



## Finance Domain Team

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## Document Control

Once the Project Plan is formally approved, changes must be requested utilizing the Integrated Change Control Process. Upon approval of requested modifications the version number will increase by one and the following information documented in the table below:

Version	Date Applied	Change
1.0		

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## 1 Overview

David Blumenthal, National Coordinator for Health Information at Department of Health and Human Services has stated, “People working in health information technology (IT) should think about electronic health records, not as a technology project but as a change management project. Components of Meaningful Use include sociology, psychology, behavior change and the mobilization of levers to change complex systems and improve their performance”. The information contained in this document is designed to accommodate the need for people to acclimate to the changes brought about by technology and discover a financially sustainable plan for Health Information Technology.

In order to create an acceptable financial model, stakeholders need to provide data and information about their current and planned operations. In many instances, stakeholders may be competitors and therefore reluctant to share their data and information. Using a third party consultant that is viewed as a trusted resource by all stakeholders is critical to obtaining the required data and information. In order to be reasonable, the financial model must be handled using a process of obtaining the information, analyzing it, reporting it and discussing it privately while maintaining the confidentiality of the information for each stakeholder.

Once the financial model is built, there must be a mechanism for changing it as the environment changes. In addition, it must accommodate input in various forms from diverse stakeholders. A set of —dashboard|| type applications to collect, analyze, manipulate, and report key financial indicators can be useful in modeling various financial scenarios. These tools are relatively common in the private sector and can be easily adapted for use in healthcare. They will allow decision makers to input data and information, change assumptions and strategies, and immediately see the impact on the underlying financial model.

In summary, it is critical to start with solid data and information. This can only be obtained if a certain level of trust exists with the stakeholders. Therefore, it is important to start the Health Information Exchange (HIE) process with an open and transparent process that builds trust from the beginning. When trust is developed, then reliable financial information can be collected, analyzed and reported.

## 2 Introduction

### 2.1 Purpose of this document

The purpose of the document is to define the charter, statement of work, and scope for the Finance Domain team.

### 2.2 List of Related Documents

The following documents are important to this project and provide additional information for review.

**Table 1: Related Documents**

Document Name	Version/Date
Health Information Exchange Strategic and Operation Plan	06-December 2010

### 2.3 Acronyms

**Table 2: Acronyms**

Acronym	Description
BC/BS	Blue Cross Blue Shield
CFR	Code of Federal Regulations
CITL	Center for Information Technology
CMS	Centers for Medicare and Medicaid
EHR	Electronic Health Record
HIE	Health Information Exchange
HIPAA	Health Information Portability and Accessibility Act
HITAC	Health Information Technology Advisory Committee
HITECH	Health Information Technology for Economic and Clinical Health
IT	Information Technology
ND-HIE	North Dakota Health Information Exchange
NHIN	Nationwide Health Information Network
ONC	Office of the National Coordinator
PHR	Protected Health Record
REACH	Regional Extension Center
ROI	Return on Investment

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Acronym	Description
RTI	Response to Intervention
SMHP	State Medicaid Health Information Technology Plan

### 3 Finance Domain Team

#### 3.1 Charter

The Finance Domain Team provides the fundamental starting point for the development of the economic, operational and financial models for the electronic health information exchange in North Dakota. The team will develop the various value propositions to engage all stakeholders, prepare the business case for designing and building an HIE and identifying funding sources for start-up and sustainable, ongoing operations.

#### 3.2 Primary Work Activities

The primary work activities of the Finance Domain team are as follows:

- Demonstrate that all key stakeholders have and understand their long (and short) term value propositions and when they will see them realized
- Risks to actualization 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 Domain and Technical Infrastructure teams

#### 3.3 Key deliverables

The Finance Domain team will facilitate to provide information and input as required by the vendor as outlined in the contract.

Timelines for these vendor deliverables are as follows:

	Description	Due Date
1	Research and analysis of financial sustainability information from other states and national organizations report	31-JAN-2011
2	Financing principles and strategies report	31-JAN-2011
3	Baseline assumptions and metrics report for start-up and ongoing operations	28-FEB-2011
4	Risk identification and mitigation strategy report	30-MAR-2011
5	Initial financial modeling with assumptions report	29-APR-2011
6	Five year Return on Investment metrics with costs and benefits by stakeholder type report	31-MAY-2011
7	Five year revenue and expense projections including start-up capital required and ongoing operational funding report	30-JUN-2011
8	Final financial sustainability plan with recommendations	29-JUL-2011

## 4 Trust

Successful financial modeling is built on four key factors:

- Building trust with the diverse stakeholder group
- Obtaining closely held data and information from each stakeholder that is reliable
- Determining the revenue structure and establishing the types of income that will be used to support HIE operations
- Analyzing the data and information and creating pro-forma budgets and income projections

The basis for building a robust business and financial plan is reliable financial data and information as described above. Having trust is necessary to create a credible business plan with key financial metrics that all stakeholders can endorse.

Another critical element in building a sustainable plan is determining the right mix of revenues that are supported by the stakeholders. Revenues can come from a variety of sources. Direct revenues may include fees, subscriptions, grants, sales of de-identified data and information, and future fee for service income. Indirect revenues can come from operational savings and lower costs. To create a sustainable model, all sources of direct and indirect revenue must blend together and create the optimal mix that can be supported by diverse stakeholders.

## 5 Success Factors

Research into both the successful and unsuccessful HIE efforts across the country over the past several years reveal two facts:

- HIE's that were created using internal stakeholder funding have a higher probability of success
- The costs / benefits of HIE are not distributed equally to all stakeholders

Success in building sustainable HIE's rests on two key factors:

- Determining the optimal mix of funding from multiple sources
- Reaching agreement on a plan for the equitable sharing of benefits

First, internal stakeholder funding is the single best financial resource. Creating financial models that address the value proposition for each stakeholder is the first step in identifying internal funding sources. Showing a return on investment (ROI) that is connected to the value proposition will engage stakeholders faster than any other motivating factor.

Second, because benefits are not distributed equally, the financial model must show who benefits the most and the least. Some stakeholders may benefit from significant cost savings in some areas while others may see their costs increase slightly. It is important to reach consensus on how these costs / benefits will be shared between stakeholders. That is why it is critical to develop trust early in the process.

## 6 Revenue Models

The Finance Domain Team examined seven different revenue models as possible methods for funding the construction and operation of the HIE.

### 6.1 Member Fees

This would be an application fee with monthly/annual fees depending on class of user (Hospital, Payer, Employer, etc.)

<i>Pros</i>	<i>Cons</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	

### 6.2 Usage Fees

Payments are based on actual usage of the exchange.

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

### 6.3 Assessment Fees

An assessment fee would be charged on some characteristic such as number of beds, hospital discharges, and employees in health plan.

<i>Pros</i>	<i>Cons</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

## 6.4 Cost Savings

Payments are based on the projected operational costs saved by what each stakeholder gains from joining the HIE.

<i>Pros</i>	<i>Cons</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

## 6.5 Taxation

A specific consumer tax levied by the legislature to cover the operational cost of the HIE.

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

## 6.6 Grants

Support from various agencies and organizations in the form of an appropriation for a specific purpose.

<i>Pros</i>	<i>Cons</i>
Many sources available and 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

## 6.7 Fees for HIE Service

Fees for establishing various services (consumer services like PHR support, sponsorships, secondary uses of data, etc.) that stakeholders will pay for beyond the basic services of the HIE.

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

## 7 Existing Financial Models in Other States

The Finance Domain Team researched financing models in other states. Many of the contacted entities were unwilling to share key financial data. However, the eHealth Initiative released their annual survey in July 2010 and it contains data that is useful in considering what other states are doing. They had 107 respondents included in their survey. The following charts present various revenue models for consideration. The numbers shown are the number of respondents (of the 107) in each year that indicated that the stated item applied to them and their operation.

**Table 3: Sources of Start-up Funds**

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

**Table 4: Ongoing Revenue Sources**

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 Public Grants	10	11
Public payers (Medicaid/Medicare)	5	10
Public Health	7	10

**Table 5: Funding Sources for Operations**

<b>Founding Sources for Operations (Number of respondents citing)</b>	<b>2010</b>
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

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## 8 Decision and Recommendations

HITAC rejected taxation as a viable alternative. They considered the following alternatives as feasible in some combination:

- Cost Savings / Cost Avoidance
- Fee for Service Revenues
- Legislative appropriations in the early years
- Membership fees
- Grants (capital expenditures but not on-going operations)

### 8.1 Cost Savings / Cost Avoidance

Cost savings are frequently touted as a way to pay for HIE services. Many states have relied in the Center for Information Technology Leadership (CITL) study from 2004 to show potential cost savings related to redundant tests, workflow efficiencies, and e-Prescribing. While the study identifies ways the healthcare system can reduce costs, when field tested, these savings are not as easily obtained as indicated. When these costs do not materialize, the projected cost savings and cost avoidance models do not provide reliable methods for paying for HIE services. Unfortunately, the analysis performed by CITL does not usually result in actual savings in the field. There are six primary reasons why these savings frequently do not materialize.

#### 8.1.1 Quantification of Savings

It is extremely difficult to quantify any real cost savings for stakeholders. Stakeholders are not persuaded by various assumptions and it is difficult to convince stakeholders that they can realize any actual savings or avoid any real costs. Many stakeholders typically show serious resistance to using potential cost savings as a viable way to fund HIE.

#### 8.1.2 Reduced Staffing Levels

Cost savings are built on the principle that costs can be lowered by reducing staffing levels. In many cases, this does not translate into real savings. Most providers are already short staffed. Any savings from EMR and HIE technology doesn't typically result in reduced staff but in more often in staff reassignments. Therefore, the savings are absorbed by other work and the provider does not actually see any reduced costs on the bottom line.

#### 8.1.3 Higher Expense

In the event that organizations can reduce staff in some areas because of the positive effects of electronic health records (EHRs), the added costs of operating the electronic health record system can offset any reduced staff expenses. The difference is in the expenses associated with the personnel eliminated by reducing tests and the costs associated with staff skills required to operate the EHR. Frequently, the staff expense (salaries and benefits) associated with the skills of the personnel doing various tests is lower than the expenses for staff capable of operating the EHR. Therefore, reducing X number of lower cost staff can be offset by needing Y additional staff to work in a technology driven environment.

#### 8.1.4 Liability

Liability laws also play in to the equation. We have had many physicians tell us that "until the liability laws change, I am ordering that extra test". Exploring changes to liability laws in North Dakota may be necessary to address this issue.

#### 8.1.5 Trust

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### **8.1.6 Lost Revenue**

When a test is not performed, someone's bottom line suffers. While not commonly discussed openly, there is enough resistance from providers to know this is a real concern for many providers who administer various tests. Therefore, they tend to resist for a variety of reasons but lost revenue is often the real issue for many of them.

## **8.2 Cost Savings Opportunities**

However, cost savings are possible but not in the amounts projected from the CITL study. It is reasonable to project savings of some amount from duplicative tests and to make projections in other areas where cost can be reduced. Listed below are three areas where savings can be quantified and realized in believable amounts.

### **8.2.1 Reduced Administration Costs**

There are many economic benefits to being involved with a Health Information Exchange/ Health Information Technology program. First, the cost is associated with interfacing with multiple hospitals, where each interface with each hospital ranges in cost of several thousand dollars. When using an HIE; only one interface is needed to interact with several hospitals, creating a reduction in the cost for multiple interfaces. Due to economies of scale, the HIE will be able to secure a lower cost for the one interface to also produce cost savings. And with just one interface, hospitals can cut IT costs associated with the maintenance and communication between multiple interfaces.

HIE can be used to reduce the cost of overhead. Currently a substantial amount of time is spent on administrative duties. A recent study in Illinois has shown that the efficiencies from using HIE have produced a mean savings of \$112,000 annually. When the benefits of an HIE are combined with paperless patient care, the cost savings increase immensely. Hospitals are no longer calling and requesting reports to be sent, waiting for reports and charts to print, or canceling appointments due to lack of intake information. Another benefit of the paperless patient care is the inflow of information to help reduce medical errors, thereby increasing the quality of patient care and decreasing the risk of malpractice lawsuits.

In addition to the time saved by operating paperless, the cost of printing documents per patient is saved as well. The Wisconsin Health Information Network uses a paper based system and has historically reported a cost of \$5.10 per patient. The Indiana Health Information Exchange estimated that their reduced paper based system has a total cost of reports per patient of \$0.81. Illinois has had even more impressive results, and is reporting a cost of \$.041 per patient with their paperless system. Savings of about \$4.00 to \$4.50 per patient can result in a substantial annual savings.

### **8.2.2 Reduced Processing Costs**

Health Information Technology will enhance the overall claims processing procedures. The latest Electronic Health Record (EHR) technology vastly improves the ability of providers to submit "clean" claims. As this technology is more fully implemented across North Dakota, savings in the claims process can be allocated to help pay for the operation of the HIE.

In North Dakota, BlueCross – BlueShield (BC/BS) provides coverage for about 90% of the private payer market. In a study done for this Strategic and Operational Plan, BC/BS conducted a study to determine the impact on claims processing costs resulting from higher quality claims submissions. They studied the claims submissions from the six major hospitals and discovered the following:

- A relatively significant difference in the number of claims successfully being processed without administrative intervention. The differences ranged from an 86% success rate to a 67% success rate. The overall success rate for all six hospital systems was 84%
- For each percentage point increase in the overall claims processing success rate, BC/BS could save up to \$315,000 annually in administrative costs

It is reasonable to assume that the providers could save an equal or greater amount as they need to spend as much or more time gathering and submitting the requested patient data and information. In addition, similar or greater savings could be gained in the Medicaid process as well. When combined, the total savings within the State of North Dakota could exceed \$1,000,000 annually. In a state where the annual operational cost of the HIE are estimated to be under \$3,000,000 annually, this is a significant opportunity.

### **8.3 Fees for Service**

It is clear from the previous section that Health Information Exchange in North Dakota cannot be funded solely from cost savings and / or cost avoidance. While some savings can be obtained by stakeholders, converting these savings into revenue for the HIE is difficult to accurately determine. Therefore, it is the conclusion of HITAC that revenue in the form of fees for services must be included in any financial sustainability plan.

#### **8.3.1 Healthcare Informatics Consulting Services (Ingenix, 2010)**

In a recent Ingenix study, they reported on their HIE Gateway Model for Long-Term sustainability. They described offering analytical services on a fee for service basis to providers, payers, governmental agencies and other stakeholders. In their model these value added services included:

- Performance management
- Care gap identification
- Fraud and abuse identification and prevention
- Population monitoring and predictive profiling
- Care and disease management
- Clinical research

Each of these services can be used to fund the HIE by charging stakeholders for value-added services. Ingenix cites the Michigan case where using analytics saves their stakeholders \$200 Million annually. With these types of savings, stakeholders should be willing to pay a fee of 10% – 15% of the savings for the HIE consulting services. Using the annual Michigan savings as a guide for North Dakota, the annual savings in North Dakota could approach \$15,000,000. This converts into a consulting fee of between \$1,000,000 and \$1,500,000 annually.

#### **8.3.2 Best Practices Consulting Services**

In a study in Mississippi and published in the Health Care Financial Management Association magazine in April 2004, North Mississippi Health Services, using care-based cost management (CBCM), added \$7,500,000 to the bottom line annually. If the HIE developed consulting services that stakeholders would use to achieve similar operational savings, they could charge 10% to 20% of the savings as fees. This has the potential in North Dakota to generate revenues in excess of \$400,000 annually.

#### **8.3.3 Quality Reporting Services**

All stakeholders will be required to do quality reporting to CMS by 2015. Many smaller stakeholders may need the HIE to provide a way for them to satisfy this requirement. While it is too early to estimate demand or project potential revenue, it is important to include this as a potential revenue source for sustaining HIE operations.

#### **8.3.4 Clearing House Services**

Many HIE stakeholders use clearing house services to help consolidate and process insurance claims. Given the nature of the HIE operation, it is possible to perform similar services at the HIE for various stakeholders. While it is too early to estimate demand or project potential revenue, it is important to include this as a potential revenue source for sustaining HIE operations.

### **8.3.5 Web Portal Services**

Consumers are projected to begin using technology to manage their healthcare within the next few years. It is estimated that Medicare patients for example use the services of approximately nine (9) different providers. Providing a web portal for patients to browse various provider services, collect personal health information from multiple sources to populate their Personal Health Record, and manage multiple providers with appointment scheduling, test results and other services, will be an excellent source of revenue for the HIE. While it is too early to estimate demand or project potential revenue, it is important to include this as a potential revenue source for sustaining HIE operations.

### **8.3.6 Sponsorships/Underwriting**

When the HIE has a web portal service available and is connecting with patients across North Dakota, it can sell sponsorships and underwriting to various companies that would like to reach these same patients. While it is too early to estimate demand or project potential revenue, it is important to include this as a potential revenue source for sustaining HIE operations.

### **8.3.7 Secondary Uses of Redacted Data**

It is widely assumed that various entities would have an interest in the data and information the HIE can access and collect. Given this potential service, the HIE can collect and de-identify data for secondary uses by interested entities. These entities will be willing to pay for such services. While it is too early to estimate demand or project potential revenue, it is important to include this as a potential revenue source for sustaining HIE operations.

## 9 Sample Revenue Model

Using the e-Health Initiative survey data as described in Section 3 above, it is possible to model various scenarios of how the HIE costs could be distributed to stakeholders. The potential model presented for consideration below is based on the following assumptions:

Using the e-Health Initiative survey data as described in Section 3 above, it is possible to model various scenarios of how the HIE costs could be distributed to stakeholders. The potential model presented for consideration below is based on the following assumptions:

- Assumption 1 – HIE services are as yet undetermined
- Assumption 2 – A pro-forma expense budget is to be created after the services are more precisely defined
- Assumption 3 – To develop models for discussion, it is assumed for this exercise that the annual operating budget for the fully functional HIE is \$2,500,000 to 3,000,000
- Assumption 4 – The primary private sector payer is Blue Cross/Blue Shield
- Assumption 5 – The PPS hospitals contribute equally and they include:
  - Medcenter One(Bismarck)
  - St. Alexius (Bismarck)
  - Sanford Health(Fargo)
  - Essentia (Fargo)
  - Altru (Grand Forks)
  - Trinity (Minot)
- Assumption 6 – State agencies include the Departments of Health, Public Health, and Corrections, Department of Human Services, and Workforce Safety
- Assumption 7 – Services for which fees can be charged are not yet determined
- Assumption 8 – Cost savings / avoidance will need to be determined and actual dollar values assigned after the Strategic and Operational Plan is approved
- Assumption 9 – As much as feasible, all stakeholders make some contribution to offset the operating charges
- Assumption 10 – Physicians will be willing to pay \$50 per month for HIE services

The projections for supporting the operational costs are Supported from four primary sources including the State of North Dakota, Stakeholders, Medicaid and from revenues from HIE services. The State Legislature is expected to provide 50% of the funding until the HIE is able to achieve sustainability. Stakeholders are expected to provide a reasonable share of the funding based on various financial limitations. Medicaid will work with the HIE to develop a formula that accurately reflects their fair and reasonable portion of the costs. HIE services will developed over time and are expected to fund an increasing share of the costs of operations.

The chart below shows the initial proportioning of costs for each of the four main funding groups. It is anticipated that these proportions will vary overtime as fees for HIE services are developed. These fees are shown at zero in this chart because they are difficult to project at this point in time. However, they are shown in the chart because they will assume an increasing share of the funding overtime.

Revenue for funding the Health Information Exchange in North Dakota will be generated according to the following formula show in Table 6.

**Table 6: Proposed Revenue**

	<b>CY2011</b>	<b>CY2012</b>	<b>CY2013</b>	<b>CY2014</b>	<b>CY2015</b>	<b>CY2016</b>
State Legislative Appropriation	50%	50%	50%	50%	50%	50%
State Fees (To be determined)	40%	40%	40%	40%	40%	40%
State Medicaid	10%	10%	10%	10%	10%	10%
Fees for HIE Services	0%	0%	0%	0%	0%	0%

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## 10 Finance Health Information Exchange Strategies

The Finance Domain Team identified the following strategies for constructing and operating the Health Information Exchange.

### 10.1 Benefits Distribution

The following strategies for analyzing the actual benefits that each stakeholder may potentially receive from participation in the HIE were established:

- Gather and analyze real operational data from various stakeholders (Hospitals, Medicaid, BC/BS, etc.) to determine the actual benefits accruing to stakeholder groups
- Use the actual data to create an equitable financial model to pay for HIE services
- Determine an equitable and fair membership fee that factors in any real cost savings / avoidance

### 10.2 Financial Model

The following strategies for creating an equitable financial model receive for the constructing and operating the HIE were established:

- Build sustainability into the model from the beginning and separate start-up from ongoing operational costs
- Create a revenue structure that is simple, easy to understand, and equitable
- Incentivize early adopters to join and support the HIE
- Develop a strategy to seek a legislative appropriation for constructing the HIE and subsidizing operations for the first six years
- Create a strong marketing plan and strategy to sell and market the HIE
- Encourage collaboration between stakeholders groups to reduce operating costs for smaller provider organizations

### 10.3 North Dakota bank Loan Program

The following strategies were created to encourage stakeholder participation in the North Dakota Bank Loan program:

- Secure additional funding support from the legislature in the 2011 session and extend the program for 2 more years
- Educate stakeholders about the availability of the loan program and encourage participation
- Collaborate with the Regional Extension Center (REACH) to ensure they understand the program and are offering it to their clients

### 10.4 Grants

The following strategies for obtaining grant funds to support capital requirements for constructing and expanding the HIE were established:

- Develop a plan to secure grant resources from the companies developing the oil fields in North Dakota to support the HIE in North Dakota as a way to assist their largely imported employee base
- Solicit corporations and private foundations for sponsorship funding

- Hire a development staff person early in the construction of the HIE to secure grant funding from multiple sources and grow provider HIE participation

## 10.5 State Agencies

The following strategies for including various state agencies in the HIE were established:

- State agencies should demonstrate leadership in attaining interoperability between agencies
- Coordinate with the State Medicaid Health Information Technology Plan (SMHP) to ensure Medicaid's healthcare exchange requirements are included in the HIE
- Integrate all of the public health registries into the HIE
- Approach the Corrections department to integrate their exchange needs into to the HIE and secure their financial support
- Develop a plan to bring the Department of Human Services providers (State Hospital, Human Service Centers and Developmental Center) into the exchange and secure their financial support

## 10.6 Additional Revenue Opportunities

The following revenue opportunities, as described in Section 8.3 above, should be studied and analyzed as potential sources of additional operational funding:

- Healthcare Informatics Consulting
- Best Practices Consulting
- Quality Reporting
- Clearing House Services
- Web Portal Services
- Corporate sponsorship/underwriting
- Secondary uses of data

## 11 Legal and Policy Domain Team Project Risks

Understanding how changing environmental factors may impact any strategy is crucial to creating a plan that is supported by diverse stakeholders. Therefore, it is important to examine potential risks to the plan and develop mitigation strategies to minimize any impact. Risks to the Strategic Plan are identified in this Section and mitigations strategies are developed in the Operational Plan in Section 14.

### 11.1 Risks

There is no question the environment will continue to evolve during the various stages of HIE creation in North Dakota. Stakeholders will change and financial commitments will ebb and flow depending on a variety of factors. Knowing this to be true and creating a business and financial plan that has the flexibility to adjust and continue to move forward is key. The three most important factors in maintaining commitment over a long-term project are:

- Demonstrating a clear ROI connected directly to each stakeholders' value proposition
- Trust - between the stakeholders and with consumers
- Using a proven change management process

If these three factors are in place, the probability of success rises significantly.

In addition, the following risks have been identified that could cause problems for attaining financial sustainability.

#### 11.1.1 Legal Risks

The following legal risks were identified as potential barriers to building a successful HIE in North Dakota:

- Privacy and Security risk – Do not appear to be significant because private providers and payers as well as state and local government agencies that are expected to participate in the HIE comply with HIPAA.

#### 11.1.2 Adoption Risks

The following adoption risks were identified as potential barriers to building a successful HIE in North Dakota:

- Agreement of the six (6) major ecosystems in North Dakota to participate in the HIE
- Setting achievable expectations for adoption over a five year time frame
- Failure of the HIE system to respond to stakeholder inquiries quickly
- Initial operating costs are unsustainable in the first three years

#### 11.1.3 Political Risks

The following political risks were identified as potential barriers to building a successful HIE in North Dakota:

- Continued legislative support and financing
- Lobbying by various groups that may resist the changes that are required to successfully operate the HIE
- Resistance from various impacted state agencies
- Required legislative action around public policy issues
- North Dakota's legislature meets biennially (Session ends late April, early May 2011)

#### 11.1.4 Business Plan/Financial Risks

The following business plan risks were identified as potential barriers to building a successful HIE in North Dakota:

- Failure to follow the adopted Strategic and Operational Plan
- Inability of certain stakeholder groups (i. e. CAHs, Physicians, Long-term care) to contribute their equitable share of the costs
- Providers wait thinking they will obtain a “better” deal later

#### 11.1.5 Legal Risks

The following legal risks were identified as potential barriers to building a successful HIE in North Dakota:

- Privacy and Security risk – Do not appear to be significant because private providers and payers as well as state and local government agencies that are expected to participate in the HIE comply with HIPAA.

#### 11.1.6 Technical Risks

The following technical risks were identified as potential barriers to building a successful HIE in North Dakota:

- Additional unanticipated ONC requirements
- Additional unanticipated CMS requirements
- Maintaining pace with rapidly evolving technical specification and standards

#### 11.1.7 NHIN Risks

The following risks associated with the Nationwide Health Information Network were identified as potential barriers to building a successful HIE in North Dakota:

- Allowing multiple NHIN connections within each state could make an HIE unsustainable
- Allowing vendors to connect directly with NHIN and permitting the exchange of information by providers through this connection
- Providers using NHIN Direct and assuming

### 11.2 Risk Mitigation

Successful risk mitigation is built on six key factors:

- Identifying potential risks and determining a strategy to mitigate each risk
- Establishing key metrics to gauge progress towards sustainability
- Creating project milestones and trigger points where go – no go decisions will be considered
- Developing a timeline to demonstrate progress
- Building stakeholder accountability in to the Strategic and Operational Plans for the HIE effort
- Reporting results on a regular basis and identifying variances to the plan with actions to reduce or eliminate the variance.

Risk mitigation involves the identification of risk and the development of strategies to manage and reduce or eliminate it. Generally, risk mitigation involves these steps:

- Identification of risk and issue scope.
- Process planning through open discussion. This may involve determining the objectives of the diverse stakeholders
- Analysis of risks involved in the process
- Mitigation of risks using available resources
- To ensure that possible risks reach the attention of key stakeholders, risk factors are identified in regular Project Status Reports.

## 12 Operating Plan

Based on the strategies created and articulated in the Strategic and Operation Plan submitted to the ONC, North Dakota will design and implement a fully functioning, sustainable Health Information Exchange upon approval from the ONC. HITAC has established the following specific goals for successfully implementing health information exchange:

- Implement the strategies articulated in this plan, adapting to changing environmental conditions as necessary
- Create multiple funding sources to reduce the burden on any one healthcare stakeholder group
- Achieve financial sustainability within a reasonable period of time where income exceeds expenditures over several fiscal periods
- Provide services that will generate significant revenues to support the ongoing operations

The following section describes the overall tasks and subtasks that the Finance Domain team will be responsible for and which are necessary to achieve the goals and objectives outlined in the State of North Dakota HIE strategic plan for statewide Health Information Exchange (HIE).

### 12.1 Investment of Federal Funds for Stage 1 Meaningful Use

The state of North Dakota received a federal grant of \$5.33 Million to build the statewide HIE. To date, the state has invested approximately 10% of the grant in work to date. Any unspent planning funds will be used to build the HIE. The remainder of the funds will be allocated to the building on the HIE as shown in Section 14.6.2.4 below. It is estimated that this is sufficient to build the HIE as described in the Strategic Plan. The expenditure of the remaining funds is projected to be as follows:

North Dakota Health Information Exchange	\$ 3,000,000
Interstate NHIN connections	\$ 850,000
Project Management	\$ 450,000
Consulting Assistance	\$ 500,000
Total Estimated Expenditures	\$ 4, 800,000

This will put the HITAC in a position to meet all Stage 1 Meaningful Use requirements for providers across the state. In addition, it will position the HIE for Stage 2 and 3 Meaningful Use when they become better defined.

### 12.2 Required Funding

As shown in 12.5.1 and 12.5.2 below, detailed funding requirements for both capital and operating expenses are shown. Discussions with most of the major stakeholders have been held and indications are positive that they will support the HITAC and provide the necessary operational funding. The state legislature has been informed of the funding requirements and it is anticipated they will provide up to 50% of the operating costs for the first six (6) years. North Dakota is unlike most other states in that they actually have a budget surplus this year. Therefore, securing the required funding is expected in the next legislative session.

### 12.3 Cost Estimates

The Pro-Forma Budgets shown in Section 12.5.1 and 12.5.2 detail the distribution of the federal and matching funds.

In addition, the chart below shows the relative costs for building an HIE by comparing data from four other similar HIEs. It is extremely difficult to compare HIEs because of the variances in the ways different vendors configure and build them. In addition, each HIE has its own set of criteria for exchanging information. They may start with different data elements and build components in different time periods. Therefore, it is important to find a way to compare HIEs so we can begin to determine if the costs proposed for North Dakota are reasonable. The consultants working for North Dakota have worked in several states and have access to information that can be used for comparison.

In the private sector, one technique that is effective is the use of financial ratios to compare services. Applying this technique to HIEs, several ratios are possible. For this comparison, the following ratios were selected:

- cost per total population served
- cost per major hospital systems served
- cost per total providers in the medical trading area

In the chart below, data from four comparable HIEs were used to create the financial ratios. In examining the data, it is easy to see some of the differences between each HIE. However, when the ratios are averaged and compared to the proposed costs for North Dakota, a reasonable conclusion to draw would be that the costs in North Dakota are in line with what other HIEs have spent.

**Table 7: HIE Financial Ratios**

	Capital Cost	Cost Per Person	Cost Per Hospital	Cost per Provider
HIE A	\$ 3,600,000	\$ 2	\$ 450,000	\$ 2,000
HIE B	\$ 4,500,000	\$ 10	\$ 750,000	\$ 4,737
HIE C	\$ 5,000,000	\$ 6	\$ 1,666,667	\$ 2,941
HIE D	\$ 8,100,000	\$ 3	\$ 900,000	\$ 1,350
Average	\$ 5,300,000	\$ 5	\$ 941,667	\$ 2,757
North Dakota	\$ 4,700,000	\$ 8	\$ 783,333	\$ 3,133

North Dakota's cost per person and cost per provider are on the higher end of the range because the base system costs are spread across a smaller population/provider base than other states.

Also, the chart below presents the detailed cost estimates for building the HIE in North Dakota

**Table 8: Detailed Cost Estimates**

KEY			
Item Name	Description	One-time Fees	Annual Fees
HIE Core Infrastructure	HIE Core Infrastructure - eMPI, Single Sign On with Identity Management Service, Record Locator Service, Patient Consent Management Service, Registries/Centralized Store of data Elements, Applications/support of Lab orders and results, ePrescribing, Quality Reporting, Audit Logging/Reporting	\$995,000 – License Fee and one-time installation fee of \$495,000	\$199,000 Annual maintenance, support, patches, fixes, upgrades
45 EDGE Gateways (Included as part of the HIE due to limited provider funding and for hardware refresh purposes)	45 EDGE Gateways with Clinical Support of Integrated Healthcare Enterprise Certified Systems (CCD)	One Time Fee for License, installation and integration with IHE Certified EHRs of \$20,000 per system - \$900,000 total	\$20,000 per EDGE Gateway for annual connectivity, support, maintenance, and support of up to 25 internal users/physicians of applications/services - total \$ 900,000
5 Standalone Labs (Orders/Results)	5 Stand Alone Labs with LIS - Lab Orders and Results Management with integrated clinical data support	5 Stand Alone Labs at \$12,000 each for integration and installation	\$40,000 per year per lab for maintenance, support, and ongoing connectivity - \$200,000 total
358 Physicians – Portal Access	Physician Portal Access for 400 physicians total, 358 through 2014 - Includes Identity Management/Single Sign-On, State Services Access, ePrescribing, Lab Orders/Results, Record Locator Services	Setup and training of physicians at \$1,000 per physician - \$400,000 total	\$600 per physician per year - \$240,000 total
NHIN Gateway – 4 Connections	NHIN Gateway with 4 external connections	\$250,000 One-time fee for License and Setup	\$75,000 Annual Maintenance, Support, etc.
Integration with Medicaid and State Systems	Integration with Medicaid eMPI and systems, Public Health Systems, API development, etc.	\$300,000	\$54,000 Annual maintenance and support

KEY			
Item Name	Description	One-time Fees	Annual Fees
Hosting, Hardware, etc.	Hosting, Hardware and Miscellaneous Fees	\$100,000 for hardware and software for main datacenter and redundant/failover datacenter	\$120,000 per year for two datacenters - main and failover/redundant
Optional – EMR Lite Offering for Physicians – 358 Physicians	Optional – EMR Lite Offering for Physicians	Add Module to HIE - One-time Fee of \$100,000. One time setup fee and training per physician of \$500	Annual Fee of \$1,200 per physician
EMR Lite One Time Fee	Optional - EMR Lite Offering for Physicians (one-time fee)	See above	See Above

## 12.4 Staffing Plans

The Health Information Exchange will be managed to a significant degree by contracts by the vendors responsible for installing and maintaining many of the components of the technical infrastructure. In addition, the HIE will need to employ the following positions, phased in over time as shown in the pro-forma budget, to manage several of the ongoing operational aspects of the HIE. Shown below are descriptions of those positions that will be required.

### 12.4.1 Director

The Director provides overall corporate leadership in all areas such as communications, finance, technology and policy. He or she will effectively coordinate, develop and execute business plans and fundraising efforts with the Board of Directors, and manage the day-to-day operations of the State. The Director will manage relationships among the Board of Directors as well as local and national stakeholders. He or she will also oversee the coordination and integration of the State's Medicaid, Public Health programs, and other local, state and national-level efforts.

### 12.4.2 Privacy and Security Officer

The role of the Privacy and Security Officer includes ensuring compliance with privacy and security standards, assessing risk and vulnerability, and overall data security. He or She will initiate and oversee projects with significant impact to the statewide HIE, including risk mitigation and policy development. The Privacy and Security Officer will work closely with the legal counsel.

### 12.4.3 Data Management

The role in Data Management includes the responsibility of collecting, editing, processing, and distributing of data to meet the needs of the State HIE. He or she will design, develop and implement computerized data files and information systems. He or she will also present reports for staff and providers as well as track national HIE efforts.

### 12.4.4 Senior Engineer

The Senior Engineer is responsible for the development, maintenance and support of web-based application systems. He or she will also monitor and manage the day-to-day operations of projects or

programs, as well as develop and maintain project schedules, documentation and budgets. The Senior Engineer will also supervise professional, technical and support staff.

#### **12.4.5 Stakeholder Services**

The role of stakeholder Services is to provide support to all users, ensuring the ability to effectively exchange health information. Stakeholder Services will include high-quality, technical staff and infrastructure for software development, system integration (mainly with EHR systems), testing (connectivity, interoperability, and end-to-end transaction), and production system/service maintenance for successful fulfillment of the project.

#### **12.4.6 Trainer**

The Trainer is responsible for the education and training of stakeholders. He or she will also deploy a User Acceptance Testing (UAT) process to ensure the education and materials are effective and useful to the providers and consumers. The Trainer will provide additional training in areas such as HITECH/Meaningful Use, ARRA/Stimulus Funding, and HIE Integration. The Trainer will also provide training to the REC, so the REC will be fully capable of providing the same level of service after the engagement.

#### **12.4.7 Development Officer**

The Development Officer will manage and coordinate fundraising efforts, and will build and maintain relationships with donors. He or she will maintain records of past and current approaches to outside funding sources. The Development Officer will also development and implement marketing strategy.

#### **12.4.8 Health Information Consultant**

In Section 10.10 of the Strategic Plan, a description of the revenue generating, value added services the HIE will offer stakeholders is described. In order to offer these services, staff members will be required to develop and provide these services. Staff will need to be employed to offer these services and will require competencies and skills to complete a client assessment, analyze data and information, prepare recommendations and reports, and present solutions to stakeholders.

### **12.5 Controls and Reporting**

HITAC will use standard GAAP processes to fulfill its promise of openness and transparency in all financial activities. HITAC will provide regular and frequent reports to stakeholders, consumers and legislators.

#### **12.5.1 Pro-Forma Capital Budget**

In Section, 14.6.2.1 above, capital costs are presented for building the HITAC over the next four (4) years. Recognizing that the grant funds from the Cooperative Agreement Program have an escalating match from the state (100% in FFY 2010, 90% – 10% in FFY 2011, 70% – 30% in FFY 2012 and 30% – 70% in FFY 2013), the following budget shows the amount of funding commitment from the State of North Dakota to build the HIE. Medicaid's participation is dependent on agreeing to a formula that represents Medicaid's fair and reasonable share of the capital as well as the operating costs of the HIE. The budget shown below is based on Medicaid's current proportional share of the covered lives in North Dakota. Project management is shown for the first two years as most of the work is required during this time period.

**Table 9: Pro-Forma Capital Budget**

	<b>CY 2011</b>	<b>CY2012</b>	<b>CY2013</b>	<b>CY2014</b>
Cooperative Agreement	\$3,916,868	\$929,745	\$173,565	
State of North Dakota	\$387,382	\$379,755	\$424,935	\$555,000
Medicaid	\$478,250	\$145,500	\$66,500	
<b>Total Revenue</b>	<b>\$4,782,500</b>	<b>\$1,455,000</b>	<b>\$665,000</b>	<b>\$555,000</b>
	<b>2011</b>	<b>2012</b>	<b>\$2,013</b>	<b>2014</b>
Core Infrastructure	\$1,862,500	\$350,000		
Edge Gateways	\$580,000	\$425,000	\$140,000	
Lab Order Results	\$140,000	\$50,000		
Physician Portal Access	\$200,000	\$150,000	\$150,000	
NHIN Gateway	\$250,000			
Integration with State Systems	\$300,000			
Hosting, Hardware, etc.	\$450,000			
Optional EHR Lite	\$300,000	\$230,000	\$375,000	\$555,000
Project Management	\$350,000	\$100,000		
Consulting Assistance	\$350,000	\$150,000		
<b>Total Expense</b>	<b>\$4,782,500</b>	<b>\$1,455,000</b>	<b>\$665,000</b>	<b>\$555,000</b>

### 12.5.2 Pro-Forma Operating Budget

HITAC will require operating fees to fund operations over time. Expenses will include ongoing maintenance and licensing fees, staff salaries and benefits, project management, and consulting assistance. Ongoing maintenance and licensing fees are based on the capital budget shown in Section 14.6.2.4 above. Staff salaries and benefits are based on a phased-in approach to staff according to the increasing needs of the operations. Shown below is the pro-forma budget for the first four (4) years of operations.

- Budget Assumptions
  - Medicaid funds their proportional share of capital and operating costs
  - Revenue is received as per the strategic plan
  - Staffing ramps up over a three year period
- 2011 Development Officer (6 months)
- 2012 – Make Privacy and Security and Development Officer full time, add Data Management, Senior Engineer, and Consultant (6 months), add User Services and Trainer full time
- 2013 – All staff full time
- EHR Lite is optional and will be included only if providers are willing to pay for the service

**Table 10: Pro-Forma Operating Budget**

<b>Revenue</b>	<b>CY 2011</b>	<b>CY2012</b>	<b>CY2013</b>	<b>CY2014</b>
State of North Dakota	\$635,958	\$1,374,125	\$1,668,000	\$1,710,750
Providers/Payers	\$508,766	\$1,099,300	\$1,334,400	\$1,368,600
Medicaid(Estimated)	\$127,192	\$274,825	\$333,600	\$342,150
Optional EHR Lite	\$276,000	\$450,000	\$666,000	\$576,000
Fees for Services			\$166,800	\$342,150
<b>Total Revenue</b>	<b>\$1,547,916</b>	<b>\$3,198,250</b>	<b>\$4,168,800</b>	<b>\$4,339,650</b>

<b>Expense</b>	<b>2011</b>	<b>2012</b>	<b>\$2,013</b>	<b>2014</b>
Core Infrastructure	\$132,666	\$199,000	\$199,000	\$199,000
Edge Gateways	\$186,667	\$760,000	\$900,000	\$900,000
Lab Order Results	\$133,333	\$200,000	\$200,000	\$200,000
Physician Portal Access	\$40,000	\$150,000	\$240,000	\$240,000
NHIN Gateway	\$50,000	\$75,000	\$75,000	\$75,000
Integration with State Systems	\$36,000	\$54,000	\$54,000	\$54,000
Hosting, Hardware, etc.	\$120,000	\$120,000	\$120,000	\$120,000
Optional EHR Lite	\$230,000	\$375,000	\$555,000	\$480,000
Administrative Expense	\$80,000	\$175,000	\$200,000	\$250,000
Staffing	\$263,250	\$640,250	\$793,000	\$903,500
<b>Total Expense</b>	<b>\$1,271,916</b>	<b>\$2,748,250</b>	<b>\$3,336,000</b>	<b>\$3,421,500</b>