS data center network circuits	Quarterly	Recovery Act reports on http://www.recovery.gov Supplemental information on http://www.HHS.gov/Recovery

Explanation

Data circuit uptime is one of the most common methods used for measuring network reliability and availability to users. Uptime is a measure of the time a circuit is operational and available to carry data communications across the network. This measurement is made as a percentage of time. For example, 99% uptime means the network is non-operational 1% of the time or roughly 87.4 hours per year. By contrast, a 99.9% uptime means the network is only non-operational 8.5 hours per year. IHS plans to reach the goal of 99.9% uptime by the 4th quarter of FY 2010, and reports progress toward achieving this goal on a quarterly basis.

Outcomes	Frequency Measured	Measures Available for Public Access
Percentage of all orders that are electronically entered into the EHR	Quarterly	Recovery Act reports on http://www.recovery.gov Supplemental information on http://www.HHS.gov/Recovery

Explanation of Measure

Electronic order entry (medication, laboratory, and radiology) is an indicator of how completely the EHR is being utilized at a health care facility. It is a proxy outcome measure for the impact of EHR deployment; because it is well established that electronic order entry contributes to quality of care and patient safety. For example, electronic medication orders improve the quality of care by preventing medical errors such as incorrect dosage, medication allergy complications, and unintended drug interactions. An increase in electronic order entry is expected as a result of EHR enhancements and expanded deployment funded by the Recovery Act. IHS plans to reach the goal of 75% of all order that are entered electronically into the EHR by the 4th quarter of FY 2011, and reports progress toward achieving this goal on a quarterly basis.

Department of Health and Human Services
American Recovery and Reinvestment Act
Community Healthcare Services

Outcome/ Achievement	Units	Type	9/30/09	12/31/09	3/31/10	6/30/10	9/30/10	12/31/10	3/31/11	6/30/11	9/30/11	Program End
Increase percentage of all orders that are electronically entered into the EHR	%	TARGET			Release pharmacy multiple drug file enhancement	Deploy Consolidated Mail Outpatient Pharmacy	Complete EHR inpatient certification	Acquire practice management solution	Complete requirements for initial PHR	Release of EHR Web interface	Complete connection of Nationwide Health Information Network	IHS plans to reach the goal of 75% of all order that are entered electronically into the EHR
		ACTUAL	53%	49%								
Increase in uptime of IHS data center network circuits	%	TARGET		Begin Implementation			Implementation plans complete					IHS plans to reach the goal of 99.9% uptime by Q4 FY10
		ACTUAL	99.3524 %	99.73991 %	99.582%							

B. Monitoring and Evaluation

All Recovery Act programs are assessed for risk to ensure that appropriate internal controls are in place throughout the entire lifecycle of the program. These assessments are conducted by operating components to comply with the statutory requirements of the Federal Manager's Financial Integrity Act and the Improper Payments Information Act as well as OMB Circular A-123, "Management's Responsibility for Internal Control" (including Appendices A, B, and C).

The IHS risk management process fits within the overall governance structure established at HHS to address Recovery Act program risks. The HHS Risk Management and Financial Oversight Board provides executive leadership and establishes accountability for the risk assessment process related to internal controls over financial reporting, and the HHS Senior Assessment Team ensures that risk assessment objectives are clearly communicated throughout the Department. The IHS Recovery Act Coordination Team carries out comprehensive annual assessments of its Recovery Act program(s) to identify risks and develop strategies to address them, including those associated with selecting recipients, awarding and overseeing funds, and achieving program goals. It meets bi-weekly to monitor and assess the effectiveness of mitigation strategies and identify emerging risks.

In addition, IHS has presented/will present its high level risks to the Recovery Act Implementation Team. Chaired by the Deputy Secretary and comprised of senior policy officials from throughout the Department, the Implementation Team convenes monthly to monitor progress in carrying out Recovery Act programs and address the obstacles and risks that could impact on their success.

C. Transparency

Indian Health Service Office of Information Technology (IHS-OIT) is open and transparent in all of its contracting activities and regulations that involve spending of Recovery Act funding consistent with statutory and OMB guidance.

All tribal and Federal contracts include relevant reporting requirements for use of Recovery Act funds.

Indian Health Service Office of Information Technology (IHS-OIT) ensures that recipient required by Section 1512 of the Recovery Act and the public. IHS-OIT informs recipients of their reporting obligation through standard terms and conditions, grant announcements, contract solicitations, and other program guidance. IHS-OIT provides technical assistance to grantees and contractors and fully utilizes Project Officers to ensure compliance with reporting requirements.

D. Accountability

To ensure that managers are held to high standards of accountability in achieving program goals under the Recovery Act, Indian Health Service Office of Information Technology (IHS-OIT) builds on and strengthens existing processes. Senior IHS-OIT officials meet regularly with senior Department officials to ensure that projects are meeting their program goals, assessing and mitigating risks, ensuring transparency, and incorporating corrective actions. The personnel performance appraisal system also incorporates Recovery Act program stewardship responsibilities for program and business function managers.

- Incorporate Recovery Act into IHS FY 2009 Management Control Plan.
- Health Information Technology projects comply with:
  - Expedited reviews by IHS' Information Technology Investment Review Board.
  - Monthly reviews by IHS Capital Planning and Investment Control to detect project variances, including cost and schedule.
  - Centralized equipment purchase and distribution to enhance control, timeliness, and volume.
  - Request for Proposal (RFP) processes will include review of vendor capabilities and ramp-up time.
- Incorporate Recovery Act implementation in:
  - Director's Performance Plan and cascade to responsible Recovery Act managers.
- Track quantifiable outcomes and outputs for Recovery Act projects.
- Track Recovery Act funds in the IHS Unified Financial Management System.
- Track and report use of funds for administration.

E. Barriers to Effective Implementation

- Timely obligation of funding.
- The increase in OIT acquisition requests result in an additional workload. OIT mitigates this risk through the use of multiple avenues for acquisitions. This includes the use of GSA for some acquisitions and the use of existing competitively bid contract vehicles such as the GSA Supply Schedule contract. In addition, OIT has funded the hiring of additional IHS contracting personnel.
- Filling federal vacancies.
- OIT will require additional staff to oversee and manage ARRA activities. OIT minimized this barrier by hiring additional HR support.

- Requirement for specialized skill sets.
- The sudden increase in project activities have resulted in a need for additional qualified personnel. Some of the skill sets required are highly specialized and difficult to find. OIT reduced this risk by using both the federal hiring process and contractors to fill vacancies.

F. Federal Infrastructure

- IHS has implemented a standard life cycle replacement program for desktops and laptops to allow the use of the most energy efficient devices.
- IHS has included language in its contracting mechanisms to require the procurement of energy efficient computer equipment.
- IHS is a partner in the Federal Electronics Challenge (FEC). The FEC is managed by the Environmental Protection Agency and provides partners with resources and technical assistance for improving electronics management practices.
- Computers and monitors purchased by IHS meet the Electronic Product Environmental Assessment Tool (EPEAT) standards, where applicable.
  - EPEAT evaluates electronic products in relation to 51 total environmental criteria, 23 required criteria and 28 optional criteria.
  - Energy Star features and Power management settings are implemented and required to be used on all commodity desktops, monitors and laptops.

Summary of significant changes

Health Information Technology (HIT) updated the Funding table to align with actual implementation of projects. HIT also provided actual performance measure outcomes to gauge progress towards program end targets. Due to the time constraints of the Recovery Act funding and the length and complexity of software development, HIT has modified its initial plan to focus more on the infrastructure improvements that will provide immediate returns and comply with ARRA regulations while still achieving Health Information Technology goals.