North Carolina

Health Information Exchange Assessment

NC Session Law 2015-7, Senate Bill 14

Report to the

Joint Legislative Oversight Committee on Health and Human Services

Joint Legislative Oversight Committee on Information Technology

Fiscal Research Division

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Legislative Request

As required by North Carolina Session Law 2015-7, The Office of the State Chief Information Officer (SCIO) and the Department of Health and Human Services (DHHS) initiated an assessment of the existing functionality, structure, and operation of the North Carolina Health Information Exchange Network (NC HIE). The assessment included reviewing technical, financial, and contractual aspects of NC HIE. The assessment is to be completed by June 1, 2015.

The text of the legislation can be found in Appendix A.

Assessment Team

Implementation of the legislation involved coordination and collaboration between DHHS, the Office of Information Technology Services (OITS), NC HIE, Community Care of NC (CCNC), and Mosaica Partners, LLC.

Mosaica Partners, LLC, is a nationally recognized consulting firm specializing in health information strategy and exchange. Mosaica is familiar with the situation in the State of North Carolina as they successfully completed an evaluation of NC HIE's performance on the requirements relative to its State Health Information Collaborative Agreement as required under Health Information Technology for Economic and Clinical Health (HITECH)[1].

Report Focus

The team's findings and conclusions are described in this report and have been organized into the following domains:

- Stakeholder Engagement
- Governance and Business Operations
- Contracts and Legal
- Privacy, Security and Technology

The goals of the assessment are to:

- Describe the technical and business condition of NC HIE
- Identify obstacles to successful continued performance of NC HIE in its current form

[1] The Health Information Technology for Economic and Clinical Health (HITECH) Act, enacted as part of the American Recovery and Reinvestment Act of 2009, was signed into law on February 17, 2009, to promote the adoption and meaningful use of health information technology.

- Recommend an approach for effective and sustainable statewide health information exchange in North Carolina

Executive Summary

This assessment of the North Carolina Health Information Exchange (NC HIE) describes the nonprofit organization that is charged with oversight and administration of the State's health information exchange network. Emerging from a federal landscape of aggressive grant funding and legislation intended to enable computer-based exchange of patient information, NC HIE has experienced several changes in governance and corporate affiliation while establishing its core technologies.

Today, hundreds of physician practices and safety net organizations, as well as many hospitals, are dependent on NC HIE for their ability to exchange patient information electronically with other healthcare delivery sites. Some also depend on an agreement between NC HIE and an electronic medical record (EMR) vendor for the system they use to provide and document daily patient care. Several of the State's largest healthcare providers, however, are not connected to NC HIE because of a lack of perceived value from NC HIE services, or their reluctance to abandon their own organization/vendor-centric health information exchange network. As federal funds to build state HIEs have been exhausted and NC HIE is not sufficiently mature to sustain itself on earned fee and contract revenue, the organization is at a critical point.

The assessment team evaluated NC HIE Stakeholder Engagement, Governance and Business Operations, Contracts and Legal, and Privacy, Security and Technology. While gaps between best practices and NC HIE were identified in all of these areas, the team found that NC HIE depends on a technology platform that is well regarded nationally. Its contractual agreements with subscribers, vendors and other business partners provide a workable, sustainable and enforceable framework for its operation.

An effective, sustainable HIE Network remains essential to North Carolina's ability to improve quality and coordination of patient care, reduce costs, and ultimately improve the health of the State's population. The deficiencies noted herein will prevent NC HIE from achieving this objective with its current structure, governance and business model.

We propose a three-stage process to more fully analyze and understand all aspects of NC HIE business operations, restore stakeholder confidence, and develop and implement a roadmap to state-wide sustainable health information exchange. Although the exact nature of the resulting relationship between the State and NC HIE is not yet defined, the current financial condition of NC HIE and its relationship with stakeholders suggest a new entity, under State control, building on the accomplishments and capabilities of NC HIE, will best serve the needs of the State and its providers.

Considering the criticality of NC HIE's services to its subscribers, the positive findings in this assessment, and the General Assembly's commitment to continue efforts towards the implementation of a statewide HIE, continued financial support of NC HIE operations during this process is recommended.

Introduction

This assessment of NC HIE was prepared for the General Assembly by representatives of OITS, DHHS, and Mosaica Partners. Information contained in this report is based on documents received from, and verbal representations made by, NC HIE staff during the assessment period, which commenced on April 23, 2015 with a letter from Chris Estes, the State Chief Information Officer, and Joseph A Cooper, Jr., the Chief Information Officer of DHHS. (See Appendix B). Interviews with selected key stakeholders were also conducted by Mosaica Partners.

Limitations of Report

Two factors have contributed to a report which is not as robust as the members of the assessment team would have wished.

First, the brief time allocated for the actual assessment of the information collected and report preparation limited the breadth and depth of the assessment. Second, the response by NC HIE to our requests for documentation and clarification of open questions has generally been slow, incomplete, and insufficient to provide the level of detail the team considers necessary for a full, in-depth assessment.

Future of NC HIE

Without adequate funding for fiscal year 2016, the electronic exchange of health information in North Carolina for the participants of NC HIE, especially the Federally Qualified Health Centers (FQHCs) and small hospitals, will be curtailed. A recommendation for limiting this negative impact to health care in North Carolina and continuing the services is included in the section, Recommendation for the Future of Statewide Health Information Exchange.

Overview - Health Information Exchange

Broadly defined, health information exchange (HIE) exists when two or more organizations share healthcare-related information. This typically concerns a patient who may be receiving care in more than one location or by more than one provider. Exchanging healthcare information between multiple healthcare organizations has the potential to improve patient care, reduce costs by fostering collaborative and coordinated care, and result in overall better health of the population. This is commonly referred to as the "Triple Aim"[2] of health care reform.

Brief History of HIE

Until the end of the 20th century, most healthcare-related information, when it was shared, was shared manually. Patients' paper files, or copies of those files, were physically moved between healthcare providers. In the latter part of the 20th century, healthcare information began to be exchanged using facsimile (fax machine) technology. While often faster than physically moving paper files, the information being sent was generally not machine readable by the recipient's computer-based systems, and it still severely limited its use for real-time analytics, pro-active improvements in patient care and cost avoidance/improvements.

In 2004, President George W. Bush announced a national goal of all Americans having an electronic health record by 2014. As a result of that pronouncement, there was a concerted effort, and considerable investment of tax dollars, to enable health information to be sent and received by computer-based systems. It is this sharing of information, in machine-readable format, that is generally meant today by the term, "health information exchange." While the goal of each American having an electronic health record has not yet been met, significant progress has been made. Much of that progress has been made as a result of increasing the adoption and use of Electronic Medical Records (EMRs) and establishing health information exchange organizations for broad health information sharing. Many of these efforts, including those in North Carolina were funded by the HITECH Act within the American Recovery and Reinvestment Act (ARRA) in 2009.

Any movement of health information can be considered health information exchange. A significant percentage of the exchange of health information nationally, as well as in North Carolina, continues to be in non-electronic format, i.e. paper files, FAX, and physical x-ray films. At the same time, the movement to the electronic exchange of health information as an underpinning to health care reform is considered a national priority. This effort is led by the US Department of Health and Human Services, through its Office of the National Coordinator for Health Information Technology (ONC). The benefits summarized in the Triple Aim as improving the patient experience of care, improving the

[2] The IHI Triple Aim is a framework developed by the Institute for Healthcare Improvement that describes an approach to optimizing health system performance.

health of populations, and reducing the cost of health care are not possible without the near open and universal exchange of health information in electronic format.

Specialized organizations have been established to promote and facilitate the electronic exchange of health information. Collectively those organizations are known as health information exchanges (HIEs) or health information exchange organizations (HIOs). In North Carolina, the primary organization charged with facilitating the statewide exchange of information is NC HIE. Exchanges that connect to multiple EMR systems and multiple organizations are considered "public" exchanges. An exchange that primarily connects to one specific EMR technology, or operates primarily within a provider's organizational structure, is considered a "private" exchange. Most large health systems in North Carolina operate their own vendor-specific private health information exchanges. However, Coastal Connect Health Information Exchange, in eastern North Carolina, operates as a regional public HIE organization.

Health Information Exchange in North Carolina

State Health Information Exchanges, including NC HIE, primarily arose around 2010 to take advantage of funding provisions in the HITECH Act, which authorized cooperative funding agreements with each state through its State Designated Entity (SDE). NC HIE is the SDE for North Carolina.

NC HIE began operations in 2011. In 2012, NC HIE and Community Care of North Carolina (CCNC) announced an agreement to work together to improve North Carolina providers' access to health care data and electronic medical records. After NC HIE and CCNC board approval, NC HIE and CCNC merged in February of 2013. At that time, CCNC assumed governance of NC HIE. NC HIE continues to operate as the SDE for health information exchange for NC.

House Bill 834, passed in 2013, mandated connectivity to NC HIE for any hospital with an EHR, and tasked NC HIE with providing demographic and clinical data to DHHS for any patient where the services were paid by Medicaid funds. (See Appendix D). This statute was intended to assist NC HIE with the recruitment and participation of hospitals, however the lack of an implementation date or specific penalties for non-compliance have rendered the law less useful in recruiting hospitals to use NC HIE than may have been intended.

Description of NC HIE Organization

NC HIE is a 501 c (3) organization operating under the parent company CCNC, Inc. It operates on a July 1 to June 30 fiscal year.

Documentation provided to the assessment team indicates NC HIE has 356 subscription agreements representing more than 900 points of care delivery where providers can, or are under contract to be able to, connect to NC HIE. Sites include 35 hospitals, more than 600 primary care providers, more than 200 specialty clinics, and 50 long-term care facilities.

NC HIE has its own independent Board. It currently consists of 6 voting members and 2 non-voting legislative members. Current board representation is as follows:

- Kelly Lucas, Sr. Vice President Sampson Regional Medical Center – Board Chair
- Melanie Phelps – Deputy General Counsel, Associate Director NC Medical Society Foundation – Secretary
- Benjamin Money, Jr. MPH – President & CEO North Carolina Community Health Center Association
- Dr. Richard Hudspeth – Medical Director Community Care of Western North Carolina
- Dr. Allen Dobson – CEO Community Care of North Carolina, Inc.
- Chris Scarboro – President NC HIE, Inc. – ex-officio member
- Senator Jeff Tarte – Non-voting member
- Representative Jason Saine – Non-voting member

NC HIE staff are employees of its parent company, CCNC Inc. Costs are distributed to NC HIE via a shared services agreement covering NC HIE staff salary and benefits. The agreement establishes and describes a mechanism for allocation of effort between the two organizations and for CCNC Inc. to charge NC HIE for salary and benefits proportional to time allocated to NC HIE activities.

Current, significantly reduced NC HIE staff (5.5 FTEs) is comprised of:

- President – Responsible for the daily operation and strategic direction of the organization (1 FTE)
- Lead Technical Engineer – Responsible for interface design, implementation and maintenance (1 FTE)
- Implementation Manager – Manages implementations for hospitals, ambulatory practices, EMR vendors, and public health services (1 FTE)
- Project Manager – Manages implementation for hospitals, ambulatory practices, EMR vendors and DIRECT (1 FTE)
- Training and Programs Manager – Manages training, NC PATH program, QA, account setup, help desk support (1 FTE)
- Administrative Assistant – Office assistant (.5 FTE)

This staffing level represents a reduction from its previous level of 22 FTEs plus 13 contractors. The current staffing level is due to NC HIE's severe adverse financial situation.

Assessment Results

The assessment team, as directed by North Carolina Session Law 2015-7, conducted a high-level review of NC HIE, which included technical, financial, and contractual aspects of the organization. The team's findings and conclusions are presented below and have been organized into the following activity and competence domains:

- Stakeholder Engagement and Participation
- Governance and Business Operations
- Contracts and Legal
- Privacy, Security, and Technology

Using this approach, the assessment team was able to assess the various activities in which NC HIE is involved and compare their activity, progress, and current operations to other operating HIEs.

Suggested next steps are contained in the next section of this report.

Stakeholder Engagement and Participation

This section contains the results of stakeholder interviews, conducted by Mosaica Partners, and provides information related to the perception of NC HIE's engagement of, and participation by, stakeholders (individuals or organizations) who support, influence, or affect the exchange of health information in North Carolina.

Stakeholder Support

Stakeholders generally agree that there is a need for a basic public infrastructure for statewide electronic health information exchange, however, it must provide recognized value to them and be cost effective. Currently many stakeholders, especially from large hospital systems, regard the cost of connecting to NC HIE as disproportionate to the value they receive. This is especially true for those who have implemented their own private, vendor-based exchanges.

NC HIE's reputation is poor among many stakeholders. A lack of transparency into NC HIE operations and their relationship with CCNC, as well as a sense of "promises made, but not kept" has led to a lack of trust in the organization on the part of many stakeholders. According to the interviewees, there have been many attempts to work collaboratively with NC HIE, but the results have been disappointing. However, interviewees expressed continued interest in working towards a broader sharing of health information.

Communication

Early on, NC HIE had a robust stakeholder involvement approach with many multi-stakeholder workgroups. However, with a management change, these workgroups were disbanded and never reconstituted. As a result, communication with stakeholders, both seeking their input on

HIE-related issues and reporting back to them on NC HIE's progress, has been lacking. Many of NC HIE's stakeholders commented that they feel disenfranchised and their support of NC HIE has become lukewarm at best. However, there is stated support for efforts to reconstitute an approach for both formal (e.g. advisory groups) and informal (stakeholder involvement and communication) participation in advancing statewide HIE.

Stakeholder Needs for HIE

The stakeholders interviewed expressed general support for "public" basic health information exchange infrastructure services that would be open to connect all providers (and various EMRs) in the state. In general, smaller hospitals and practices have greater needs for this public-type of utility than the larger institutions, which have implemented their own vendor-centric private systems. These private systems provide the larger institutions with an EMR and the ability to share information with other related organizations who are also using the same IT vendor's product. Many of these large systems also have their own connection to eHealth Exchange[3], the nationwide health information exchange network. At the same time there is also broad recognition of the State's need for, and support of, sharing clinical information about Medicaid patients.

Special Considerations

North Carolina's FQHCs were early participants in NC HIE, due in large part to the NC PATH program[4]. They use NC HIE to send clinical information to CCNC, which then analyzes their data and provides information about required UDS (uniform data systems) reporting. This information is critical to FQHCs in managing their operations and patient care plans effectively and efficiently. There is a high level of concern within this community about how to replicate this service should NC HIE cease operations.

During the interviews, some stakeholders expressed concerns about moving the exchange capabilities under state control, however, in general there is support for moving these capabilities to the State at least for Medicaid information. Concerns expressed include:

- State processes are often seen as "burdensome and bureaucratic" and this could prevent NC HIE from being agile enough to readily respond to technology, marketplace, and regulatory changes

[3] The eHealth Exchange is a group of federal agencies and non-federal organizations that came together under a common mission and purpose to improve patient care, streamline disability benefit claims, and improve public health reporting through secure, trusted, and interoperable health information exchange.

[4] NC PATH (North Carolina Program to Advance Technology for Health is a collaboration between Blue Cross and Blue Shield of North Carolina (BCBSNC), the North Carolina Health Information Exchange (NC HIE) and Allscripts.

- Willingness of the State to consider and include multi-stakeholder input in the planning and operations of the HIE
- Concern about how the State might use the data once it is available

Governance and Business Operations

This section contains the findings and conclusions related to the business model and governance of NC HIE.

Management & Staffing

- Current staffing level (~5.5 FTEs) is below required levels to adequately support a statewide HIE. The assessment team understands that this is a result of NC HIE's current uncertain and limited funding
- Previous staffing levels (~22 FTEs and 13 contractors), as compared to other HIEs with comparable customer base may be reasonable, but further investigation is warranted
- The previous staffing budget of ~$2.3M seems high compared to other comparable organizations, but further investigation is warranted
- The costs per hour associated with external contractors appears high (based on industry standard rates), however, this may be a reflection of local, competitive market rates

Services

There were no specific details available to the assessment team of the current listing, scope, and use of services, however, the following services were identified through various documents:

- Direct Secure Messaging
- Connection to eHealth Exchange network
- Sending of admission, discharge, and transfer alerts (ADTs)
- Uni-directional flow of information to CCNC

The team was not able to determine the full scope and current use of these services by NC HIE participants.

Through documentation and interviews with stakeholders, it appears that NC HIE's early implementation priorities may have negatively affected its ability to reach sustainability. For example:

- Due to the early emphasis on the NCPATH program to connect FQHCs and other small, independent practices, NC HIE spent its early years focusing on adding customers that were unable to provide sufficient revenue to cover NC HIE's operating costs.
- Concurrent with this focus on small providers the large systems who expressed support for NC HIE, and could potentially have provided a larger revenue stream,

were not connected to NC HIE. As time passed and progress was not evident, these systems developed their own solutions to health information exchange. Consequently, there now exist a significant number of private, vendor-centric networks of health information exchange in North Carolina.

Financial

Revenue was difficult to determine but appears to be generated from annual membership fees from one major health system and several small hospitals and provider practices. It appears that NC HIE has relied on grants or other non-service related monies for the majority of its income.

Since its beginning, NC HIE has been supported primarily by three major sources of funding:

- Federal grants
  - 2010 HITECH Cooperative Agreement – $12,950,860
  - 2012 HIE Challenge Grant – $1,708,693
- NC DHHS Contracts
  - Contract 28630 (2012-13) for HIE Infrastructure Development – $1,712,196
  - Contract 28164 (2013) with N3CN for NC PATH – $960,000
  - Contract 25833 (2013-15)with N3CN to provide connectivity for Meaningful Use, Immunization Registry, other HIE activities – $6,983,360
    - Only $1.65M has been paid to date based on deliverables
- BlueCross Blue Shield and Allscripts – $13,372,860
  - To deploy the Allscripts EMR to small and independent providers

NC HIE has a relatively small amount of revenue from membership and participation fees. There is a $175/year charge to provider practices. NC HIE's standard pricing for hospitals is $250/bed/year. While this per bed charge is in line with other HIE charging models, there is no cap to the charge for the number of beds. Other HIE charging models generally include a cap on the number of beds they charge to larger health systems.

This is a non-sustainable business model for HIEs. Revenue generated through service offerings should, at a minimum, cover an HIE's operating expenses. Grants and other type of income should be used for one-time development costs to enhance the revenue generating services and offerings provided by the HIE.

It is worth noting there is still a considerable amount of funding available for project work on one State contract. State contract 25833 for $6,983,360 whose term is 2013-2015, has over $5.5M remaining. The monies have not been distributed to NC HIE due to their inability to meet defined project milestones.

According to NC HIE Unaudited Balance Sheet dated March 31, 2015 NC HIE Total Equity is negative $3,562,373.29. The table below summarizes the balance sheet.

NC HIE Unaudited Balance Sheet March 31,2015	
Total Assets	$1,779,183.54
Total Liabilities	$5,341,556.83
Total Equity	**-$3,562,373.29**

Note: There is no evidence the costs for the suite of software applications licensed by Orion Health, Inc. reflect the scaling of services for NC HIE. Generally HIE contracts are negotiated in a "shared risk model" where the vendor assumes some up-front risk, by reducing charges, until the HIE is able to add sufficient customers to support the full platform. The result is that NC HIE is unable to take advantage of a flexible cost structure or of a flexible pricing model.

Contracts and Legal

This section includes findings and conclusions related to open contracts between NC HIE and other organizations including CCNC, N3CN and various vendors who provide the functionality that enables NC HIE to offer its services.

From a legal perspective, the contracts entered into by North Carolina Health Information Exchange provide a workable, sustainable, and enforceable framework for the operation of a health information exchange.

Agreements for NC HIE's Acquisition of IT Products or Services

Orion Health, Inc.

NC HIE, for the most part, uses a North Carolina specific implementation of software applications licensed from Orion Health, Inc. The following agreements establish NC HIE's license rights in the Orion software, as well the terms and conditions under which Orion modifies, supports and maintains that software on NC HIE's behalf:

- Orion License, Support and Implementation Agreement
- Application Management Services Support Statement of Work
- Orion Hosting Services Agreement

Although some of the terms of these agreements could have been negotiated more favorably toward NC HIE, from an overall industry perspective, they are commercially reasonable.

Netsmart Technologies, Inc.
NC HIE entered into an agreement with Netsmart Technologies, Inc. for the implementation and maintenance of certain interfaces between NC HIE and North Carolina county medical practices.

Allscripts Healthcare Solutions, Inc.
NC HIE resells Electronic Health Record software to North Carolina medical practices pursuant to an agreement between NC HIE and Allscripts Healthcare Solutions, Inc.

Customer Agreements

The Participation Agreement is the "bedrock" agreement that fundamentally establishes and defines NC HIE's relationship with those who use its services. This agreement is generally well written and provides an effective underpinning to NC HIE's Technology-Enabled Care Coordination Subscription Agreement (TECCA).

NC HIE offers both "Two Party" and "Three Party" agreements to its participants. The agreements identified as "Two Party" cause a healthcare entity to become a Participant in only NC HIE. When a healthcare entity enters into a "Three Party" agreement, the entity becomes a Participant in both NC HIE and the "Informatics Center." The Informatics Center is operated by North Carolina Community Care Networks, Inc., (N3CN) which is the agreement's third party.

Other Agreements

In addition to participation contracts, the assessment team reviewed various service, personnel and lease agreements. It should be noted the assessment team requested copies of all contracts entered into by NC HIE, including general business agreements of the kind ordinarily entered into by any business of similar scope, such as loan agreements, auto lease agreements and insurance agreements. NC HIE declined to provide these additional agreements for reasons unknown by the team. As a result, this contractual review is limited to consideration of the contracts that establish, maintain and administer NC HIE's technology systems. The team was unable to assess whether NC HIE has entered into appropriate general business agreements.

Limitations to the Assignment of NC HIE Contracts

NC HIE's contracts establish a legally sufficient framework for continued operation of an HIE. However, NC HIE may only assign the many Subscription Agreements between NC HIE and participating healthcare entities to N3CN. Any successor operator of NC HIE must contact each Participant to request replacement or assignment of the Participant's existing Subscription Agreement.

Note: The assessment team was only able to read the Orion, Netsmart and AllScripts contracts while at NC HIE offices, and was prohibited from taking notes of any kind during the review. All notes regarding those contracts were created after the assessment team had left the NC HIE building.

Privacy, Security, and Technology

This section describes the findings related to understanding and following appropriate federal, state, and local laws and regulations related to keeping protected health information private and secure. In addition, it includes findings related to NC HIE's approach to securing personal health information as well as the organization's technical architecture and infrastructure.

Technology

NC HIE uses a software platform provided by Orion Health through a Software as a Service subscription. IT hosting is provided by Logicworks through managed hosting services.

Privacy Policies and Procedures

During the course of this assessment, the assessment team was not provided access to all requested documents. Thus, we did not have sufficient time to gain an understanding of the full scope of the connected environments. These delays, multiple requests, short timelines, and non-receipt of requested security, privacy and technical documents and policies hampered the ability to validate the existence of adequate organizational operation effectiveness, and security and privacy control measures.

Based on the information gathered, there are gaps between NC HIE practices and those considered to be best practices for HIE organizations. It should be noted that the sub-contracted organizations, i.e. Orion, Logicworks, appear to be providing sufficient operational support using best practice frameworks, however, the overarching quality of the governance and guidance from NC HIE to these organizations cannot be ascertained.

The assessment team evaluated governance of IT operations. Best practices include policies in five major areas: asset management, incident management, change management, release management, and disaster recovery. Based on the information provided to the assessment team by NC HIE, it appears NC HIE relies heavily on its vendor's policies and procedures as opposed to having a robust set of its own policies.

An organization that is a Business Associate, under HIPAA regulations, must have robust in-house policies that cover its internal operations as well as those that address how the organization manages its relationships with vendors. The assessment team was not provided with this latter full set of NC HIE internal policies. We cannot conclude these policies do not exist, only that they were not available for assessment.

Overall Conclusions

Given the information received during this assessment, there are noted gaps between the best practices HIE organizations typically use and the current practices of NC HIE. Examples include:

- Lack of evidence of NC HIE internal policies and procedures related to managing vendors
- Lack of evidence of NC HIE internal policies and procedures on user:
  - Authentication
  - Authorization
  - Access control
  - Accountability
- Lack of evidence of strong internal financial and management controls to ensure that contract deliverables were met on time
- Lack of governance and risk management practices
- Lack of solid management control

While some of these gaps may be attributed to the current reduced staffing level, many of the policies and procedures that we sought to assess should have been developed in prior years when NC HIE staffing and funding were more robust.

The lack of management control also brings into question the level of governance and oversight being provided by the voting members of the NC HIE board. Ensuring that an organization is 'in good standing' relative to solid policies is one of the responsibilities of a board of directors.

A further, in-depth assessment of NC HIE is needed to more fully understand its financial, policy, business, and operating risks.

Recommendation for the Future of Statewide Health Information Exchange

State Assumes Control of Statewide Health Information Exchange (NC HIE)

Remove NC HIE from the current CCNC / N3CN structure and create a new statewide HIE under State control, without assuming the liabilities or debt of the current NC HIE organization. The development of this new entity should leverage, where possible, NC HIE's current capabilities rather than attempt to build an HIE from scratch.

As part of this approach, the State should move quickly to establish a multi-stakeholder advisory/oversight board consisting of respected members of the North Carolina health care community.

Considerations:

- Would allow current customers continued access to HIE services
- Would address stakeholder concerns regarding a lack of transparency between NC HIE and CCNC
- Would clarify and simplify management and governance structures of the HIE

The three phases suggested in the recommended approach are:

1. Triage
2. Stabilize the Business
3. Growth

Phase 1: Triage

Address the key issues with operations and the business within 3-6 months

- Identify and procure the core resources needed to maintain NC HIE operations
- The costs of running a statewide HIE vary, however, given the size of North Carolina and information gleaned from industry surveys and research, we estimate the operational costs to be $3M annually. An additional estimated investment of $5M, per year, will be needed to build capabilities and add participants over the next 24 months[5]
- Provide basic services to keep current customers whole
    - This is dependent upon State funding being available to allow operations to continue

[5] "FOLLOWING THE NeHC HIE ROADMAP: Four Routes to Success" December 2012, National eHealth Collaborative."

- Bring costs under control and in line with available funding/revenue
  - This almost certainly will require renegotiating vendor contracts
- Update policies and procedures, Business Associate Agreements and other contractual agreements as needed to ensure compliance with all State and Federal regulations
- A change in control will necessitate updating all Business Associate agreements with participants and vendors
- Institute good management practices including monthly service level and financial review
- Develop basic service level agreements (SLAs) with participants and vendors
- Develop and implement a communication plan that both keeps stakeholders informed of progress and seeks their input

Phase 2: Stabilize the Business

Develop and implement a roadmap that positions the statewide HIE for sustainability within 12-18 months

The roadmap building process begins with a thorough assessment of the current organization to understand where some existing functionality or capability can be leveraged. Examples of what needs to be included are described below within their respective domains.

Stakeholder Engagement & Participation

- Convene a public-private multi-stakeholder advisory group as described above to provide insight and input into the planning and operation of the statewide HIE in areas such as:
  - Core Services to provide
  - Charging model
  - Collaboration with other HIEs
  - Additional value-add services where there is a market
- Improve stakeholder relationships
- Work with stakeholders to determine the various types and levels of services that a statewide HIE could provide such as:
  - Statewide information exchange for Medicaid patients
  - Providing services to an expanded stakeholder base at a cost commensurate with perceived value received
  - Determine where there are gaps between current and best practices
- Continue to build the dialog with stakeholders to ensure their continued engagement and participation in the emerging statewide HIE

Governance

- Constitute a public/ private multi-stakeholder governing board comprised of respected members of the State and healthcare communities
- Bring the statewide HIE to a level of operation where it meets the current standards for HIE certification. Examples of these standards can be found through accrediting organizations. Electronic Health Network Accreditation Commission (EHNAC) is a well-recognized accrediting organization[6]

Business & Finance

- Construct a sustainable business model based on the realities of HIE in the state today and in consideration of changing conditions as health care reform continues
    - For example: this needs to take into consideration the large number of "private" network exchanges now operating in North Carolina
- Institute a process-driven approach to delivering services
- Put appropriate policies and processes in place to position the HIE for sustainability
- Analyze, assess and develop a transition plan for all data exchanges, contracts, subscription agreements and other business arrangements to which NC HIE and CCNC/N3CN are parties
- Renegotiate vendor contract / consider RFP
    - From an "all in one" model to "cafeteria" pricing that aligns with an evolving customer base

Privacy & Security

- Develop and implement policies and practices that ensure continued compliance with all current and evolving State and Federal laws and regulations

Technology

- Continue to run the current technology platform
- Renegotiate Orion contract / consider RFP
    - Assess level of services provided by Orion vs providing services in house e.g. technical on-boarding

Phase 3: Grow

Continue to provide the basic services for health information exchange and develop new revenue-generating, value-add services.

[6] Electronic Health Network Accreditation Commission provides certifications for many HIT related organizations including HIE. https://www.ehnac.org/

- At this point the organization should have a stable revenue base of participant fees and State support and should begin to explore and implement additional revenue-generating services
- Keep open the option of moving HIE operations to a public/private type of structure to increase the organization's ability to be agile and to anticipate and respond to changing market trends

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Appendix A

The text of Section 12 of Session Law 2015-7, Senate Bill 14 is as follows:

SECTION 12A.2. (b2) In addition to the allocations authorized under subsection (b) of this section, of the two million dollars ($2,000,000) of nonrecurring funds appropriated to the Department of Health and Human Services, Division of Central Management and Support, for the health information exchange for the 2014-2015 fiscal year, the Department shall transfer the sum of one hundred fifty thousand dollars ($150,000) to the Office of the State Chief Information Officer (SCIO). The SCIO, in conjunction with the Department, shall use these funds to conduct an assessment of the existing functionality, structure, and operation of the HIE Network.

SECTION 12A.2. (d) By June 1, 2015, the Department, in conjunction with the Office of the SCIO, shall submit to the Joint Legislative Oversight Committees on Health and Human Services and Information Technology and to the Fiscal Research Division the results of the results of the assessment conducted pursuant to subsection (b2) of this section.

SECTION 12A.2. (e) It is the intent of the General Assembly to continue efforts towards the implementation of a statewide HIE."

Appendix B

April 23, 2015

Chris Scarboro, President
North Carolina Health Information Exchange
2300 Rexwoods Drive, Suite 390
Raleigh, North Carolina 27607

Dear Mr. Scarboro:

As required by North Carolina Session Law 2015-7, The Office of the State Chief Information Officer (SCIO) and the Department of Health and Human Services (DHHS) are initiating an assessment of the existing functionality, structure, and operation of the HIE Network. This assessment will include technical, financial and contractual aspects of the NC HIE. The assessment must be completed and reported to the Legislature by June 1, 2015.

Objective, Scope & Approach

In order to focus on the most essential information needed to inform legislative actions related to continued operation of the HIE Network, the report will include succinct assessments of the following:

- Services currently offered and in development
- Governance and management structure
- Contractual obligations
- Financial condition
- IT Policy, Operations, Architecture, Security and Privacy

Our work will begin with a review of certain business documents. As the assessment proceeds, we will clarify the information obtained through interviews and further documentation.

Assessment Team

The team for this assessment will be led by:

- Darryl Meeks, Director, Health Information Technology, DHHS
- Kelly West, Project Manager, SCIO

The DHHS Offices of the Secretary, General Counsel, Privacy and Security, and Internal Audit as well as the Office of the State Chief Information Officer will provide support for this assessment.

We further anticipate engaging Mosaica Partners to assist with aspects of the assessment, focusing on the national experience with state health information exchange networks.

NC HIE Cooperation

Developing an accurate picture of the HIE Network's capabilities and the NC HIE's current business condition will require rapid and open exchange of information and documents between our organizations. We trust that you and members of your staff will be responsive to such requests.

Initial Data Request

Please find attached a list of items required to begin our assessment. Please submit these items to Kelly West (kelly.west@nc.gov) as soon as possible. Items should be submitted individually as they become available, but in no case later than **Friday, May 1, 2015.**

We share the General Assembly's commitment to continue efforts supporting a statewide HIE and look forward to working with you and your colleagues to complete this assessment.

Sincerely,

Joseph A. Cooper, Jr. - DHHS CIO - 4/23/15

Chris Estes, NC SCIO - 4/23/15

cc: Dr. Aldona Wos, Secretary Department of Health and Human Services
Dr. Robin Cummings, Deputy Secretary for Health Services
Mark Payne
Amy Leden
Darryl Meeks
Kelly West
Adam Sholar
Sherrie Settle

Attachment: NC HIE Technical Assessment

HIE Network Assessment
Initial Information Request
Due no later than May 1, 2015

Financial

1. Audited 6/30/2014 financial statements (Including Income Statement and Balance Sheet, with notes).
2. Income Statement and Balance Sheet for the period 7/1/2014-3/31/2015 (unaudited, accompanied by a 12/31/2015 Trial Balance).

   In the event financial statements are not available through 3/31/2015, please provide the same documents for the period ending 12/31/2014.
3. Supporting documentation for financial statements:
   a) Detailed fixed asset listing for each set of financials requested
   b) Detailed listing of all deferred revenues and any unfulfilled obligations the NC HIE must perform in order to recognize the deferred revenue recorded for the most recent set of financials
   c) Aged accounts receivable ledger for the most recent set of financials
   d) Aged accounts payable ledger for the most recent set of financials
   e) Schedule of any allocated cost (rent, utilities, employee cost for shared employees, management fees, etc.) being billed to the NC HIE by either N3CN or any other related party, along with a copy of any contract between the two parties detailing how cost will be billed or allocated
   f) Detailed listing of Accrued Expenses for each set of financials requested
   g) Detailed listing of License Fees for each set of financials requested
   h) Detailed listing of prepaid hosting/maintenance/support expense - NCPATH for each set of financials requested

Contractual

For all contracts, searchable, soft copies are preferred where possible.

4. List of all contracts, specifying contract party/parties, nature of contract (e.g. TECCA, service agreement) and starting and ending dates.
5. Copy of Orion contract(s), including any amendments, and copies of correspondence material to outstanding debt and ongoing service since February 1, 2015.
6. Copy of a representative contract (searchable soft copies are preferred where possible) for each of the following subscriber types: Large hospital/health network, small hospital, provider/physician practice, community health center, local health department.
7. Contractual and informal business agreements with N3CN, CCNC or CCNC, Inc., not already covered in 3.h. above.

Legal

8. Description of all intellectual property where NC HIE asserts full or partial ownership.
    a) Documentation for all patent, copyright and trademark registrations and pending registrations.
    b) Brief description of all inventions, designs, developments, software code, help files, web sites, books, pamphlets, trade names, trademarks, service marks and other intellectual property in which NC HIE claims full or partial ownership, but for which there is no actual or pending formal registration of intellectual property rights.
    c) Please state whether NC HIE owns and maintains any trade secrets of substantial value. Do not identify or describe individual trade secrets at this time.
9. Description of all actual or potential non-contractual liabilities, such as liability for personal injuries, regulatory fines, etc.
10. Description of actions taken toward bankruptcy.
11. All NC HIE bankruptcy documentation that is publicly available at this time, if any."

Technical Assessment

Completion of the NC HIE Technical Assessment document

Privacy and Security

12. Results of all privacy and security assessments for NC HIE and its contractors/subcontractors.
13. Obtain MOU/MOA and/or Business Associate Agreements documenting system interconnections between NC HIE and all sub-contractors or external entities.
14. Internal and external audit and risk assessment reports detailing deficiencies
15. Security and Privacy Policy and Procedures including:
    a) Incident Response Plan
    b) Sanctions Policy
    c) Acceptable Use Policy
    d) Contingency Plan/DR Plan
16. System Security Design documentation (e.g. boundary protection details, network configuration and data flows)
17. Full IP range for NC HIE

Appendix C

ACO – Accountable Care Organization – A healthcare organization characterized by a payment and care delivery model that seeks to tie provider reimbursements to quality metrics and reductions in the total cost of care for an assigned population of patients. A group of coordinated health care providers forms an ACO, which then provides care to a group of patients. The ACO may use a range of payment models (capitation, fee for service) with asymmetric or symmetric shared savings, etc.). The ACO is accountable to the patients and the third-party payer for the quality, appropriateness and efficiency of the health care provided.

CCNC – Community Care of North Carolina – A community-based, public-private partnership that takes a population management approach to improving health care and containing costs. Through its 14 regional networks covering all 100 counties statewide, CCNC connects each Medicaid recipient to a primary care "medical home" and tailors multidisciplinary care team support based on sophisticated health analytics, improving care delivered to Medicaid beneficiaries, individuals eligible for both Medicare and Medicaid and uninsured individuals

CIO – Chief Information Officer - Most senior executive in an enterprise responsible for the information technology and computer systems that support enterprise goals.

DHHS – Department of Health and Human Services – Agency in state government responsible for ensuring the health, safety and well-being of all North Carolinians, providing human service needs for special populations including individuals who are deaf, blind, developmentally disabled and mentally ill, and helping poor North Carolinians achieve economic independence.

Direct – The Direct Project specifies a simple, secure, scalable, standards-based way for participants to send authenticated, encrypted health information directly to known, trusted recipients over the Internet.

EHR – Electronic Health Record – A longitudinal electronic record of patient health information generated by one or more encounters in any care delivery setting.

EMR – Electronic Medical Record – an electronic file containing the clinical data gathered by a healthcare provider.

EPIC – EPIC Systems Corporation - Privately held healthcare software company. According to the company, hospitals that use its software hold medical records of 54% of patients in the U.S. and 2.5% of patients worldwide.

FTE – Full time employee

HISP – Health Information Service provider – Used by the Direct project both to describe a function (the management of security and transport for directed exchange) and an organizational model (an organization that performs HISP functions on behalf of the sending or receiving organization or individual)

HITECH – Health Information Technology for Economic and Clinical Health Act – Enacted as part of the American Recovery and Reinvestment Act of 2009, was signed into law on February 17, 2009, to promote the adoption and meaningful use of health information technology. Subtitle D of the HITECH Act addresses the privacy and security concerns associated with the electronic transmission of health information, in part, through several provisions that strengthen the civil and criminal enforcement of the HIPAA rules.

HWTF – Health and Wellness Trust Fund – Established in 1999, invested Funds from the Tobacco Master Settlement Agreement in programs and partnerships to address access, prevention, education and research that help all North Carolinians achieve better health. Abolished in 2011.

N3CN – North Carolina Community Care Networks – A nonprofit organization that works collaboratively with physicians and other health care professionals to improve health care quality and restrain costs. We serve beneficiaries of Medicaid, Medicare and have begun partnerships with private sector organizations, including Blue Cross and Blue Shield of North Carolina.

NC HIE – North Carolina Health Information Exchange - Operates North Carolina's statewide health information exchange, a secure, standardized electronic system in which providers can share important patient health information.

NC PATH – North Carolina Program to Advance Technology for Health – NC PATH is a collaboration between Blue Cross and Blue Shield of North Carolina (BCBSNC), the North Carolina Health Information Exchange (NC HIE) and Allscripts. Its goal is to ensure that independent primary care and specialty providers and free clinics in North Carolina can deploy the critical technology necessary to meet legislative requirements and enhance patient care.

ONC – Office of the National Coordinator for Health Information Technology – is the principal federal entity charged with coordination of nationwide efforts to implement and use the most advanced health information technology and the electronic exchange of health information. The position of National Coordinator was created in 2004, through an Executive Order, and legislatively mandated in the HITECH Act of 2009.

OCR – Office of Civil Rights – OCR teaches health and social service workers about civil rights, health information privacy, and patient safety confidentiality laws they must follow. They also educate communities about civil rights and health information privacy rights. And, investigates civil rights, health information privacy and patient safety confidentiality complaints to find out if there is discrimination or violation of the law and takes action to correct problems.

PHARMACeHOME - A web-based platform that was developed in response to the silos of care related to medications. This platform serves as a workspace and storage space where all those providing care for a patient can review and contribute to the medication use story of a patient. Prescribers and pharmacies all can contribute to the story. The platform allows for the identification of drug therapy problems and communication of those problems to a prescriber or other healthcare professional who can resolve the issue.

SDE – State Designated Entity – Organizations designated by each state to apply for the grants and provide statewide coordination among health IT initiatives.

SOW – Statement of Work

TECCA – Technology-Enabled Care Coordination Subscription Agreement – The agreement through which providers and other users of NC HIE contract for HIE access and services. TECCAs may also include subscription to services from the North Carolina Community Care Networks, Inc.

Triple Aim – The simultaneous pursuit of improving the patient experience of care, improving the health of populations, and reducing the per capita cost of health care. The Triple Aim is a single aim with three dimensions.

UDS – Uniform Data System – A core system of information appropriate for reviewing the operation and performance of health centers. UDS is a reporting requirement for Health Resources and Service Administration (HRSA) grantees, including community health centers, migrant health centers, health care for the homeless grantees, and public housing primary care grantees. The data are used to improve health center performance and operation and to identify trends over time. UDS data are compared with national data to review differences between the U.S population at large and those individuals and families who rely on the health care safety net for primary care

Appendix D

February 17, 2009	HITECH Act signed into Federal, as part of ARRA, law to promote the adoption and meaningful use of health information technology.
July 16, 2009	Governor Perdue issues Executive Order 19 designating the North Carolina Health and Wellness Trust Fund Commission, through its North Carolina Health Information Technology Collaborative, "as the Qualified State-Designated Entity to apply for and administer grants made available by the United States Department of Health and Human Services, Office of National Coordinator for Health Information Technology." Members of the Collaborative will be appointed by the Governor "to include partners from the public, private, and non-profit sector".
April 29, 2010	NC HIE Articles of Incorporation as a non-profit corporation signed.
December 22, 2010	Governor Perdue issues Executive Order 73 rescinding Executive Order 19 and designating NC HIE "as the Qualified State-Designated Entity to administer health information exchange grants made available in North Carolina by the United States Department of Health and Human Services, Office of National Coordinator for Health Information Technology."
June 27, 2011	North Carolina Health Information Exchange Act, regulating health information exchange in North Carolina and designating NC HIE as the entity responsible for administration and oversight of the HIE Network.
October 8, 2012	NC HIE considered and accepted merger proposal from North Carolina Community Care Networks, Inc. (N3CN).
December 19, 2012	Received permission from Governor Perdue for "the transfer of control of the NC Health Information Exchange to Community Care of North Carolina."
ca. January 26, 2013	Adopted Revised and Restated Bylaws making N3CN the sole Corporate Member of NC HIE with right of approval over enumerated Board actions including budgets, major financial transactions, CEO and Director appointments, and "long range plans and strategies for this corporation, including issues relating to marketing, strategic direction, and ongoing operations." Composition of the Board of Directors is changed from a 15-21 member board with broad representation from the health care community, consumers, employers, insurers, and members of government and health care officials to a 4-11 member board, "of which at least 3 shall be directors of CCNC." Director appointments originally approved by the Governor are now approved by N3CN. Public input will be secured through a new Advisory Board "consisting of key constituencies to help guide the operation of the exchange, consistent with federal and State requirements, to ensure that the exchange is fully responsive to the needs of physicians, patients, hospitals, insurers and others involved in the healthcare system, as well as members of the public."
February 1, 2013	Restated Articles of Incorporation filed, allowing for member organization(s).
February 21, 2013	Filed Articles of Merger with CCNC-HIE Subsidiary 1, a non-profit incorporated by N3CN in December 2012, for the purpose of effecting a reverse triangular merger. NC HIE is the surviving corporation, with N3CN as the sole corporate member as described above.

August 21, 2013	SL 2013-382 requires any hospital that has an electronic health record system to connect to the NC HIE and submit individual patient demographic and clinical data on services paid for with Medicaid funds, effective January 1, 2014. SL 2013-363 modified the language of SL 2013-382 above to add "The NC HIE shall give the Department of Health and Human Services real-time access to data and information contained in the NC HIE" and replaces a specific effective date with two conditions that must be satisfied before the law becomes effective: an agreement between NC HIE and NC DHHS, and a joint report to the Joint Legislative Oversight Committees on Information Technology and Human Services. The agreement was executed May 12, 2014, and the report was filed shortly after.
August 7, 2014	2014 Appropriations Act allocates $2M, recurring, in DHHS budget to support "an amount sufficient to represent the State share for the maximum amount of approved federal matching funds for allowable Medicaid administrative costs related to the HIE Network."
April 13, 2015	SL 2015-7 modified the 2014 Appropriations Act to provide for payment to NC HIE for certain costs totaling $885,090 incurred between February 1 and June 30, 2015. This legislation required DHHS to make payment within five days of the bill becoming law. Payment was released on April 17, 2015. Senate Bill 14 required the SCIO, in conjunction with DHHS, to conduct an assessment of the existing functionality, structure, and operation of the HIE Network.
Pending	House Bill 97, the 2015 Appropriations Act, Section 12A.5 as amended, provides $3.16M biennium budget toward oversight and administration of the State Health Information Exchange Network. If approved or confirmed by the Senate during the budget process, these funds may be used to support NC HIE's operating expenses or to transfer NC HIE's core technology vendor agreement, with Orion Health.