

# Health IT White Paper

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## **Healthcare IT (HIT)**

2009 is clearly the year for healthcare reform in the United States. The current economic crisis coupled with the recent change in Administration has elevated the longstanding need for improvements in the quality, safety, privacy and efficiency of US healthcare. With healthcare representing billions of dollars to be allocated as part of the President's economic stimulus package, opportunities abound for Sealaska and MBS. There continues to be a myriad of challenges that face patients, providers, payors, and anyone who is dependent on data to secure a continuity of care. The US Department of Health and Human Services (HHS) Agency for Healthcare Research and Quality (AHRQ) estimates that the number of deaths from medical errors ranges from 44,000 to 98,000 a year. Healthcare data and the ability to share said data, is more important now than ever before.

As part of the December 2008 "A Call for Action...Enabling Healthcare Reform Using Information Technology", the Healthcare Information and Management Systems Society (HIMSS) noted what the future would hold for transforming delivery of healthcare moving forward. In the US, HIT can be defined as the use of computers and computer programs to store, protect, retrieve, and transfer clinical, administrative, and financial information electronically within and between healthcare stakeholders. Health IT is used in a variety of settings: in-patient (hospital, medical/surgical/long term care, etc) ; out-patient (ambulatory and specialty); life sciences; payors; public health; and others. Examples of HIT and industry leaders within the market segments include:

- Electronic Health Records (EHRs)- McKesson, Cerner, Epic, Allscripts
- Electronic Medical records (EMRs)- McKesson, Cerner, Epic, Allscripts
- Personal Health Records (PHRs)- Microsoft Health Vault, Google Health Initiative
- Payor-based Health Records (PBHRs)- Initiate Systems, Emdeon, United Health Systems, Wellpoint
- Electronic Prescribing (e-Prescribing)- Advanced MD, Dr First, SureScripts
- Financial/Billing/Administrative Systems- Oracle, JD Edwards, Lawson
- Computerized Practitioner Order Entry (CPOE) Systems- Clinical Pathways, Eclipsys, Meditech
- Hardware Solution Providers Include: Dell Healthcare IT Solutions, H-P, EMC, Lenovo Healthcare

In a recent speech hosted by George Mason University, President Obama confirmed that the landscape of healthcare related to the EMR space has room for growth and sustainability, given that “only 8% the 5000+ hospitals and 17% of the 800,000+ physicians employ an EMR system.” According to the Congressional Budget Office (CBO), 20.2 billion dollars will be allocated to financial incentives for Medicare and Medicaid providers who are willing to adopt HIT in their practices, with the remaining 1.8 billion dollars available for non-Medicare and non-Medicaid providers.

Healthcare IT and its anticipated application have captured the attention of those in Washington and many who work and live in that arena. When asked their collective opinion about healthcare costs, affordability of coverage and the impact of unemployment, executives from the National eHealth Collaborative, HIT Standards Panel and Certification Commission of HIT jointly responded, “Health IT is not a panacea for all of these challenges, but it is a critical first step toward addressing many of them.”

The existing paper-based health information process wastes hundreds of millions of dollars annually, while concurrently contributing to mismanagement of information, limited access to patient data & questionable financial efficiencies. Transforming the paper based system is a priority for President Obama and has been highlighted in many speeches where he shares his desire and commitment to facilitating a process whereby all medical records will be computerized by 2014. This transformation is likely to include; a conversion to interoperable electronic health records (EHRs) at healthcare facilities, the adoption of online personal health records (PHRs) for individuals, health information companies that connect and support these systems, and a national health information network or integration platform that allows for permission based access.

The following 7 stages as best articulated by HIMSS as the Adoption Model for Hospitals and Expected Benefits for Each Stage are:

**Stage 0:** Some clinical automation may be present, but all three of the major ancillary department systems for laboratory, pharmacy, and radiology are not implemented.

**Stage 1:** All three of the major ancillary clinical systems (pharmacy, laboratory, radiology) are installed.

**Stage 2:** Major ancillary clinical systems feed data to a clinical data repository (CDR) that provides physician and other clinician access for retrieving and reviewing results.

**Stage 3:** Clinical documentation (e.g., vital signs, flow sheets) is required; nursing notes, care plan charting, and/or the electronic medication administration record (eMAR) system are scored with extra points, and are implemented and integrated with the CDR for at least one service or one unit in the hospital.

**Stage 4:** Computerized practitioner order entry (CPOE) for use by any clinician is added to the nursing and CDR environment along with the second level of clinical decision support capabilities related to evidence-based medicine protocols.

**Stage 5:** The closed loop medication administration environment is fully implemented in at least one patient care service area.

**Stage 6:** Full physician documentation/charting (using structured templates) is implemented for at least one patient care service area.

**Stage 7:** The hospital has a paperless EMR environment.

According to the McKinsey & Company, the US healthcare system consumes more than 15% of total expenditures on processing payments. While much of the high cost is associated with activities such as contract management and revenue cycle processes, one of the most important factors is the high cost of transmitting paper-based claims and payment of claims among payors and providers.

McKinsey & Company finds that approximately 60% of all claims payments are paper-based, involving paper claims that are sent between payors and providers manually submitting and reconciling claims and depositing checks. As a result, paper-based claims cost approximately \$8 per item with each claim containing numerous items. As the majority of reimbursements are based on paper checks, this costs healthcare \$15 - \$20 billion a year in postage, processing, and accounting. It is estimated that increasing the rate of electronic payment of claims to 90% from the current 40% could save \$6 billion or more annually across the country.

As part of the process for transforming existing data to health information technology, a digitalization effort must be administered. In a joint study authored by Harvard University and the Commonwealth Fund, the cost to implement a Digitalization Plan would range between 75-100 billion dollars. Although expensive, the cost to do nothing is significantly more. According to David Brailer, the former Bush Advisor (2004-2006) and National Coordinator for HIT (ONC/HHS), computerized systems will account for significant efficiencies and corresponding annual savings between 200-300 billion dollars.

Transforming healthcare into a model which provides secure access to important data and enhances efficiency continues to be the desire of both commercial thought leaders and medical providers.

Verizon Communications Chairman and CEO Ivan Seidenberg, who chairs the consumer health and retirement initiative for the Business Roundtable, stated that, "Modernizing the nation's healthcare infrastructure would drive down costs, boost efficiency and health outcomes and create some 200,000 jobs, plus thousands of indirect jobs."

The American Academy of Family Physicians and the American College of Physicians, which represents 126,000 internal medicine physicians, separately called for action on healthcare reform.

Jim King, MD, the chairman of the AAFP board, "Physicians should have effective incentives to purchase a wide variety of technology that is appropriate for their particular setting," said King. He added, "We agree that the Department of Health and Human Services should be allowed latitude to determine what products should be certified. Any funds to support the purchase of certified products should be followed by incentives that align payment with quality and efficiency. This is critical to drive the utilization of the adopted systems."

In September 2008, The Business Roundtable, a group of about 160 CEOs of leading U.S. companies, called on Congress for legislation that would provide incentives for electronic health record systems,

citing statistics that widespread adoption could save \$165 billion a year on healthcare costs. The Business Roundtable represents \$4.5 trillion in annual revenues and provides workplace health coverage for more than 35 million Americans.

According to HIMSS, the following examples represent documented savings being realized by hospitals, physicians and healthcare networks due to the implementation of EMR/EHR systems:

### **Examples of Documented Soft Return on Investment Through Use of EMR/EHR Systems**

<b>Category</b>	<b>Examples</b>
<b>Patient Safety</b>	<ul style="list-style-type: none"> <li>• Maimonides Medical Center, a 705-bed hospital in New York City, saw problem medication orders drop by 58% and medication discrepancies by 55%.</li> <li>• Through use of an EMR/EHR system, 324-bed Cincinnati Children’s Hospital decreased medication errors by 50% and achieved nearly zero mislabeled lab specimens.</li> <li>• At Ohio State University Health Systems, online medication charting errors in transcription dropped to zero for departments using an EMR/EHR system, versus transcription errors of 26% in departments not using the system.</li> </ul>
<b>Process Improvement</b>	<ul style="list-style-type: none"> <li>• Each physician at University of Illinois Chicago Medical Center saved five hours per week in time spent reviewing resident orders.</li> <li>• Cincinnati Children’s decreased the time spent on the medication cycle entering orders, receiving orders, and shortening the care process for patients and staff by 52%.</li> <li>• In Chicago, Riverpoint Pediatrics decreased wait time by 36 minutes in all encounters - a 40% decrease.</li> <li>• Cooper Pediatrics of Duluth, Georgia decreased drug-refill wait times by 42% and lowered turnaround telephone call time by 75% (to less than 20 minutes).</li> </ul>
<b>Communications</b>	<ul style="list-style-type: none"> <li>• Queens Health Network applies the system for sharing documentation by all staff across the continuum of care, aiding in the elimination of duplication of activities.</li> <li>• Citizens Memorial in Bolivar, Missouri, eliminated the need for transport of documents by making the EMR/EHR system available from any of its care locations and hospital departments. “Message to Nursing” enables physicians to send</li> </ul>

	patient instructions or information to a nurse.
<b>Regulatory Compliance</b>	<ul style="list-style-type: none"> <li>• Ohio State University Health System advanced full compliance with institutional policies and bylaws regarding do-not-resuscitate orders and restraint orders.</li> <li>• Cincinnati Children’s saw orders permanently unsigned by physicians drop from 40% to around 10% and witnessed a corresponding 24% drop in verbal orders.</li> </ul>

**Appendix: Opportunities within the American Recovery Act of 2009**

With the advent of the stimulus package, numerous companies, government agencies and medical professionals are aligning to support and/or participate in the requisite change...it is imperative that MBS and Sealaska position themselves for the myriad of opportunities that are becoming available. The following breakdown represents the current knowledge of the Recovery Act in alignment with existing MBS / Sealaska capabilities to date.

**HIT**

Health Information Technology

Recovery funding: \$2 billion

This general provision provides short-term authority to spend the \$2 billion provided in the economic recovery bill. The Office of the National Coordinator for Health Information Technology will be able to use these funds to invest in health information technology (IT) architecture supporting the nationwide electronic exchange of health information, including health information exchanges; to support training of health care professionals who will be instrumental in improving the quality of health care through the electronic exchange of information; and to provide grants to institutions and providers to acquire health IT products if the products are certified as meeting the Office’s standards. Research conducted by Oregon Health and Science University in 2008 showed that to achieve the full benefits of health IT, an additional 40,000 IT professionals will be required.

The economic recovery bill provides \$2 billion to jumpstart the investment in health information technology in order to curb health care costs and improve health care quality. This \$2 billion investment will support the infrastructure necessary to allow for and promote the electronic exchange and use of

health information consistent with the strategic plan outlined by the Office of the National Coordinator for Health Information Technology.

- **Potential Opportunity for MBS/Sealaska**

Hardware, Training/staffing, Software Sales, Integration

- **Estimated Timing of Outlay**

Starting FY2009, although reality dictates most money allocated post mid-year 2010/early 2011

## **Broadband**

### **Rural Broadband Infrastructure Development**

Recovery Funding: \$2.825 billion

### **State Broadband Data and Development Grants**

Recovery funding: \$350 million

USDA's Rural Development mission area has had significant experience for more than seven years in delivering broadband infrastructure to rural America through its distance learning, **telemedicine**, and broadband program. The funding provided will significantly expand "open access" broadband networks in order to enhance the communication capabilities necessary for continued economic growth. Funding for this initiative will support the installation of open-access broadband infrastructure. An open-access network will preserve competition while ensuring that the country utilizes to the fullest extent all of its available resources in rural America.

- **Potential Opportunity for MBS/Sealaska**

Facilities, Program Management

- **Estimated Timing of Outlay**

TBD

## **Buildings / Facilities**

### **Research Science Building Construction Grants**

Recovery funding: \$300 million

This program is a competitive construction grant program for research science buildings. These grants are awarded to colleges, universities, and other nonprofit, science research organizations on a merit basis. The first three awards were made in November 2008, out of 90 applications. Additional funding at this level will allow for another competition and the funding of approximately 30 research science buildings. These research buildings create jobs during construction and after completion, provide high-paying scientific positions.

- **Potential Opportunity for Sealaska**

Hospital/Facility Construction

- **Estimated Timing of Outlay**

FY2009-2012

DEPARTMENT OF HEALTH AND HUMAN SERVICES

### **Indian Health Service, Facilities**

Recovery funding: \$550 million

#### **Community Health Centers (CHCs) Health Care Services**

Recovery funding: \$500 million

#### **Community Health Centers Modernization**

Recovery funding: \$1.000 billion

The Indian Health Service provides comprehensive health service delivery to nearly 2 million Native Americans, who are more likely to have lower life expectancy and disproportionate disease burdens, due in part to high unemployment and poverty. Based on Department of Commerce criteria, it is estimated that this funding will result in approximately 4,000 construction jobs, with 1,800 jobs directly involved in construction. Also included within the proposed amount is funding to provide the necessary infrastructure and equipment to implement health information technology in Indian Country.

With additional economic recovery funding, CHCs will be able to provide needed care to uninsured and underserved rural and urban populations. A February 2008 George Washington University study showed

that a \$250 million annual increase could support care for an additional 1.8 million people in the low-income communities where CHCs are located.

According to the National Association of Community Health Centers' facilities survey of its 1,000 community health centers, there are approximately \$4.4 billion in existing facility needs for renovation and repair to adequately serve their 18 million patients. This includes needs for acquisition of health information technology systems. The \$1 billion included in the economic recovery bill would be awarded through competitive grants or supplements to existing CHC awards.

- **Potential Opportunity for MBS/Sealaska**  
Hospital/Facility Construction, Staffing
- **Estimated Timing of Outlay**  
FY2009, 2010

### **Military Construction, Defense-Wide**

Recovery Funding: \$3.750 billion

Funding is provided for construction of hospitals and ambulatory surgical centers. The Department of Defense has identified an enormous need for the recapitalization of major medical facilities.

- **Potential Opportunity for Sealaska**  
Hospital/Facility Construction,
- **Estimated Timing of Outlay**  
TBD

### **Veterans Health Administration – Medical Facilities**

Recovery Funding: \$950 million

Medical Facilities provides for the operation and maintenance of the Department's health care system's capital infrastructure. The Department has identified a \$5 billion backlog in non-recurring maintenance projects, including energy projects, at its 153 medical facilities.

- **Potential Opportunity for Sealaska**

Hospital/Facility Construction

- **Estimated Timing of Outlay**

TBD

### **Partnerships**

PUBLIC HEALTH AND SOCIAL SERVICES EMERGENCY FUND

**Pandemic Flu, Biomedical Advanced Research & Development (BARDA), and Cyber**

### **Security**

Recovery funding: \$900 million

CBO has estimated that an influenza pandemic might cause a decline in U.S. gross domestic product of between 1 and 4.25 percent depending on the severity of the pandemic. Providing additional funding to prepare for and respond to a pandemic will ameliorate the morbidity and mortality associated with worst case scenarios of an influenza pandemic thereby reducing the potential economic burden.

According to a recent independent economic analysis of BARDA, in order to develop countermeasures for all bio-defense requirements identified in HHS's Public Health Emergency Countermeasures Enterprise Implementation Plan, significant increased investment in advanced development is required.

- **Potential Opportunity for MBS/Sealaska**

Staffing, Partnering (ex. H-P)

- **Estimated Timing of Outlay**

TBD

### **Prevention and Wellness Fund**

Recovery funding: \$3.000 billion

In 2005, U.S. health care expenditures totaled almost \$2 trillion – 15 percent of the gross domestic product. The leading causes of death in the U.S. are preventable chronic diseases which account for 75

percent of U.S. healthcare costs. Making increased investments in preventing diseases potentially saves billions of dollars per year.

- **Potential Opportunity for MBS/Sealaska**  
Disease Management Program, Partnering (ex. Care Provider)
- **Estimated Timing of Outlay**  
FY2009 on

#### **Centers for Independent Living**

Recovery funding: \$200 million

The Independent Living Program, administered by the Department of Education, consists of three separate programs: Independent Living State Grants, Centers for Independent Living, and the Services for Older Individuals Who Are Blind program. Independent Living State Grants provide funding to improve independent living services, and to support the operation of State Independent Living centers.

- **Potential Opportunity for MBS/Sealaska**  
Partnering (ex. Beverly Enterprises)
- **Estimated Timing of Outlay**  
FY 2009-2014

#### **Social Security Administration Modernization**

Recovery funding: \$400 million

The Social Security Administration (SSA) National Computer Center (NCC) is nearly 30 years old and it will soon be unable to support the critical systems necessary to SSA's mission. The construction of a new center is necessary to meet the growing needs of SSA for the processing of retirement and disability claims, and storage of wage and medical records. An estimated 400 jobs will be created during the construction process.

- **Potential Opportunity for MBS/Sealaska**  
Hardware, Software Sales, Facilities Construction, Partnering (ex. EDS)
- **Estimated Timing of Outlay**  
TBD

## Social Security Administration Disability Backlog and Claims Processing

Recovery funding: \$500 million

These additional funds will allow SSA to process new claims in a timely manner and to accelerate activities to reduce the backlog of disability hearings. In addition, as the largest repository of electronic medical images in the world, SSA has a vital interest in exploring how health information technology can be integrated into the disability process through the widespread adoption of electronic medical records. The funds for agency operations include resources for SSA health information technology research and activities.

- **Potential Opportunity for MBS/Sealaska**

Hardware, Software Sales, Partnering (ex. EDS)

- **Estimated Timing of Outlay**

FY2009, 2010

## CAPITAL INVESTMENT FUND Information Technology

Recovery Funding: \$276 million

These funds are for immediate information technology upgrades. This investment will address deferred maintenance and upgrades to improve the efficiency of Department of State operations. Of the funds provided, up to \$120 million is provided for design and construction of a backup information management facility in the United States to protect the Department of State from mission failures. In addition, up to \$98.527 million is provided to support the Comprehensive National Cybersecurity Initiative to prevent and address cyber security threats. Finally, the bill provides funds for immediate hardware and software upgrades to the Department's information technology platforms.

- **Potential Opportunity for MBS/Sealaska**

Facilities Construction, Hardware, Partnering (ex. H-P)

- **Estimated Timing of Outlay**

FY2009

**Medicaid Aid to States (FMAP): (Partnering)** Approximately \$87 billion to states, increasing through the end of FY 2010 the share of Medicaid costs the federal government reimburses states, with additional

relief tied to rates of unemployment. In the previous recession the federal government increased its contribution to Medicaid to help states avoid cuts in health benefits at a time when low-income patient loads are increasing and State revenues are declining.

- **Potential Opportunity for MBS/Sealaska**

Hardware, Software Sales, Partnering (ex. EDS)

- **Estimated Timing of Outlay**

FY2009, 2010

### **Research**

AGENCY FOR HEALTHCARE RESEARCH AND QUALITY

### **Comparative Effectiveness Research**

Recovery funding: \$1.100 billion

The Agency for Healthcare Research and Quality (AHRQ) began a Comparative Effectiveness Research program after passage of the Medicare Modernization Act of 2003 to conduct, support, or synthesize unbiased research about the comparative effectiveness of different healthcare interventions.

Substantially increasing the Federal investment in comparative effectiveness research has the potential to yield significant payoffs in reducing health care expenditures and improving quality.

- **Potential Opportunity for MBS/Sealaska**

Disease Management, Partnering (ex. HMS)

- **Estimated Timing of Outlay**

TBD

