Future State Brief

Executive Summary

CedarBridge Group has been working closely with the North Dakota Health Information Network (NDHIN) to finalize recommendations for a second phase of network expansion that would provide participating North Dakota providers, payers, and patients one of the most comprehensive and robust health information exchanges (HIEs) and strategic, state-wide healthcare application tool sets in the country.

The NDHIN has made notable progress over the past three years building core infrastructure and connecting the initial, critical provider organizations to the network. Beyond routine connectivity and data capture and exchange, the NDHIN has also enabled admission, discharge, transfer (ADT) and critical result alerting, image exchange, and single sign-on. Policies, security, consent management, and governance have also been developed and validated and the NDHIN's operations are sufficient and scalable.

The NDHIN has established a solid foundation to build upon and has proven successes that have earned stakeholder confidence. For more information on the current-state of the NDHIN, please reference the Environmental Scan Brief and Best Practices Brief that have been developed by CedarBridge Group as part of this engagement.

With expanded Medicaid 90/10 funding to support additional technology and technical assistance, and with new value-based payment models creating incentives for enhanced care coordination, the NDHIN is well positioned to be a critical healthcare information resource with expanded services that the stakeholders are expressing interest in making additional investments in. The new phase of development for the NDHIN should enable a myriad of new providers and provider types to be connected to the NDHIN, increasing the amount of available data and value for all users. This development should also allow the NDHIN to provide strategic, state-wide applications that will benefit all participants across the healthcare continuum and provide many opportunities to deliver lower cost, higher quality healthcare to the citizens of North Dakota.

The NDHIN's growth to the desired future state will pass through various phases of maturity as components of the identified functionality are incrementally implemented over the next five to six years. There will be a large work effort required during the initial phase of functionality growth and expansion to new stakeholders, eventually tapering off to a more stable operational level in later years. The future expanded NDHIN should result in a comprehensive health information network providing real time, patient-centric views of diverse health and social data in North Dakota.

Administration/Support Services

Administrative and support services provided by the NDHIN should be projected in two phases during the development of the future state. During the initial, five-year build out of functional services, the **number of staff engaged in HIE promotion, onboarding, technical assistance, and application roll out should grow to approximately (24) full time equivalent staff members.** After the network building begins to wind down with broad connectivity in place across large and small health and human service organizations in North Dakota, staffing needs for the NDHIN's mature operational mode are likely to decrease, but it is difficult to put a firm estimate on that.

The initial growth in staff should be achieved through a combination of contracted staff augmentation, consulting firms, and temporary hires directly by the NDHIN organization. Two different primary firms with specific skill sets should be considered for initial staff augmentation. First, a firm that is skilled in onboarding and provider relations. This organization should have three primary responsibilities. The first responsibility should be to support the contracting, onboarding, technical assistance, and training of additional providers and end-users across the state. The second responsibility should be to assist in the roll out of identified strategic state-wide applications. The third responsibility should be to support a state-wide awareness, marketing, and a communications campaign for the NDHIN.

A second organization should be considered to provide subject matter expertise on the wide range of health information technology aspects that are associated with the NDHIN's desired future state. These aspects will range from recruiting and connecting providers, collaborating with payers, patient engagement, deployment of strategic applications on the network, among many others. The organization will need a diverse and expansive experience set in order to effectively inform and guide the NDHIN on all necessary aspects of health information technology and exchange.

Finally, a number of temporary hires should be made directly by the NDHIN. These temporary hires should assist the current staff in onboarding a large number of new stakeholders to the network, as well as performing operational tasks necessary for the NDHIN to grow the number of participating stakeholders and the volume of stored data without impacting the quality of service or support. Additionally, project management and strategic implementation expertise will also be required by some of the temporary staff members.

At the conclusion of this initial five-year development, the contracted consulting and staff augmentations services will have ended and the required number of full time equivalents (FTEs) should be largely reduced. The current staff of the NDHIN should be expanded slightly over this time period in order to cover the additional workload associated with number of connected entities and to administer the added state-wide strategic applications. These applications should include population health analytics, care coordination, and provider credentialing, at a minimum.

Infrastructure:

The infrastructure of the NDHIN, while mostly mature, will require an upgrade to the vendor's new advanced platform *Amadeus.* This platform will enable advanced features and functions such as the inclusion of behavioral health and other ancillary providers, payer participation, patient reportable data, genomic data, and data regarding the social determinants of health. *Amadeus* will also enable advanced, strategic applications such as care coordination, analytics, and referral management.

The state-wide **provider directory** should also be enhanced to provide support for centralized credentialing and care coordination. In today's evolving healthcare environment, the number and variety of provider types and care team members is expanding to include non-traditional partners such as family members, sitters, transportation companies, and more. Aligning a provider directory with a care coordination platform will help to keep all are team members involved and engaged. Additionally, the directory will need to be connected to other state directories such as the licensure directory and the Medicaid directory to ensure the most up-to-date information is routinely being added to the system.

Perhaps the most critical data element that is missing from the NDHIN today is the **medication histories of patients**, including both prescribed and filled medications. However, this data element is currently one

of the most difficult to include in HIEs across the country as there is no single source of truth for the data, and data contributors can come from a wide variety of places within the continuum of care. Data contributors often include entities that are difficult to collect data from, such as mail-order pharmacies and behavioral health providers. The NDHIN's vision is to collect as complete of a medication history as possible on all patients by gathering data from all possible sources and reconciling that data effectively. Regardless of these challenges, the robust collection of this data should continue to be recognized as a primary goal and a critical component of the NDHIN's desired future state. The NDHIN has already begun their initial efforts to collaborate with stakeholders to make progress on this goal.

Finally, there are several features and functions NDHIN currently offers that should be implemented and expanded to both current and future providers, payers, and patients in the network. These include **DIRECT secure messaging, diagnostic image Exchange, subscription alerting, and single sign-on from utilized electronic health record (EHR) systems**.

Provider & Registry Connectivity

A central component of any HIE's goal is to facilitate and support the connectivity and exchange of data from a multitude of different organizations and entities that collect, generate, or hold patient data. Centralized registries have been identified as valuable connections due to their collection of targeted patient data across disparate entities. Within the next five years, the NDHIN's mission should be to connect as many registries, providers, payers, and other holders of patient data as possible in order to facilitate real time data exchange with minimal impact to existing workflows. Additionally, the NDHIN needs to make as much of this data available as possible to a shared healthcare analytics application so that all providers can contribute to critical research initiatives and improve population health within the state. The following subsections outline which registry systems and provider types should be prioritized by the NDHIN for initial connections in their desired future state. While this list is not currently all inclusive, systems and entities should continue to be added as appropriate.

State Systems: Currently the **North Dakota Immunization Information System (NDIIS),** electronic reportable labs, and the some of the state's syndromic surveillance systems are connected to the network and are functioning well. The NDIIS' mission is to hold the immunization records of all citizens and to make them available to providers and institutions who require them or will benefit from their data. In order to increase the value of the data set available via the NDHIN to providers around the state, the NDIIS should be enhanced to allow submission from pharmacies and other providers outside of the traditional hospital and clinic environments. Alternatively, the NDIIS could receive this information directly from the NDHIN if the network were able to build connections to these relevant locations. Immunizations are increasingly being delivered at alternative locations, rather than by a primary care provider, and it is important that the data set represents and keeps pace with this shift in the delivery of services.

Of all the **laboratory tests** that are performed in the state each year, an important subset of these laboratory results are reported to the state and then subsequently to the Centers for Disease Control and Prevention (CDC) in order to monitor the health of the nation and to facilitate targeted interventions of potential epidemics. The NDHIN does currently allows these results to pass through its infrastructure into the state lab system, but should continue to monitor the connection to ensure they meet the needs of receiving entities.

Syndromic Surveillance as defined by the World Health Organization (WHO) is, "the continuous, systematic collection, analysis and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice." Public health syndromic surveillance may be

used to, "serve as an early warning system for impending public health emergencies; document the impact of an intervention, or track progress towards specified goals; and monitor and clarify the epidemiology of health problems, to allow priorities to be set, and to inform public health policy and strategies." The North Dakota Department of Health (NDDoH) state's syndromic surveillance system is connected to the NDHIN and allows for easy acquisition of important data that has been reported by hospitals and ambulatory providers. The NDHIN should continue to pursue connections with all of the state's public health departments to ensure that all syndromic surveillance is contributed to the network. For more information on public health departments, please see the relevant section below.

Additionally, the state's **Prescription Drug Monitoring Program (PDMP)** is currently connected via to the NDHIN and is available to providers via single sign-on. However, providers who access the PDMP via the NDHIN have some limitations that do not exist if they access the PDMP directly. These limitations should be corrected in the desired future state. First, nurses and other users should be allowed to access the PDMP directly as designees, instead of restricting access to only physicians with proper credentials. Second, the connection to the PDMP should be expanded to include access to PDMP data from border states.

The North Dakota Statewide **Cancer Registry** should also be connected to the NDHIN as part of the desired future state.

A number of state departmental EHR systems are not currently connected with the NDHIN and are therefore limited in their ability to share data with other providers. The NDHIN should prioritize these connections to increase the available data for these agencies and for the existing NDHIN stakeholders. Connections should include: **The Department of Human Services' mental health and substance abuse behavioral health facilities and providers, the Department of Correction's EHR, the Developmental Disabilities Division's system, the North Dakota Veterans Home, and the North Dakota University System's health providers.**

Federal Systems: The NDHIN is currently connected to the national HIE spine called the Sequoia Project. Through this network, users of the NDHIN today can access patient data that is located within many **other state and regional HIEs** located throughout the country. This ability to query other HIEs is extremely valuable when providers need historical healthcare information on visitors, migrant workers, new residents that have come from other states or countries, and residents who frequently travel or spend the winter months in other states (snow birds). Perhaps the best demonstration of this need can be seen with the influx of oil workers into the western counties of the state, and the struggles these regional providers have faced in accessing reliable historical health information. Outside of the Sequoia Project, there are many more public and private HIEs that are available to connect to and the goal should be to connect to as many high value HIEs as possible.

Connectivity to HIEs in border states is especially important to the NDHIN as the availability and delivery of healthcare does not always follow state boundaries. In many areas within North Dakota, residents either seek treatment in bordering states, or vice versa, as a result of the availability of services, or the quality or cost of care. This is especially true with Minnesota on the eastern border of North Dakota due to the location of larger cities like Fargo and Grand Forks. South Dakota also has a fair number of residents seeking medical care in Bismarck, including Native Americans who often are referred to larger organizations such as St. Alexius and Sanford in Bismarck for advanced treatment. There is some movement of patients back and forth from Montana or Canada, however this is occurring in smaller numbers.

Unfortunately, neither Montana or Minnesota currently have state-wide HIEs. South Dakota has a growing exchange and should be a high priority connection. Minnesota has a few smaller HIE initiatives

that are developing, however, strict consent and patient privacy laws has made information exchange challenging for providers and organizations. The NDHIN should seek to obtain advanced accreditation from the Electronic Healthcare Network Accreditation Commission (EHNAC) to help enable information exchange with these developing entities.

Also connected to the Sequoia Project are several federal agencies that the NDHIN should begin to exchange patient health information with. These include the Department of Veterans Affairs (VA), the Indian Health Services (IHS), the Department of Defense (DoD), and the Social Security Administration (SSA). However, as described below, connecting directly with these entities can provide additional benefits beyond the Sequoia Project.

The **VA** provides both DIRECT secure messaging as well as HIE connectivity via their VistA EHR system, however DIRECT is not currently available for the VA hospital in Fargo. This functionality is scheduled to be available soon. The VA is still testing HIE connectivity between VistA and HIEs that are currently utilizing Orion systems, such as North Dakota. The State of Alaska is currently testing with the VA and once this project has been completed, the VA is expected to roll out similar functionality to other states in the near future.

The **IHS** started exchanging patient data between their facilities via DIRECT secure messaging last fall. This functionality has been expanded and several initial messages have been exchanged between the NDHIN and IHS facilities in both North and South Dakota to date. In addition, the IHS has developed an internal HIE, and the NDHIN has obtained the IHS' commitment that it will be the pilot site for HIE-to-HIE connectivity, slated to begin this fall. This connection has the potential to enhance information exchange for this important population.

The **DoD** connected to the Oklahoma HIE last month, the first connection of its kind for the federal agency. Now, for other states, connecting with the DoD is a matter of getting into the queue for future connections, as each presents a unique set of requirements and challenges. Once this connection is made, providers located near the DoD bases in North Dakota can better serve the soldiers and their families stationed there.

The **SSA** first enabled connectivity to HIEs several years ago in order to reduce the administrative burden and lag time associated with disability eligibility determinations. As a result of real time access to a wider range of patient health information, the length of time it takes for an eligibility determination to be made in areas with an HIE that is connected to the SSA have been reduced by approximately 66%. As a result of the reduction in administrative burden, the SSA provides a small payment to the HIE per determination. This service can provide a great benefit to entities who are assisting patients today with eligibility determinations and provides an additional source of revenue to HIEs or provider organizations.

CMS Meaningful Use Eligible Providers: Many providers in the state benefited from the cash incentives available under CMS' Meaningful Use Incentive Program for the adoption of certified EHR technology into their practices. The providers that were eligible for these incentives included hospitals, physicians, nurse practitioners, physician assistants, dentists, chiropractors, and optometrists.

Today, almost all of North Dakota's **42 hospitals** are connected to the NDHIN, in large part due to the widespread adoption of certified EHR technology. The NDHIN should seek to connect with the few remaining hospitals that have not yet decided to participate. In addition, the NDHIN should continue to prioritize the finalization of a small number of individual, unfinished data feeds from the hospitals that have already connected to the NDHIN.

Large national reference labs such as Quest and LabCorp do not have a large market share in North Dakota, compared to other states, however under the mantra of "no data left behind," the NDHIN should seek to connect with these organizations. Additionally, local reference labs, such as the Northern Plains Laboratory, should also be connected to the NDHIN to improve the completeness of their data set.

Despite the fact that patient health data is currently being sent to the NDHIN by a large number of **clinics,** many of which are integrated with local hospital systems, many more clinics have yet to be connected and are not sharing or accessing data today. It should be the goal of the NDHIN to have as many clinics as possible connected to the NDHIN as possible by the end of the desired future state development. Clinics are increasingly cementing their role as the central hub for healthcare service delivery and care coordination, and these connections are critical to the NDHIN's future success. At least 70 more independent clinics should be budgeted for onboarding to the NDHIN in the near future.

Connections with North Dakota **chiropractors** for the exchange of diagnostic images and other relevant health information with local hospitals, clinics, and imaging centers has been identified as a high-value component of the desired future state. Additionally, **optometrists** are vital not only for the routine data they collect on a patient's vision and eye health, but because they serve as an important link in the chain of care delivery for patient's with chronic conditions such as diabetes. The transfer of a diabetic patient's annual eye examination results to their primary care physicians could serve as a high value connection in the NDHIN's desired future state. In addition, connections between **dentists** has also been identified as valuable in the desired future state. The NDHIN has budgeted for many of these provider connections in the next few years and the goal should be to have a large percentage of these providers connected to the NDHIN in the future state.

Meaningful Use Incentive Ineligible Providers: Under the Meaningful Use Incentive Program, many provider types were not eligible for the payments that benefited so many of the providers listed above. Ineligible providers included those that work in the following areas: behavioral health and substance abuse, long-term and post-acute care, public health, and many more. The following sections are a listing of ineligible provider types that should be connected as part of the NDHIN's desired future state. It should be recognized that connections with these providers are typically more complex given the lower rate of EHR adoption, higher incidence of sensitive records, and unique workflows. Federal funding has recently been made available to state HIEs for facilitating connections between these providers and the providers that have been eligible for Meaningful Use payments.

As of today, about half of the **local public health departments** in the state are connected to the NDHIN. These organizations provide a wide variety of services including health screenings, community assessments, syndromic surveillance, and case management. They also frequently serve as a central pillar in a region's care coordination activities. The NDHIN should pursue connections with all public health entities within North Dakota, as this will be an important component of the network in the desired future state.

Local public health departments are one of several entities that employ **K-12 school nurses** in the state. The NDHIN should be determined to bring this important group of providers into the network, allowing them to both access health records and contribute data.

Behavioral health organizations, whether state-owned, independent, inpatient, or outpatient facilities are important sources of vital health data. That said, the NDHIN must devote special attention to these data sets in order to meet federal and state requirements for consent management and patient privacy. These privacy regulations are even more stringent for substance abuse data. All state facilities should soon be

connected to the NDHIN, as the adoption of the Netsmart Avatar EHR system by the Department of Human Services should make this process more achievable. Connections with many of the other inpatient and outpatient facilities should also be pursued, regardless of their utilization of certified EHR technology. **Residential treatment centers** are a vital link in the road to recovery for many patients fighting substance abuse and mental or behavioral health issues. Connections with these facilities should also be pursued as part of the NDHIN's desired future state.

Long term care facilities include North Dakota's 84 **nursing homes** and a plethora of **assisted living** and **basic care** facilities spread across the state. Patients in these facilities represent a fragile population with high annual healthcare needs and costs. It is often very difficult to exchange patient health data with these facilities and the providers who care for these patients. It should be the goal of the NDHIN to have all 84 nursing homes and as many assisted living and basic care facilities exchanging and accessing data on their patients as soon as possible. This is recognized as an extremely high-value and important connection for the NDHIN's desired future state.

Home healthcare agencies also collect crucial data elements concerning a patient's health. Currently, it is difficult to exchange home healthcare information with primary care providers, let alone other members of a patient's care team, due in part to the remoteness of care delivery locations. The NDHIN's goal should be to ensure that as many of these agencies as possible can access and exchange data with other providers on the network, in real time.

Hospice and palliative care providers are commonly documenting patient health data via paper-based processes. This presents a particularly difficult challenge when trying to integrate this information into a digital record for patients. The NDHIN should explore inexpensive mobile based technologies to fill this niche and collect this data into their network.

The agencies providing **emergency medical services (EMS)** within North Dakota also present connectivity challenges due in part to the high-speed intensity of their work and the limitations of the mobile technology they use. The NDHIN's goal should be to have all EMS providers able to electronically send their run reports to both the relevant emergency department and the NDHIN instantly upon completion. The technology to facilitate this exchange without disruption to the EMS providers' workflows is still maturing, but the value of EMS data is recognized as a vital component in the NDHIN's future state.

Pharmacies have a variety of high value use cases within the NDHIN, including the ability to check patient medication histories, coordinate care, provide counseling on chronic conditions, deliver and record immunizations, and more. Connections to pharmacies are a critical component of the NDHIN for many of the participating stakeholders and represent true multilateral benefits. In addition, many pharmacies today are opening mini-clinics in order to provide routine preventative care to their patients. The patient data set collected by pharmacies continues to grow, increasing the urgency for prioritizing these connections. Pharmacies also need to send immunization records to the state immunization registry and access to the state PDMP system as part of their daily job responsibilities, both of which could be streamlined via access to the NDHIN. All pharmacies should have access to the NDHIN as soon as possible and they should be active contributors of data.

When disasters occur like severe flooding and high impact tornado events, **durable medical equipment** (DME) businesses are sources of important information such as which patients in rural areas require oxygen services on an ongoing basis. DME companies should be added to the network as part of the desired future state development.

Prosthetics and orthotics providers are also important members of many patients care teams. All North Dakota providers specializing in this area should be connected to the NDHIN in order to view and share patient information.

Diabetics and other patients need the services of **podiatry** providers on a regular basis. Primary care providers need to know the results of annual diabetic foot exams in order to effectively manage care delivery for patients with this chronic condition. With chronic diseases such as diabetes, it is critical that important health information exchange occurs between these providers and others on the patient's care team in real time.

Many patients, primarily elderly and newborns, have a need to seek services from **audiology** providers across the state. Hearing challenges can greatly impact a patient's overall physical and mental health if not attended to in a timely fashion. These providers across the state should be connected to the NDHIN as part of the desired future state.

Newborn screening covers many disciplines that often represent the first and most important medical records that a newborn will acquire. Hearing and vision issues can cause serious developmental delays for children and should be immediately referred to specialists. These results should be visible to all providers throughout the child's formative years. The NDHIN should ensure all these records are part of a newborns records within the network.

Payer Organizations and New Payment Models

There was a time when **payer organizations** traditionally did not have access to patient data within HIEs. That time has changed and payers are now common and high value contributors of patient health data. Payer participation has been shown to help enable high value patient care through the development of alternative payment models designed to reduce costs and yield higher quality care, as demonstrated by in-depth quality reporting. Payers should be allowed to access the NDHIN within existing legal boundaries as well as be able to use the NDHIN to perform audits for quality measurement reporting for Star ratings and HEDIS measures. They should also be able to participate in developing and tracking patient's individual health goals via personal health records. DIRECT secure messaging should also be available to both providers, payers, and patients as a means for securely communicating.

Payers will need to have access to the NDHIN's analytics engine for both identified and de-identified patient records. Payers will be a vital part of patient care coordination and must be able to receive ADT notifications about their members from various care settings, including emergency departments. This will allow payers to begin discharge and follow-up planning activities as soon as possible, preventing dangerous lapses in the coordination or care.

Payers will also benefit by being able to work with their members to ensure their final wishes are followed with the state-wide Advance Directives/POLST/MOLST Registry. Additionally, the NDHIN should be planning on hosting a centralized provider credentialing system to ease the burden of payers, hospitals, and providers.

Alternative payment models that are value-based, rather than the current fee for service models, will require more robust data analytics, reporting, and increased patient care coordination in order to be successful. The NDHIN network should be committed to providing payers with high-value connections to stakeholders and increased/improved functionality as part of the desired future state.

Patient Engagement

Patients need to become active participants in their own healthcare and wellness. To this end they need to be able to access their own **personal health record** stored on the NDHIN with a variety of devices, including desktop computers, laptops, tablets, and mobile cellular devices. Patients also need the ability to communicate with their entire care team via DIRECT secure messaging and have access to their data as a full participating member of their care team. This will include access to the care coordination application, shared care plan, and a list of all care team members. A patient's personal health record should be a combination of healthcare data and information from all of their providers, regardless of their organizational affiliation with each other. Data from ancillary providers, such as chiropractors, optometrists, dentists, audiologists, and more should be available at their fingertips in the NDHIN's future state. Patients also need the ability to contribute **patient reportable data** via telehealth devices such as Apple Health Kit-enabled devices, activity monitors such as Fitbits, and home-based telehealth devices such as scales, blood pressure cuffs, oximeters, glucose monitors, and flow-peak meters.

Strategic State-wide Applications

Finally, a central component of the NDHIN's desired future state should be the provisioning of a number of strategic, state-wide applications. The NDHIN is uniquely positioned to bring value to all of its participating stakeholders and the North Dakotans they serve through these shared applications for a number of reasons. First, shared costs of these applications greatly reduce the total cost of ownership in comparison to each entity purchasing their own individual solutions. Second, the NDHIN's network offers data on a wider range of patients, with a broad spectrum of data sources. Access to this wide-range of data sets provides great value when utilizing applications such as care coordination/management and data analytics platforms.

A state-wide, centralized, citizen-ran **Advanced Directives/POLST/MOLST Registry** will allow patients to file these important documents in a centralized location so that providers can access the most up-to-date version of them at any time. Providers and EMS personnel should have immediate access to the registry and patients should be assured that they have their final wishes accessible by their entire care team.

The NDHIN's ability to provide **state-wide analytics for population health**, as discussed above, is uniquely valuable due to their expansive data set. Individual providers outside of the NDHIN usually only have access to their own limited data sets and do not have access to data analytics across large regional or state-wide populations. This functionality needs to be implemented as soon as reasonably possible.

The benefits of a **state-wide care coordination** solution are numerous. First, when all care team members are contributing data to the same system, and accessing the same information, the system becomes patient-centric. This care team can include the patient, their family, and any other nontraditional care givers such as sitters and transportation companies that aid in the patient's care. A shared care plan means all care team members are able to access the updated care plan in real time and easily understand the patient's needs. Finally, the care coordination package also needs to integrate with the patient's centralized, all-inclusive personal health record where the patient can store individual health goals and track their progress via wearable and telehealth medical devices.

Today, even the most basic information concerning provider credentialing must be copied and researched numerous times by every payer and hospital in the state. If a provider practices at more than one hospital they must repeat this same credentialing process for each location they practice, and each payer they participate with. A **state-wide credentialing** system will reduce the administrative burden associated with this often redundant process today and allow at least some of the initial duplicative work of credentialing to be eliminated.

Final Summary:

The purpose of this document is to provide high level recommendations to the NDHIN stakeholders concerning the offerings of the NDHIN at the end of the five-year desired future state development. The NDHIN has done an excellent job over the past three years in building a firm foundation and has already demonstrated value and return on investment to its stakeholders. It is the recommendation of CedarBridge Group that the stakeholders deploy an aggressive, comprehensive, and all-encompassing expansion plan to include as many members of the healthcare continuum as can be identified. Additionally, the strategic, state-wide applications identified above should also be implemented and deployed to as many stakeholders and patients as possible. All of the NDHIN's stakeholders should individually commit to this joint vision with active participation in the organization, including financially, and through collaboration with federal and state entities to secure additional funding during the remainder of the 2016 calendar year. On parallel tracks, the completion of a five-year business plan and required operational plans to meet these strategic goals and objectives should be completed so that work might be started beginning in January of 2017.