



Business and Finance Team

Team Charter

The business and finance team provides the business and financial sustainability plan for the development of electronic health information exchange in Guam. They will develop the various value propositions to engage all stakeholders and prepare the business case for designing, building and sustaining an HIE.

Primary Work Activities

- Demonstrate that all key stakeholders have and understand their long (and short) term value propositions and when they will see them realized
- Risks are identified and mitigation strategies are developed
- Sequence of activities and decisions identified for the business model (decision tree)
- Trigger points identified for scope changing events - what would cause us to make a major change
- Cost reduction/avoidance values are determined and reported
- Coordinate with the Legal and Policy and Technical Architecture teams

Expected Outcomes

- Initial services agreed upon and approved
- Business case written
- Budget prepared and approved
- Financial plan approved
- Funding plan approved
- Funding plan activity begun
- Risks are identified and mitigation strategies are developed
- Value proposition for each stakeholder is documented

Required Team Skills

Team members

- Experience understanding financial statements
- Ability to think strategically and tactically
- Experience creating budgets
- Basic understanding of technical architecture issues
- Experience in performance management/measurement

Team leader

- All above plus
- Understanding of the interrelationship and interdependencies between and among the Business and Financial Team, Legal and Policy team, and Technical Architecture team
- Ability to create and communicate both quantitative and qualitative value propositions
 - Ability to effectively articulate financial and budgeting information
 - Willingness and ability to be an externally visible representative of the project regarding project funding and finances
 - Excellent communication skills

Roles and Responsibilities

Team Chair

- Convene meetings
- Direct the work of the team
- Enable timely decisions
- Communicate team activities and reports to GeHC

Team members

- Attend all meetings
- Provide expert advice on all matters
- Complete work assignments in a timely manner

Time Commitment

It is anticipated that the average time commitment for the Business and Finance Team is approximately twelve hours a quarter. This includes three hours for the quarterly team meeting, one hour per month for con calls and six hours for completion of various assignments.

Attachment 2 - Research and Analysis Report

Hielix has researched cost and financial information for various existing HIE initiatives across the country. We conducted a comprehensive review of numerous documents, reports, articles, presentations and other materials to inform our work in designing the Guam Financial Sustainability Plan. The results of our analysis is included in the materials developed to date and will be included in any additional materials developed for future deliverables.

A listing of the relevant documents, reports, articles, presentations and other materials is presented below.

Document:

Albritton, Phyllis. The Colorado Story. Western States e-Connection Summit; April 12 - 13, 2010. Phoenix, Arizona

Summary:

This presentation describes the formation of the Colorado Regional Health Information Organization (CORHIO) as well the development of the organization to date. It also provides the CORHIO principles for achieving sustainability.

Analysis:

The document provides a good framework for financial sustainability from an HIE organization that is currently operational.

Document:

American Health Information Management Association. State Level Health information Exchange Initiative - Development Workbook. February, 2007. www.ahima.org/fore

Summary:

This workbook was developed as part of the research project conducted by the Foundation of Research and Education (FORE) of the American Health Information Management Association (AHIMA)—under contract to the ONC—to develop practice and policy guidance for state-level HIE initiatives in the areas of governance, structure, operations, financing, and HIE policies. This workbook is a compilation of knowledge and guidance resulting from this research project titled “State-Level RHIO Models and Best Practices.” A representative sampling of state-level HIE initiatives was engaged and studied. States included for in-depth site visits in the study were California, Colorado, Florida, Indiana, Maine, Massachusetts, Rhode Island, Tennessee, and Utah.

The project involved: (1) gathering information about current policies and practices of the sampled state-level HIE initiatives in the areas of governance, structure, financial model, HIE policies, operations, and short- and long-term priorities; (2) convening the Steering Committee and technical advisors to develop consensus on principles and recommendations for state-level HIE initiatives in these areas; (3) convening a national consensus conference to obtain feedback on the draft principles and recommendations (4) producing public domain

findings and guidance for developing state-level HIE initiatives; and (5) developing a plan for dissemination and encouraging adoption of the consensus principles and guidance.

Analysis:

The work involved in this project established the foundation for the five domains defined by ONC in the creation of the Strategic and Operational Plans required from each state. The study outlines many of the core concepts for financial sustainability and provides a good model for building a successfully HIE.

Document:

American Medical Association. Standardization of the Claims Process: Administrative Simplification White Paper. 22 June. 2009. www.ama-assn.org/go/simplify.

Summary:

This white paper focuses the need and justification for simplifying and standardizing the current health care billing, payment and claims reconciliation process. The paper describes the current process and the waste created by multiple processes. It goes on to make recommendations on process improvements and the resulting cost savings.

Analysis:

According to the AMA study, standardization would save providers over \$90 billion per year. This is important because HIEs will begin to force standardization of processes in order to exchange data and information. If successful, these cost savings may be able to be used to help pay for HIE operations.

Document:

Anderson, Mark R. Community HIEs with Multiple EHRs Resulting in an Integrated Community EHR. Atlanta. 1 March. 2010.

Summary:

In this presentation to HiMSS, the results of a community based HIE project were shared. The results of the project showed how the adoption of EHR technology resulted in improved patient care as well as direct financial benefits to the participants.

Analysis:

This study clearly shows the value of adopting EHR technology and will serve as evidence of the value electronic technology can provide participants. For example, the study found:

- Medical record cost reductions between 64% to 74%
- Transportation cost reduction between 80% to 92%
- Paper cost reduction s between 61% to 68%
- Transcriptions cost reduction between 73% to 87%
- Billing cost reductions between 6% to 12%

Document:

Athenahealth, Inc. The Economics of the Patient Workflow: Cracking the Code of Successful EHR design. White Paper. October, 2009. www.athenahealth.com

Summary:

Athena Health conducted a study to measure the value of EHR technology to participants and this paper describes the results of that study. It describes how EHR technology can impact the entire clinical workflow and how to maximize the benefits from using technology. In addition, using EHR technology will also help participants meet the Meaningful Use criteria.

Analysis:

The primary value of this paper is to draw attention to the holistic workflow process used by clinicians to deliver care. Examining the overall workflow will produce benefits beyond what is normally expected. It is important that electronic technology can add value in unexpected places and can help make the adoption case to providers.

Document:

Blair, Jeff. New Mexico HIE Strategic and Operational Plans. "Version 3.0" 11 March. 2009.

Summary:

This document is a version of the Health Information Exchange Strategic and Operational Plan for the State of New Mexico.

Analysis:

The value of this document is to see how the application of the CITL work applies to a specific state. ONC has cited this Strategic and Operational Plan as an example of how a state can identify and project costs savings. Our problem with the documents is in our work, most of the projected costs savings are not real and it does not adequately address how to achieve these costs savings.

Document:

The Boston Consulting Group. Funding Model for the Exchange. Prepared for the Rhode Island Quality Institute. Boston, MA. 3 June. 2009.

Summary:

The Boston Consulting Group studied various funding models for the Rhode Island Quality Institute and issued its report in June 2009. The study identified four different models (Assessment, Stakeholder Contribution, Access Revenue, and Services Revenue) for assessing fees to participants. The conclusion of the study was assessment fees were most appropriate for the start-up phase of building the HIE in Rhode Island.

Analysis:

The study looked at seven existing HIEs and their sources of funding. Only one of the seven used the assessment model recommended in the study. The others used a variety of funding sources with Access and Service Charges being the most preferred. It is important to note the

study indicated “As of today (2009), few benchmarks of fee-based models which provide sustainable funding”.

Document:

The Boston Consulting Group.” Rhode Island Quality Institute: Business Case for Health Information Exchange.” Boston, MA. Prepared for the Rhode Island Quality Institute. 5 December. 2008.

Summary:

The report presents a variety of examples regarding the value of Health Information Exchange in Rhode Island. The examples include improved care delivery performance, enhanced patient-provider interaction and supporting infrastructure for other innovations. The report also outlines a number of approaches to a sustainable business model. In addition, the study calculates the potential savings to the healthcare systems in Rhode Island from various reductions in costs (duplicative tests, adverse drug events, better record management, excessive admissions, etc.)

Analysis:

This study provides a significant amount of baseline data comparing the more successful HIEs around the country. It is useful to understand how other HIEs work as well as how they fund operations. The strength of this work is in its analysis of various funding alternatives and the use of data to explore and compare alternatives.

Document:

California HealthCare Foundation. The Santa Barbara County Care Data Exchange: Lessons Learned. August 2007. ISBN 1-933795-35-2. www.chcf.org

Summary:

This case study looks at the history of Santa Barbara’s RHIO and why it was not successful. It also presents lessons learned from that experience, briefly describes two other exchanges that have been more successful, and discusses the policy implications for nascent RHIOs elsewhere. Although the venture had developed a peer-to-peer technology infrastructure that enabled authorized physicians, health care organizations, and consumers in the region to access some electronic patient information securely via the internet, the exchange was unable to overcome major hurdles and success.

Analysis:

This report outlines the reasons why the project did not succeed including the lack of a compelling business case, distorted economic incentives, passive leadership among participants, vendor limitations and software delays, and due to a variety of factors, the ventures poor momentum and credibility.

Document:

CBO. Evidence on the Costs and Benefits of Health Information Technology. May. 2008. "Publication Number 2976."

Summary:

This Congressional Budget Office (CBO) paper focuses on evidence about the benefits and costs of health IT and identifies and analyzes barriers to its adoption. Research indicates that in certain settings, health IT appears to make it easier to reduce health spending if other steps in the broader health care system are also taken to alter incentives to promote savings. By itself, the adoption of more health IT is generally not sufficient to produce significant cost savings. The paper also describes the federal role in healthcare IT as both a major payer and funder of healthcare technology.

Analysis:

The study concludes savings could accrue in a number of areas including:

- Eliminating paper medical records
- Avoiding duplicated or inappropriate diagnostic tests
- Reducing the use of radiological services
- Promoting the cost-effective use of prescription drugs
- Avoiding adverse drug events
- Improving the productivity of caregivers
- Reducing the length of hospital stays
- Creating a comprehensive interoperable health IT system, including a health information exchange that facilitated the sharing of health care information
- Expanding the practice of evidence-based medicine

Document:

Center for Information Technology Leadership. The Value of Healthcare Information Exchange and Interoperability. 2004. ISBN 0-9725371-8-X. www.citl.org

Summary:

Drawing on an extensive review of a wide range of literature, interviews with clinicians and healthcare executives and consultations with experts, CITL synthesized existing evidence and built a software model to project the value different of Health Information Exchange and Interoperability. The study examined transactions between providers and other providers, between providers and stakeholders with whom they most commonly exchange information, independent laboratories, radiology centers, pharmacies, payers, and public health departments.

Analysis:

This document has become the seminal research piece most often cited to support the conclusion that HIE will reduce costs across the United States healthcare system. The study projects savings at four (4) different levels on exchange and interoperability. As an example it projects the following best case (level 4), annual, cost savings to the system as follows:

- Between provider and independent laboratories \$31.8 billion

▪ Between outpatient providers and radiology centers	\$26.2 billion
▪ Between outpatient providers and pharmacies	\$ 2.7 billion
▪ Between providers and other providers	\$13.2 billion
▪ Between providers and public health departments	\$ 195 million
▪ Between provider and payers	\$20.1 billion

Document:

College of Healthcare Information Management Executives (CHiME). Health Information Exchange (HIE) Principles. November 2010.

Summary:

CHiME is a 50-State network of CIOs created for the purpose of gathering and communicating relevant in-state IT developments, including HIE formation and sharing information on best practices. This document is an executive summary developed to guide HIEs in meeting Meaningful Use as required under ARRA.

Analysis:

The document outlines 15 principles to provide guidance to states as they develop HIEs. In addition, the document provides observations as to why the principle is required and offers recommendations to help ensure the principles become the operational standard for HIEs.

Document:

State of Connecticut Statewide Health Information Exchange Financial Sustainability Study. December 2010

Summary:

Prepared by Gartner, the State of Connecticut Financial Sustainability Study identifies the quantifiable value to various stakeholders, identifies potential funding mechanisms and analyzes funding alternatives.

Analysis:

This document contains potential value projections for various stakeholder groups. In addition, it recommends a funding model using metrics for different stakeholder groups.

Document:

Colorado; CORHIO. "State Health Information Exchange Strategic Plan." October. 2009.

Summary:

This document is the Health Information Exchange Strategic and Operational Plan for the State of Colorado as submitted to the Office of the National Coordinator.

Analysis:

The value of this document is to see how one state with an active HIE (CORHIO) integrates their efforts with the rest of the state.

Document:

Dossier, HP TECH. Strategy Guide to Risk Mitigation for Healthcare.
<http://www.macconnection.com/>

Summary:

The purpose of this study is to quantify the value of reducing network downtime. Given providers' concerns about the availability of patient data at the point of care, it is important to understand how critical network availability is to providers.

Analysis:

In one large Canadian Hospital, building the right EMR system with proper network support, freed up over 780 hours of physician time. The study notes that investing in technology may be costly but the financial payoff can be substantial as well as the benefits of improved patient care.

Document:

eHealth Initiative. Summary of the EHI Value and Sustainability Model and Tool Suite.
Washington. May. 2007.

Summary:

The document outlines a step-by-step process for creating a self-sustaining business model for health information exchange. It provides four useful tools to help develop a sustainable model. These tools include:

- Market readiness Assessment Tool
- Value Tool
- Risk Estimation Tool
- Business Plan Template and Pro Forma Tool

Analysis:

While a little outdated, the work done by the eHealth Initiative stands the test of time. It provides the basic background material necessary to understand the variety of factors required for developing a sustainable HIE financial and business model.

Document:

eHealth Initiative. Health Information: From Exchange Start Up to Sustainability. Washington, DC. 2007. www.ehealthinitiative.org

Summary:

This study acknowledges that HIEs face an economic dilemma. HIEs are forced to create a transaction efficiency market that depends on highly local networks of trust and altruism, and that yields only modest revenues. The transaction costs alone of forming these markets of trust place HIEs far outside the pale of general business startups. Further, the diminishing returns on transaction efficiencies cannot amortize the investments necessary to create large-scale, fully-functional interoperability. The authors examine 10 operational RHIOs to determine the keys to sustainability.

Analysis:

The study offers several common observations with lessons that might be applied to any HIE startup. These observations include:

- Understand that considerable time and capital will be required to create a operational platform for the design and implementation of HIE functionality
- Resist the temptation build Rome in a day; disciplined incrementalism and short-term wins are key
- Employ a full-time, committed and charismatic project leader who has sound business skills and who will instill confidence in the HIE process across stakeholder interests
- Agree at the earliest opportunity on acceptable community standards that address data privacy and security and that account for state and federal requirements
- Articulate clearly and demonstrate how the HIE provides gains in efficiency and/or effectiveness. Ultimately, the gains must be proven with financial metrics that stakeholders use to make business decisions

Document:

eHealth Initiative. National Progress Report on eHealth. July 2010. www.ehealthinitiative.org

Summary:

The eHealth Initiative conducted a study in 2007 and set forth its *Blueprint: Consensus for Common Action* to guide policy makers and healthcare leaders. The Blueprint document has served as the basis for many of the provisions of the HITECH Act. Each year since the Blueprint was published, the eHealth Initiative has issued a report on the progress towards the goals set forth in 2007. This document recaps the progress made to date, discuss its findings on the progress and identifies various issues. In addition, it recommend the next step in the process of the goal of HIT and HIE that supports a patient-centric, quality and value driven health care system.

Analysis:

The report contains a number of valuable insights into progress nationally. It highlights areas where work has been successful and where work is still required. By reviewing the documents, it is possible to find use cases applicable to financial sustainability and business modeling.

Document:

Englewood, Colo. Study: EHR Cuts Long-Term Operating Costs. HDM Breaking News. 25, Oct. 2010. <http://www.healthdatamanagement.com/news.ehr-cuts-long-term-operating-costs-41218>.

Summary:

The medical Group management Association recently reported the results of a study they conducted comparing practices using technology with paper based practices of similar size. The results of the study showed the practices using EHR technology, had on average, \$49,916 more net revenue per physician. In addition, after five years of EHR use, electronic practices reported a median operating margin 10.1% higher than practices in the first year of adoption.

Analysis:

The value of this study is to add to the database of information showing the adoption of EHR technology will improve the financial performance of providers adopting technology.

Document:

Farrell, Diana M. "Why Americans Pay More for Health Care." The McKinsey Quarterly. December. 2008. www.mckinseyquarterly.com/article_print.aspx?L2.

Summary:

This McKinsey study showed Americans pay \$650,000,000,000 more for healthcare than other countries. The two categories of spending that are the bulk of the expenditures are same-day hospital care and visits to physicians' offices.

Analysis:

The value of this study is to support the need for reform of the healthcare systems and the value electronic records can play in the process. While other factors such as the payment system has large impact, HIEs have a role to play in improving the overall systems and reducing costs.

Document:

Florida. State Health Information Exchange Cooperative Agreement Program. "Strategic and Operational Plans." 2007

Summary:

This document is the Health Information Exchange Strategic and Operational Plan for the State of Florida as submitted to the Office of the National Coordinator.

Analysis:

The value of this document is its simplicity. Submitted to ONC early in the Strategic and Operational Plan process, Florida is well ahead of most states in building a statewide HIE.

Document:

Health Data Management. Measuring ROI. June. 2009. www.healthdatamanagement.com

Summary:

Part three of a three part series on health data management issues. This article discusses the challenges of measuring a "hard" ROI related to electronic health records and health data exchange. It does not draw any conclusions but describes a number of factors to consider when calculating an ROI related to the use of technology.

Analysis:

The article cites a \$58,000 per physician annual increase in revenue from a study on the impact of EHR technology. It also cites an annual labor savings of \$6,000 for a four physician practice from reduced costs associated with retrieving paper charts.

Document:

Healthcare Costs 101. California Healthcare Foundation. Oakland, California. 2007.

Summary:

This report tracks health care spending nationally and offers comparisons with other countries. It shows where the spending occurs and calculates percentage increases over time. It provides a good snapshot of healthcare spending and revenue by source.

Analysis:

This is a useful report for gaining a national perspective on healthcare spending and revenue by category.

Document:

Health Research Institute. Rock and a Hard Place: An analysis of the \$36 billion impact from Health IT Stimulus Funding. April. 2009.

Summary:

This report discusses and describes how the stimulus bill will affect a variety of health care providers. It is useful to gain perspective on how the incentive program will impact provider adoption and hence the need for HIE development and use.

Analysis:

This report provides a good summary of the impact of the stimulus package and how it will impact provider adoption of HIT.

Document:

HIMSS. Health Information Exchange Best Practices Task Force. March. 2009. Task Force Report to HIMSS

Summary:

HiMSS formed a task force to identify best practices in Health Information Exchange in 2009. This documents reports the findings from studying 21 HIEs across the country.

Analysis:

The study reports on finding 14 key best practices including:

- Belief in uniqueness
- Physicians and Health Systems are the primary stakeholders
- Membership model linked to sustainable funding
- Government grants are key to survival
- Buy rather than build
- Vendor hosted exchanges predominate
- No fully federated HIEs identified
- Service oriented architecture common
- HIEs support common messaging and data standards
- Adopt data transformation strategies

- Bi-directional exchange availability
- Lab results, prescriptions top functions
- Opt-in, opt-out provisions common
- Interoperability a concern for most

Document:

The Kaiser Family Foundation, State Health Facts Web Site. 2009 Data
www.statehealthfacts.org

Summary:

This web site offers comparative information concerning health and health related information for all 50 states as well as for the United States in the aggregate.

Analysis:

This web site contains a wealth of information about state expenditures for various healthcare stakeholders.

Document:

ILHIE. Illinois HIE Strategic and Operational Plan. 30 July. 2010.

Summary:

This document is the Health Information Exchange Strategic and Operational Plan for the State of Illinois as submitted to the Office of the National Coordinator.

Analysis:

The value of this plan is their approach to financial sustainability and how they intend to study the issue and involve stakeholders in the process.

Document:

Indiana Health Information Exchange. Jurisdiction-Specific Business Plan. January 2009.
www.ihie.com

Summary:

This report to ONC describes IHIE's development and growth since inception. It includes a good section on sustainability, future financial forecasts and future growth opportunities.

Analysis:

The value of this report is to understand how one of the more successful, HIEs started and what they did to become successful. The report can serve as a model for other HIE efforts.

Document:

Ingenix. Formula for Long-term HIE Sustainability, Better Health Care: The HIE Gateway Model, Part II: Return Model for HIE Value-add Advanced Analytics Services. 2010. www.ingenix.com.

Summary:

Ingenix published a study it conducted using data from the Michiana Health information Network (MHNI). In searching for sustainability, MHNI has included value added services based on Informatics to generate additional revenues in support of HIE operations. Using advanced analytics, the study indicates an HIE with 5,000 providers could add incremental revenue of \$3,480,000 annually

Analysis:

The value of this study is to help HIEs think about valued added services as a potential revenue source to support operations. There are many opportunities to generate incremental revenue and this study shows one potential path with supporting figures to support the conclusion.

Document:

Iowa e-Health Strategic and Operational Plan. May 2010. www.idph.state.ia.us/ehealth

Summary:

This document is the Health Information Exchange Strategic and Operational Plan for the State of Iowa as submitted to the Office of the National Coordinator.

Analysis:

This document provides the Strategic and operational Plan for Iowa and is the foundation for the Business and Financial Sustainability Plan.

Document:

Kansky, John P. Health Information Exchange (HIE) Sustainability: Lessons Learned by the Indiana Health Information Exchange. HIMSS Annual Conference. Atlanta, GA. 2 March. 2010

Summary:

As the Vice President for one of the more successful HIEs, the presented a set of principles for sustainability that are in use at the Indiana Health Information Exchange (IHIE). These principles include:

- HIE is a business
- Leverage the high-cost, high-value assets
- No loss leaders
- Independent, local sustainability
- Natural monopoly
- The need for scale
- Avoidance of grants for operational costs

Analysis:

The value of this presentation was to understand the driving factors for one of the more successful HIEs. Seeing the principles they applied to the operations at IHIE offers good insight into the thinking behind their sustainability model.

Document:

Marlin and Associates. Next Generation Healthcare Networks. November 2010.
<http://www.marlinllc.com/media/newsletter/Next-Gen-HIINs-Nov-2010.pdf>

Summary:

Marlin and Associates interviewed 50 companies in Healthcare and talked to industry thought leaders. They prepared a report describing the emerging healthcare IT paradigm. The basic new paradigm in healthcare is becoming a “network of networks”. This will impact how healthcare is delivered and paid for in the future. The authors offer five key predictions for the future including:

- Companies in the Administration and Revenue Cycle management will lead an industry consolidation
- As the convergence occurs and clinical data business join, new business models will emerge
- Companies providing payment services will eventually merge with clearinghouses
- Owners of the HIE will contract out the management of data flowing within their networks
- Payers will embark on offering innovative products to avoid commoditization.

Analysis:

The value of this document is its vision for the future. Building a HIE is challenging but understanding what the future may look like is invaluable to the builder. Even if the authors are only partially correct, they offer some provocative thinking about the development of HIEs across the country. It is important to consider the implications of their predictions on the operations of the HIE and on future revenue potential.

Document:

Mississippi -Office of the Governor. Strategic and Operational Plan. 27 September. 2010

Summary:

This document is the Health Information Exchange Strategic and Operational Plan for the State of Mississippi as approved by the Office of the National Coordinator.

Analysis:

The document contains valuable information regarding financial sustainability as the result of an HIE pilot project conducted along the Gulf Coast on Mississippi (MSCHIE). The primary lesson learned is the need to charge participants from the beginning of the development of the HIE.

Document:

MOHITECH. Health Information Exchange Operational Plan. 8 June. 2010.

Summary:

This document is the Health Information Exchange Strategic and Operational Plan for the State of Missouri as submitted to the Office of the National Coordinator.

Analysis:

The value of this document is in how Missouri plans to connect multiple HIEs around the state and make the statewide HIE sustainable.

Document:

NHIN Cooperative DURSA Workgroup. Data Use and Reciprocal Support Agreement (DURSA). 23 Jan. 2009.

Summary:

This report describes how the Data Use and Reciprocal Support Agreements (DURSA) is intended to work and contains the proposed language or states to use to connect to the nationwide Health information Network (NHIN).

Analysis:

As one of the critical documents required for NHIN connection, understanding the language, expectations and requirements set forth in this document is critical for any HIE.

Document:

ONC. Health IT Strategic Framework: Strategic Themes, Principles, Objectives, and strategies. 23 March. 2010. Atlanta, Georgia.

Summary:

This report issued by ONC outlines the strategic direction for ONC for 2011 to 2015.

Analysis:

The value of this report is to help get a sense of ONC priorities and direction. Having knowledge of ONC's strategy will help position the Guam HIE for meeting ONC requirements and qualifying for future ONC funding opportunities.

Document:

Porter, Cynthia. Healthcare IT News. Providers Perception Series: Health Information Exchange." December 9, 2010. www.healthcareitnews.com

Summary:

This presentation contains information from a recent research project describing the perceptions of health information exchange. It surveyed 120 provider organizations with a wide range of questions about HIE.

Analysis:

The presentation provide valuable information about the current and planned state of HIE be the provider community. Some of the findings include:

- 43% of facilities are considering moving to an Accountable Care Organization
- 45% see HIE as a way to improve connectivity within the health system
- 53% see a shift to true coordinated care with the implementation of an HIE central repository

- 53% see cost has the major limiting factor
- 57% believe improved quality is the major benefits of HIE
- 65% are unprepared for stage 2 and 3 Meaningful Use

Document:

Root, Jan. State-Wide Secure Clinical Health Information Exchange. Utah.

Summary:

This presentation describes the formation and current operational workings of the Utah HIE. Known as the “clinical Health Information Exchange (cHIE)”, it functions somewhat differently from other HIEs. They have three primary stakeholders (payers, hospitals, and Clinicians) and fees are based on the value received by the entity that exchanges the data.

Analysis:

The value of this presentation is to see how an operational HIE is sustainable using transaction fees as the basis of sustainability. The cHIE model offers a different look at how to build a successful HIE.

Document:

Wisconsin. Health Information Technology Strategic and Operational Plan. “Wired for Health.” 16 July. 2010.

Summary:

This document is the Health Information Exchange Strategic and Operational Plan for the State of Wisconsin as submitted to the Office of the National Coordinator.

Analysis:

The value of this Strategic and Operational Plan is in the approach Wisconsin has taken regarding HIE. They issued an RFP over two years ago to build the HIE, long before ONC required plans. It is interesting to note how they handled the integration of their previous work efforts with the strategic plan.

Summary and Conclusion

A review of the pertinent literature reveals several key considerations for Guam as they move forward with the building of the HIE and reaching financial sustainability. Listed below are the critical findings from our review of the literature:

- The HIE must provide demonstrable and measurable value to each participant
- The HIE must maintain a balance between technology and governance - HIE is not a technology project. HIE is about creating the necessary social capital and trust to engage stakeholders and get them to share health care data and information
- HIE participants are more engaged in the project if they have a financial investment in the success of the project. It is important to get major participants involved early and to get them to invest in the project
- The HIE is part of the larger healthcare system and is not the driver of change. It is one of the enablers of change.

- Moving to electronic health technology requires a well designed and well executed transformation strategy
- Education of providers and consumers is an important ingredient in creating sustainability and needs to be sustained over time
- The HIE will evolve over time. As such, opportunities for generating incremental revenue will emerge. The HIE must be prepared to take advantage of these opportunities.
- The HIE is part of a network of networks. Significant data and information will flow through the HIE. The HIE will become, over time, a major data source with opportunities to generate incremental revenues
- There is a lack of skilled talent to operate a HIE successfully. It is likely that each HIE will have to develop the required skills and competencies internally.
- There will be pressures to take a disciplined incremental approach building on short-term wins while needing to attain economies of scale to support the HIE long-term
- Pay for Performance, Accountable Care Organizations, and other capitated financing strategies may emerge in the next five years as drivers of reform in health care payment and delivery. They will impact the financial model for the HIE and need to be assessed during the formation stage to ensure flexibility for change is built into the HIE financial model
- Legislative changes such as statutory authority to exchange information with other states will likely be needed to facilitate the success of the HIE. However, legislation takes time to accomplish. Therefore, it is important to determine where the HIE will be two years out so adequate planning for legislative action can be accommodated

Funding Strategies in Other States - eHealth Survey

Research done by the eHealth Initiative and released in their annual survey in July 2010 contains data that is useful in considering what other HIEs and HIOs are doing to fund capital as well as operations. eHealth Initiative had 107 respondents included in their survey. The following charts present various revenue strategies for consideration. The numbers shown in the tables below represent the number of respondents (of the 107) in each year that indicated that the stated item applied to their operation eHealth Initiative Survey Results

Sources of Start-up Funds (Number of respondents citing)	2009	2010
Hospitals	42	63
State government grants	43	57
Other Federal grants	39	50
Private payers	26	35
Physician practices	15	33
Philanthropic sources	19	25
Public payers (Medicaid/ Medicare)	12	14
Medical societies	11	11

Public Health	8	10
---------------	---	----

Ongoing Revenue Sources (Number of respondents citing)	2009	2010
Hospitals	26	43
Physician practices	16	32
Private payers	14	25
Laboratories	11	19
Other Federal grants	9	12
State Government Grants	10	11
Public payers (Medicaid/ Medicare)	5	10
Public Health	7	10

Funding Sources for Operations (Number of respondents citing)	2010
Subscription fees or membership dues to data providers	32
Subscription fees or membership dues to data users	30
One-time financial contribution	12
Transaction fees charged to data providers	11
Transaction fees charged to data users	9
Advertising or marketing	2
Utility model - Fees assessed through state for public service	1

Funding Strategies in Other States - Hielix Survey

Hielix is conducting a survey of various operational HIEs to determine funding strategies for each entity. In some cases, the entity is a state designated entity and in some cases, the entity is a regional HIE that is at Level 5 or higher as defined by the eHealth Initiative. The results of our survey are as follows:

Entity	Current Funding Strategy
CalRHIO (California)	Transaction Fees
Connecticut	Payers - Assessment fees based members / lives covered Hospitals - Assessment fees based on staffed beds Physicians - Assessment fees based on licensed physicians
CORHIO (Colorado)	Membership Fees - 5% Federal funds - 33.5 % Fees for HIE Services - 61.5%

Delaware	Federal Funds - 30.9% in 2010; 19.2% in 2011; 32.5% in 2012; 16.7% in 2013 State Appropriation - 34.3% in 2010; 47.9% in 2011; 18.7% in 2012; 22.4% in 2013 Grants - 1.4% in 2011 Transaction Fees - 34.8% in 2010; 31.5% in 2011; 48.8% in 2012; 61% in 2013
Health Bridge	Membership Fees from Acute Care hospitals - 65% Membership Fees from Labs - 15% Fees for HIE services - 12% Billing and Transcription Fees - 5% Grants - 3%
IHIE (Indiana)	Fees for HIE services (Clinical messaging, Quality review, and Value-Added services)
Lacie (Missouri and Kansas)	Membership Fees - 100% in 2010 decreasing over time to 60% in 2014 Transaction Fees - 10% in 2011 increasing over time to 40% in 2014
MSCHIE (Mississippi)	Assessment Fee - Based on the number of licensed beds per hospital
Mississippi Health Partners	Hospital funded with \$80 dollar per month fee per physician
Nebraska	Membership Fees - 90% in 2010; 70% in 2011; 70% in 2012; 60% in 2013; 70% in 2014 Federal funds - 10% in 2010; 30% in 2011; 25% in 2012; 15% in 2013 Fees for HIE Services - 5% in 2012; 15% in 2013; 20% in 2014
New York	State Appropriations Federal Grants
Northwest Florida (Jacksonville)	Membership Fees - 70% State Appropriation - 15% Federal Grants - 15%
RIQI (Rhode Island)	Starting with assessments and membership fees evolving to Fees for HIE Services (Decision support, Quality review, and Professional services)
CHIE (Utah)	Clinicians - Assessment fee of \$600 annually per physician to pay one-third of operating expense Hospitals - Assessment fee based on market share to pay one-third of operating expense Payers - Assessment fee of 8.5 cents per covered lives up to 250,000 lives to pay one-third of operating expense
Vermont	Insurance Fee - 0.199 fee charged on all claims

Business and Financial Sustainability Plan Principles

- Operate with Transparency and Openness: All Health Information Exchange (HIE) Governance and Finance activities should meet the highest standards of an open and transparent organization that strives to keep consumers and stakeholders informed.
- Build Stakeholder Trust: Create and foster trust by and between healthcare stakeholders to further the willingness to exchange healthcare information and data.
- Stakeholder Investment: All stakeholders should contribute financially to the formation and ongoing operation of the statewide HIE.
- Foster a collaborative culture: An optimal number of stakeholders must collaborate to build and sustain HIE over the long term.
- Foster a Culture of Innovation: The HIE should take advantage of the creative nature of the market in Guam and develop an organizational culture that taps into and benefits from the innovative ideas of its citizens.
- Engage stakeholders: Efforts must create value for all participants - statewide, regionally, and for each stakeholder's interest. To promote acceptance and adoption, it is important to communicate with and educate all participants early and often regarding the value and benefits of HIE.
- Leverage collaborative partnerships: HITAC has created a number of effective and collaborative partnerships (REC, Workforce Development, Public Health, Stakeholders, etc.) and will create more as time goes by. All of these partnerships will be leveraged to reduce HIE expenses and to take advantage of the collective knowledge of HIE expertise in Guam
- Promote statewide HIE solutions: Every region of Guam is different and should be given the flexibility and standards to fit into the emerging HIE infrastructure in the way that is appropriate to service patients and protect patient health data.
- Leverage Existing HIT Initiatives and Resources: A coordinated effort, leveraging existing initiatives and resources, provides the greatest potential for improving HIT adoption rates and HIE success.
- Be inclusive: Sensitivity to the culturally diverse population should be considered as part of the design, development, and implementation of all HIE activities.
- Recognize IT as an enabler: An HIT strategy for Guam should support and enable a broader healthcare vision.
- Remain cognizant of federal and other states' efforts: The capacity for transformational change of an industry of this magnitude, including technical capacity, systems capacity, and most important, social capital, needs to proceed in a way to achieve critical mass and get stakeholders on board early. The HIT strategy should be mindful of, support, and build upon the work and activities at the federal and state levels.
- Maintain neutrality: Ensure the statewide HIE remains neutral in the competitive marketplace in Guam and delivers a high quality exchange service that meets the needs of all stakeholders without giving an advantage to any other stakeholder.
- Foster fair processes: When an issue is complex and various stakeholders may be at odds, create a fair and logical process to research and analyze the issue and determine the outcome.

- Build a Learning Health system: As defined by the Office of the National Coordinator (ONC), a Learning Health system is designed to generate and apply the best evidence for the collaborative care choices of each patient and provider; to drive the process of new discovery as a natural outgrowth of patient care; and to ensure innovation, quality, safety, and value in healthcare.

Capital Financing Strategies

There are seven primary financing strategies that might be used for funding the construction and initial operations of the Health Information Exchange (HIE). Each option has a set of advantages and disadvantages. Depending on the desires of operating entity and the unique environment in which the HIE operates, a combination of revenue generating strategies may provide the HIE with the initial capital it requires to become fully operational and sustainable. Each strategy has variations on how they can be used. Listed below is a description of each strategy as well as the advantages and the disadvantages of each strategy.

Strategy 1 - Federal Funding

In this strategy, the allocations for HIE development are applied to the building of the HIE. Guam received an initial grant of \$1,600,000 for the state HIE cooperative agreement program administered by ONC. As a result of ARRA, there is also federal funding available through CMS to support Medicaid participation in the statewide HIE. There is flexibility in the amount of money that can be requested from CMS, however there are 10% - 50% match requirements and the state must demonstrate fair share cost principles (i.e., Medicaid cannot be the sole funding source for the HIE)

<i>Advantages</i>	<i>Disadvantages</i>
Funding commitment has been secured	Funding for building the HIE may change based on new or expanded federal requirements
	Scope and requirements may change - resulting in the need to supplement funding to meet stakeholder objectives
	State matching requirement increases annually

Strategy 2 - State Appropriation

In this strategy, funds for building the HIE are allocated annually for the period of time necessary to build and sustain the HIE until it becomes self-sufficient.

<i>Advantages</i>	<i>Disadvantages</i>
Once appropriated, funding is usually available for the approved period of time	Political issues in securing support
May be seen as an obligation for the state	Legislature is considered very conservative in fiscal matters
A very low per person funding requirement with significant long-term benefits in reduced healthcare costs	Is dependent on annual appropriations
	General appropriations may be subject to across the board budget cuts

Strategy 3 - Grants

In this strategy, grants from a variety of sources (philanthropic, government, stakeholders) may be used to fund the building of the HIE and sustaining operations until it becomes self-sufficient.

<i>Advantages</i>	<i>Disadvantages</i>
Can be a good source for capital projects and may be a good way to support specific components of HIE development	May take several months to apply and obtain approval
Many grant makers are interested in improving healthcare outcomes	Every HIE will be applying for funding
May include a broader group of stakeholders	They are a good source of capital and a poor source of operating funding
	Without an operational HIE, grants may be hard to secure
	Scope and requirements may change - resulting in the need to supplement funding to meet stakeholder objectives
	Health outcome and return on investment measures may be difficult to formulate or prove
	Usually require some form of match

Strategy 4 - Up Front Fees From Stakeholders

In this strategy, significant fees (sufficient to start operations) are charged to the stakeholders to connect to the HIE at the beginning of operations.

<i>Advantages</i>	<i>Disadvantages</i>
May generate sufficient capital to fund the building and initial operations of the HIE	Stakeholders may be reluctant to participate in something unproven
A significant early investment provides a major stakeholder incentive to make the HIE successful	Sufficient capital may be an issue for some stakeholders
Can demonstrate fair share financing which may provide access to federal funding (see Strategy 1)	Timing - most stakeholders go through budget cycles, so funds may not be available for many months (or years? - depending on how far out the stakeholder must obtain budget approval)

Strategy 5 - Stakeholder Financing

In this strategy, larger stakeholders (payers, major hospital systems) supply the startup capital in exchange for lower operating fees and charges for a time certain

<i>Advantages</i>	<i>Disadvantages</i>
Can be done faster than other strategies	Stakeholders need to have confidence in the long-term viability of the HIE
Reliable funding if stakeholders agree	May require all stakeholders in any category

	(payer, hospital) to participate so no one is perceived as gaining an advantage
	May require approval by various stakeholder Board adding to the time required to get the funding approved.

Strategy 6 - Bond Funds

In this strategy, the State may issue bonds (or include the HIE in a statewide bond issue for other capital improvements) for creating the HIE. The bonds are paid for in future years from operating revenues of the HIE.

<i>Advantages</i>	<i>Disadvantages</i>
Funding is certain if the bond issue is successful	May require a public vote and the schedule may not work for the HIE
	May require legislative support and that may be difficult in these economic times
	Revenue may not support the repayment of the loan

Strategy 7 - Loans

In this strategy, a business case is presented to a lending institution for funding to start the HIE business. The funding may or may not be backed by the state.

<i>Advantages</i>	<i>Disadvantages</i>
Sufficient funds may be obtained over time to fund the building of the HIE and the initial operations	May require significant time to prepare the business case and the paperwork for the loan
	Lenders may not be willing to invest in a venture without the full faith and credit of the state supporting it
	Revenue may not support the repayment of the loan
	Collateral may be difficult to provide in support of the loan

In summary, seven options exist for acquiring the funding needed to build and operate the HIE until it becomes sustainable on its own. It is important for each entity to choose the right funding mixture for their environment.

Operational Financing Strategies

There are basically eight different revenue strategies as possible methods for funding the ongoing operations of the Health Information Exchange (HIE). Each option has a set of advantages and disadvantages. Depending on the desires of operating entity and the unique environment in which the HIE operates, a combination of fees may be used to create a financially sustainable model for an HIE. Additional options are possible within each strategy based on other sub-factors. Listed below are descriptions of each strategy as well as the advantages and the disadvantages of each strategy.

Strategy 1 - Membership Fees

In this strategy, monthly and/or annual fees are charged to the participant depending on type of user (Hospital, Payer, Employer, etc.). The basis of the fee is frequently based on the perceived or estimated value of the HIE to the participant.

<i>Advantages</i>	<i>Disadvantages</i>
Easy to understand and administer	Fees don't reflect actual usage
Flexible structure	May charge a disproportional share to one stakeholder group
Fees based on specific criteria	

Strategy 2 - Fees for Optional HIE Products/Services

In this strategy, the HIE creates products and/or services for which it can charge fees for stakeholders to use. Fees are established for various services (consumer services like PHR support, advertising/sponsorships, secondary uses of data, etc.) that stakeholders will pay for beyond the basic services they receive from the HIE

<i>Advantages</i>	<i>Disadvantages</i>
Direct correlation between fees and services	Difficult to determine basic from added value services
Stakeholders only pay for the services they desire	May price some services outside the affordability of smaller stakeholders

Strategy 3 - State/Territory Appropriations

In this strategy, the state legislature appropriates funds to build and/or operate the HIE.

<i>Advantages</i>	<i>Disadvantages</i>
Annual appropriations provide adequate funding for operations	May be difficult to obtain in these economic times
Good source for funding in the early stages of HIE development	Requires annual education for members of the legislature on the value of the HIE

Strategy 4 - Assessment Fees

In this strategy, an assessment fee is charged to the participant based on a particular characteristic such as number of beds per facility, number of hospital discharges, or the number of employees in health plan. Assessment fees can vary by type of participant but are similar by type.

<i>Advantages</i>	<i>Disadvantages</i>
Ensures all stakeholders contribute something to the operations	Fees don't reflect actual usage
Flexible	May charge a disproportional share to one group
May include a broader group of stakeholders	Annual audits may be necessary to reflect changes in chargeable characteristics

Strategy 5 - Usage Fees

In this strategy, fees are based on the actual usage of the exchange. Frequently, the fees are on a transaction basis so the more a participant uses the HIE, the higher the fees are to that participant.

<i>Advantages</i>	<i>Disadvantages</i>
Based on actual amount of information exchanged	May discourage usage by key stakeholders
Measures data volume	Difficult to track and bill
	Difficult to administer

Strategy 6 - Grants

In this strategy, support from various governmental agencies or foundations/organizations in the form of grants may be used to fund operations. Frequently, grants are limited to a specific purpose and are generally viewed as better for capital purposes than operational funding.

<i>Advantages</i>	<i>Disadvantages</i>
Many sources available who are willing to support a good cause	Generally they are for a specific purpose and for a limited time frame
Better for capital expenditures than for operational costs	Usually requires many applications to secure a few grants

Strategy 7 - Cost Savings

In this strategy, payments are based on the projected operational costs saved or avoided by each stakeholder from their participation in the HIE

<i>Advantages</i>	<i>Disadvantages</i>
Does not require new operational revenues to cover costs	Difficult to track and measure
Easier to sell to Boards of Directors	Difficult to identify real bottom line savings
	Realizing savings may require layoffs and this seldom occurs with smaller stakeholders

Strategy 8 - Taxation

In this strategy, a specific consumer or business tax may be levied by the legislature to cover the operational costs of the HIE

<i>Advantages</i>	<i>Disadvantages</i>
Reliable funding supported by a general tax levy	Difficult to gain approval of legislature
Includes most users of the healthcare system	Difficult to change after initial adoption

In summary, eight options exist for funding HIE operations. It is important for each entity to choose the right funding mixture for their environment.

Listed below are various sources of funding and the likely restrictions attached to each.

Funding Source	Restrictions	Match Requirements
CMS (via Medicaid)	Restricted to a "Fair Share" formula	Either 90/10 or 50/50
ONC	Specified in Cooperative agreement	Varies by year 2011 - 9 to 1 match 2012 - 7 to 3 match 2013 -1 to 9 match
State Appropriations	As dictated in the appropriation bill	None
Grants	Varies depending on source - Usually for a prescribed purpose only	Varies by grantee but usually 10% or higher
State Bond Funds	Capital only	None
Loans	Capital only	Requires an investment by the HIE - May be 25% or higher
Stakeholder Financing	Depends on the agreement with the funding stakeholders	Depends on the agreement with the funding stakeholders

Stakeholder Value Proposition

The value proposition is the statement that describes why an organization would willingly participate in a venture such as a Health Information Exchange (HIE). The value proposition is a clearly defined statement that is designed to demonstrate how a service offering will solve a problem in such a way that the value to the participating organization is greater than not participating.

Why is the development of a strong value proposition important? A good value proposition will provide convincing reasons why a participant will want to be included in the HIE Project. In order to achieve project objectives, the value proposition needs to be clear, concise and compelling. By identifying customer needs through environmental scan research and analysis, we will develop clear and concise value propositions that reflect the needs and the tangible results that participants can expect from participating in the HIE.

The value proposition is important because it is a key component of the financial sustainability model. Linking an organization’s value proposition to an achievable return on investment (ROI) is key to keeping the organization engaged throughout the creation and implementation of the HIE. Developing an ROI for each participant and continually reporting on it during the HIE formation process will serve as a reminder of the value the HIE will provide when fully functional.

From the Hielix and Guam HIE Environmental Scans, the following information was identified and is presented in the table below.

Stakeholder Type	Preferences	Barriers
Consumers	<ol style="list-style-type: none"> 1. Privacy and Security protections 2. Reduced healthcare costs 3. Improved healthcare quality 4. Better information at the point of care 5. Accessibility to data independent of patient location 	<ol style="list-style-type: none"> 1. Education on the value of health information exchange 2. Provider resistance 3. Unfamiliar with how exchange works 4. Lack of understanding on the benefits 5. Low consumer demand from providers at this point in time 6. Privacy and security concerns
Health Care Providers	<ol style="list-style-type: none"> 1. Ease of use 2. Value added features (i.e. immunization information access, meds reconciliation, allergies, etc.) 3. Continuity of care and care coordination 4. Improved patient care 5. Better population health management 	<ol style="list-style-type: none"> 1. Cost 2. Changes to clinical and administrative workflows 3. Lower productivity 4. Skepticism about the incentive program 5. Liability fears 6. Lack of understanding of Accountable Care

	<ol style="list-style-type: none"> 6. Meet Meaningful Use requirements 7. Move towards Accountable Care Organization 	
Payers	<ol style="list-style-type: none"> 1. Lower administrative costs 2. Improved healthcare outcomes 3. Access to more data and information faster 4. Real time connections to providers for approvals on procedures 5. Access to data and information for research 	<ol style="list-style-type: none"> 1. Perception they should pay for the HIE as they have the money 2. Patient fears about losing coverage if the payers have access to information 3. Healthcare reform and its impact on payers 4. Impact of Payers exiting the marketplace
Purchasers of Health Care Coverage	<ol style="list-style-type: none"> 1. Improved employee healthcare quality 2. Reduced healthcare costs 3. Connections to employer driven wellness plans 4. Higher productivity from healthier employees 5. Providing affordable healthcare coverage for employees 	<ol style="list-style-type: none"> 1. Lack of inclusion in the development of the HIE 2. Concern about paying for the HIE 3. Employee fears concerning employer access to health information and job security 4. Privacy and security issues 5. Mandatory inclusion of all employees in the insurance plan
State Government	<ol style="list-style-type: none"> 1. Improved healthcare outcomes 2. Lower healthcare costs 3. Compliance with Federal standards 4. Population health data and information 5. Disease surveillance 	<ol style="list-style-type: none"> 1. Difficult economic environment resulting in lower tax revenue 2. Lack of funding for all of the competing needs 3. Changing political environment and uncertainty

Participant Value Propositions

The value proposition is the statement that describes why an organization would willingly participate in a venture such as a Health Information Exchange (HIE). The value proposition is a clearly defined statement that is designed to demonstrate how a service offering will solve a problem in such a way that the value to the participant is greater than not participating.

Why is the development of a strong value proposition important? A good value proposition will provide convincing reasons why a participant will want to be included in Guam HIE. In order to

achieve sustainability, the value proposition for each participant needs to be clear, concise and compelling. Linking an organization's value proposition to an achievable return on investment (ROI) is key to keeping the organization engaged throughout the creation and implementation of the HIE. Developing an ROI for each participant and continually reporting on it during the HIE formation process and early operational stages will serve as a reminder of the value the HIE will provide when fully functional.

Participant Use Case - Providers

As shown in the summary table below, different types of providers have different reasons for participating in a Health Information Exchange (HIE). The three most common reasons for providers to participate in the HIE include:

- **Continuity of Care - Transferring patient records for specialty care needs between physicians, hospitals, long-term care and home health is extremely challenging in a paper based system. All of the providers interviewed, in multiple states, indicate the greatest value to them from using electronic records is the ability to have patients' records sent to the referral source prior to the patient arriving for treatment. In addition, the ability to exchange information bi-directionally is critical to the continuity of care for patients.**
- **Efficiencies and Cost Savings - Providers of all types see electronic health records as a way to reduce administrative costs by reducing the need for faxing, copying, mailing, and otherwise transmitting paper records. The increased efficiencies and the resulting reduction in operating costs offer measurable benefits to providers.**
- **Reduction in Medical Errors - One significant concern for providers is their liability from medical errors. Electronic records are seen as one key way to help reduce errors. They see the ability to exchange patient records and the knowledge gained from the additional information is critical to reducing medical errors. From medication reconciliation to the use of evidence based medicine and clinical decision making, the use of electronic health records can help reduce their liability and cost.**

Providers are ready to move to the use of technology to provide better patient care, increase operational efficiencies, and reduce medical errors. EHR use in conjunction with HIE technology will offer significant value to this participant group.

Participant Use Case - Consumers

As shown in the table below, consumers have several reasons for participating in a Health Information Exchange (HIE). The four most common reasons for consumers to participate in the HIE include:

- **Improved Healthcare Outcomes - Electronic health records and health information exchange promise to deliver higher quality health care for consumers. As information becomes electronic and is shared by and between providers of all types, consumers quickly understand how the sharing of data and information will directly benefit them and result in better health care outcomes.**
- **Personal Control over Health Care - Many consumers would like to have more control over their personal health care. From scheduling appointments to seeing the results of lab and other tests to maintaining their own medical history, consumers understand the**

benefits from using electronic records and in having the ability to share their records electronically. As today's consumers control more aspects of their daily lives, medicine is seen as the last frontier and consumers support anything that provides personal control.

- Continuity of Care - Consumers see the value in electronically transferring records for specialty care needs between physicians, hospitals, long-term care and home health. Anything seen as an improvement to today's paper based system is seen positively and when the quality of patient care is improved, consumers become strong advocates for EHR and HIE.
- Access to Personal Healthcare Information - Personal Health Records (PHRs) are gaining in popularity and will become common in only a few short years. Maintaining your own personal health record will be simpler and much easier if all of the data and information is electronic. Consumers will want to control and maintain their own personal file of their medical information. The HIE will be a key mechanism for gaining access to personal records from multiple providers and of great importance to consumers.

Consumers want more control over their medical information. EHR and PHR adoption and use in conjunction with HIE technology will provide consumers with greater access from multiple sources, to personal health information. This will offer consumers significant value and be a main reason for them to support health information exchange.

Participant Use Case - Payers

As shown in the table below, payers have several reasons for participating in a Health Information Exchange (HIE). The three most common reasons for payers to participate in the HIE include:

- Improved Healthcare Outcomes - Electronic health records and health information exchange promise to deliver higher quality health care and improved outcomes for consumers. As information becomes electronic and is shared by and between providers of all types, studies have shown the quality of care improves. Many payers are already using claims data and information to help providers reduce duplicative tests, offer patients preventative care, and focus on wellness. All of these efforts are aimed at improved healthcare outcomes.
- Reduced Claims Payments - While better health care outcomes are desired by all HIE participants, improved outcomes directly benefit payers in the form of lower claims payments and the opportunity for greater profitability. If payers can leverage the HIE to improve health care outcomes and reduce claims payments, they stand to gain significant benefit from electronic technology.
- Lower Administrative Costs - Payers of all types see electronic health records as a way to reduce administrative costs by reducing the need for faxing, copying, mailing, and otherwise transmitting paper records. In addition, much of the new EHR technology produces better claims information and provides it faster resulting in lower administrative costs to the Payer. The increased efficiencies and the resulting reduction in operating costs offer measurable benefits to providers.

Payers want to improve health care outcomes, reduce costs and decrease claims payments by improving health care quality. EHR adoption and use in conjunction with HIE technology will enhance the ability of providers focus on preventative health care procedures, improve outcomes, submit more accurate claims and reduce administrative costs. This will generate real bottom line value to payers.

Participant Use Case - Purchasers of Health Care Coverage

As shown in the table below, purchasers of health care coverage have several reasons for participating in a Health Information Exchange (HIE). The three most common reasons for purchasers to participate in HIE include:

- **Lower Health Care Costs** - Purchasers of health care coverage cite the high cost of health care coverage as one of the major business expenses. Therefore, anything that can help reduce their premium costs has real and immediate value to them. Health Information technology, in all forms, holds the promise of reducing the cost of care and with it the cost of coverage. Purchasers of health care coverage consider the potential for lowering cost to be of prime importance.
- **Employee Wellness** - Many employers already have employee wellness programs in place. They have determined over a period of many years that a healthy workforce is more productive, experiences less lost time from illness, and is less costly to insure. Given the benefits of employee wellness, purchasers of health care coverage experience significant value from the benefits offered by health information technology.
- **Employee Benefits** - In an extremely competitive economic environment, recruiting high quality employees is essential. One valuable tool to help used in recruiting is the ability to offer affordable, to both the purchaser of health care and to the employee, health care benefits. Any way health information technology can facilitate lower cost and make health care affordable is viewed positively by purchasers of coverage.

Purchasers of health care coverage need affordable care for a variety of reasons. Therefore, using health information technology and having the ability to exchange data to improve outcomes is a valuable tool to help reduce overall costs and make health care more affordable. EHR adoption and its use in conjunction with HIE technology will offer purchasers of health care coverage significant value and be a key reason for them to support health information exchange.

Participant Use Case - State Government

As shown in the table below, state government has several reasons for participating in a Health Information Exchange (HIE). First, multiple state agencies will benefit from HIE including Public Health, Corrections, and Medicaid. They share the need to exchange information both internally as well as externally for the treatment of patients using state services. The five most common reasons for state government to participate in HIE include:

- **Improved Healthcare Outcomes** - Health care costs, both through Medicaid and the state's own healthcare plan, comprise a large expense in any state budget. If health care outcomes can be improved, the growth in health care costs may be able to be slowed and this will result in a significant savings for state government. State government is heavily invested in improving health care outcomes as they will be faced

with difficult choices of reducing or eliminating services if costs cannot be controlled over the long-term through better outcomes.

- **Efficiencies and Cost Savings** - Medicaid in particular will use electronic health records as a way to lower administrative costs by reducing the need for faxing, copying, mailing, and otherwise transmitting paper records. The increased efficiencies and the resulting reduction in operating costs offer measurable benefits to Medicaid. In addition, the electronic reporting of public health data will reduce overall administrative cost and may result in other efficiencies.
- **Continuity of Care** - Transferring patient records to meet specific care needs is extremely challenging in a paper based system. For example, the Department of Corrections manages care for inmates. While a large portion of their care is done internally, more complex cases are frequently transferred outside the prison system and provider by private providers. Having the ability to transfer records electronically will be a significant benefit. In addition, the ability to exchange information bi-directionally is critical to the collection of information for disease management and other public health purposes.
- **Coordination Between State and Federal Programs** - The federal government has instituted numerous programs to address health care in the United States. In many cases they look to the states to help implement important programs. Health Information Exchange will enable the state to better coordinate efforts with the federal government and provide value to both entities.
- **Improved Constituent Services** - States always have a challenge to meet the public's demand for better services at lower costs. Health Information Technology including EHRs and HIE have the ability to help state government meet both of these objectives. Numerous studies detail the benefits of these technologies and as well as the potential costs savings. If state government can capitalize on both of these opportunities, they can offer taxpayers improved services at lower costs.

State government has much to gain from the implementation of health information technology. Rapid adoption of EHR technology and the quick implementation of HIE holds great promise for state government to attack one of its most costly responsibilities. This will provide state government significant value and be the primary reason state government should take the lead in building a health information exchange.

The value propositions for the various types of stakeholder likely to participate in the Guam HIE are shown in the following chart. While some minor variations may exist between organizations within each of these categories, the value proposition shown in the chart is generally representative of all organizations in each type of stakeholder.

Included below is the Participant Value Proposition Document created for Guam HIE.

Stakeholder Type	Value Proposition
All Stakeholders	A. Improved Quality of Care B. Efficiencies and Cost Savings C. Assistance Qualifying for Provider Incentive Funds

	D. Standardized Process for the Secure Transmission of Clinical and Administrative Information
Acute Care Hospitals	A. Greater Operational Productivity B. Market Share/Competitive Advantage C. Reduced Medical Errors
Ambulatory Care and Physician Practices	A. Connectivity to Tertiary Hospitals B. Continuity of Care C. Easier Access to Registries (e.g. Immunizations) D. Reduced Medical Errors
Behavioral Health	A. Protection of Patient Data B. Continuity of Care
Consumers	A. Improved Healthcare Outcomes B. More Control Over Their Own Healthcare C. Access to electronic Personal Health Records D. Continuity of Care E. Patient - Provider Secure Messaging
Critical Access Hospitals	A. Continuity of Care B. Connectivity to Tertiary Hospitals C. Long-term Viability of the Organization D. Reduced Medical Errors
Employers / Businesses	A. Lower Healthcare Costs B. Employee Wellness C. Employee Benefit
Federal Health Services (DoD, IHS, VA)	A. Continuity of Care B. Improved Healthcare Outcomes C. Completeness of patient record
FQHC's/RHC	A. Access to Numerous Registries B. Connectivity to Tertiary Hospitals C. Connectivity to other Healthcare Providers
Home Health Care	A. Continuity of Care B. Access to Health Records C. Connectivity to Other Healthcare Providers D. Ability to submit data for regulatory purposes (way to submit MDS / OASIS data)
Labs	A. Connectivity to Providers B. Bidirectional Flow of Information C. Streamlined Disease Reporting
Long-Term Care	A. Continuity of Care B. Connections to Referring Providers C. Ability to Submit Data for Regulatory Purposes (way to submit MDS / OASIS data)
Payers (Medicaid, Private Insurers)	A. Better Healthcare Outcomes B. Reduced Claims Payments from Better Healthcare Outcomes and Improved Quality

	C. Lower Administrative Costs from Increased Usage of Electronic Health Records
Pharmacies	A. Bidirectional Connectivity with Prescribing Providers B. Easier Reporting to Regulatory Agencies C. Better Information Regarding Patient Allergies and Contraindications
Public Health Agencies	A. Easier Data Entry in Various Registries B. Connectivity to the Provider Community
Radiology	A. Bidirectional Connectivity to Referring Providers B. Continuity of Care C. Faster Results Delivery
Schools	A. Having appropriate health information for students
State Agencies	A. Improved Constituent Services B. Streamlining Government Services C. Common Coordination on State and Federal Initiatives