

ROADMAP 2030

Powering a Healthier North Carolina

North Carolina Health Information Exchange Authority



Message From the Executive Director



Hello Partners,

I am fired up to be talking to you about NC HealthConnex and the North Carolina Health Information Authority (NC HIEA). I started working here in March, but I have been fascinated by the NC HealthConnex platform since my time at the North Carolina Department of Health and Human Services (NCDHHS) Division of Public Health in 2017. My enthusiasm for it grew during my tenure at NC Medicaid as I saw the degree to which North Carolina’s vision for improving healthcare—integrated care, value-based payment, improving quality and health outcomes, addressing social determinants of health and advancing health equity—is predicated on exchanging complete, accurate, timely health data.

I am excited and humbled to have inherited responsibility for:

- an organization with a home in the North Carolina Department of Information Technology (NCDIT), partnerships across NCDHHS, and a public-private partnership with SAS Institute;
- a network connecting all the acute care hospitals and over 10,000 ambulatory care facilities in the state, along with 54 inter/intra-state HIEs; and
- a system that, on an average day, takes in 416K Continuity of Care Documents (CCDs) and 1.7M Admission Discharge Transfer messages (ADTs), responds to 65K document queries and 111K patient queries, and sends out 164K clinical event notifications.

My excitement was intense at the outset, and I’m continually humbled the more I learn about NC HealthConnex. What has become clear is that our connections are the basis of our value, and our connections to less traditional exchange partners—e.g., independent, rural, behavioral health, pharmacy, long-term and in-home care, etc.—are what make NC HealthConnex exceptional. These providers play critical roles in whole-person health and have been largely left out of federal incentive programs and private sector efforts to build the current health information exchange ecosystem. While we have reason to be proud of accomplishments to date in this area, we must find new ways to engage unconnected providers and support them as they begin exchanging data.

We are also navigating myriad opportunities to support value-based payment models, improve the quality of care and provide insights into the health of all North Carolinians. The NC HIEA team is working diligently to turn these opportunities into services that help providers create better outcomes for their patients. This Roadmap lays out what we are doing now and our priorities for the next five years. I cannot wait to share what we accomplish.

Sincerely,

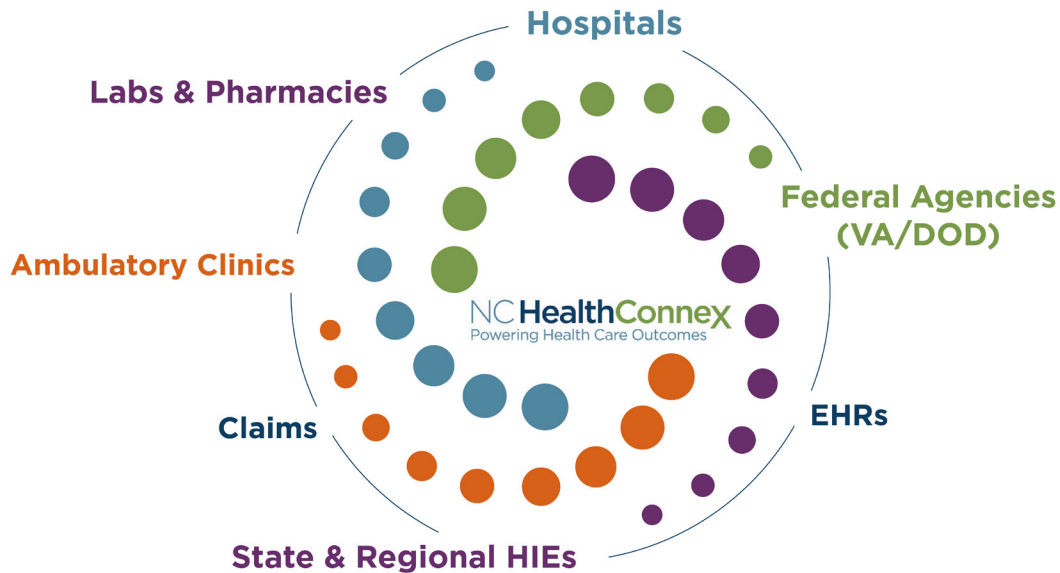
A handwritten signature in black ink, appearing to read 'Sam Thompson'. The signature is fluid and cursive, with a large initial 'S'.

Sam Thompson, Executive Director
N.C. Health Information Exchange Authority

Introduction

Since 2016, the North Carolina Health Information Exchange Authority (NC HIEA) has made considerable progress implementing and delivering the North Carolina General Assembly’s vision for statewide health information exchange (HIE) as laid out in the Statewide HIE Act (“the HIE Act”) at [N.C. Gen. Stat. § 90-414](#).

As of 2024, the state-designated HIE Network, NC HealthConnex, connects all acute care and most specialty hospitals statewide, more than 10,000 ambulatory facilities and 54 inter/intra-state HIEs, including the Veterans Administration and Department of Defense via national networks. This widespread connectivity enables secure exchange of critical patient data across 60,000 health care providers and 25M+ patients,¹ as well as health plans and state agencies that serve these patients.



A key goal of the HIE Act was to build the connectivity necessary to support NC Medicaid Managed Care. To that end, the HIE Act requires that health care providers who receive state funds for the provision of health care connect and share data with NC HealthConnex. After several years of planning, while the health care system worked to tame a global pandemic, NC Medicaid began its transition to managed care in 2021. That same year, [N.C. Session Law 2021-26](#) prompted an evaluation of the work that remained to connect the state-funded health care ecosystem pursuant to the HIE Act. That legislation also requested the development of an approach to achieve full connectivity, more broadly fulfilling the promises of the state of North Carolina’s vision to improve the quality and delivery of health care and patient outcomes while controlling rising health care costs.

In the subsequent years, the NC HIEA has focused on expanding its network of connections and supporting a growing number of use cases with partner agencies and stakeholder organizations, while also supporting NC Medicaid’s operational, care management and continuous quality improvement efforts. With integrated, value-based care models rapidly unfolding across North Carolina and an amplified need for modernized public health and safety infrastructure, the demand for timely access to high-quality clinical data is more pronounced than ever.



¹Includes out-of-state patients whose health records were accessed by NC HealthConnex participants.

Introduction

This NC HIEA Roadmap 2030 builds upon the [NC HIEA Roadmap 2021](#), a three-year strategic plan that charted 31 initiatives across five service areas and the organization's work since that time to support value-based care and public health data needs in an increasingly dynamic health care landscape. It aligns with [N.C. Department of Health and Human Services \(NCDHHS\)](#) and [federal health IT](#) goals, by moving the critical, real-time insights foundational to the system North Carolina is building to achieve equitable, whole-person health. In this Roadmap, the NC HIEA and its Advisory Board focus on four overarching goals that speak to the opportunities on the horizon:

- 1. Broaden exchange capabilities to support equitable, whole-person care**
- 2. Build upon the HIE foundation to remain at the forefront of data quality and emerging data standards**
- 3. Support value-based care and public health priorities alongside agency and organization partners**
- 4. Cultivate stability by expanding HIE services and their utilization**

Through the objectives and strategies laid out below, the NC HIEA will work to (i) maintain momentum toward a fully connected statewide framework; (ii) operate a robust data quality program and implement emerging data standards; (iii) increase utilization of existing and emerging NC HealthConnex services; (iv) expand patient education to ensure an informed and empowered citizenry; (v) continue to ensure the highest security standards for health data exchange and patient privacy; and (vi) meet the imperative to support value-based care and public health by leveraging statewide HIE infrastructure.

To support this work and ensure alignment with state needs and federal and industry best practices, the NC HIEA will mature its governance processes—bringing additional clinical, technical and financial partners and experts to the table to help steer NC HealthConnex to meet the changing needs of its provider participants and state partners through 2030.

The NC HIEA will follow this publication with an accompanying plan to measure and report progress on the goals and objectives identified herein. The public is invited to follow its progress at nchealthconnex.gov.



Overview

About the NC HIEA and NC HealthConnex

The North Carolina Health Information Exchange Authority (NC HIEA) was established by the General Assembly of North Carolina in 2015. Part of the N.C. Department of Information Technology's Enterprise Data Office, the NC HIEA oversees and administers the N.C. Health Information Exchange Network (see [N.C. Gen. Stat. § 90-414.7](#)), called NC HealthConnex.

NC HealthConnex is a secure, standardized electronic system through which health care providers share patient health information via integration with their electronic health record systems (EHRs). The law also requires health care providers who receive state funds for the delivery of health care services (e.g., Medicaid, State Health Plan, recipients of state grants, etc.) to connect to and share patient data with NC HealthConnex (see [N.C. Gen. Stat. § 90-414.4](#)).

As a result, NC HealthConnex brings health data together from siloed sources statewide to allow providers access across the care continuum, including between those sectors not traditionally involved in exchange efforts such as behavioral



health, social work, long-term and post-acute care, pharmacy, free and charitable clinics, and county health departments.

Additionally, human services agencies and their proxies—from public health to state-managed health plans—use NC HealthConnex to exchange, access and analyze health information to improve population health outcomes and support value-based care initiatives.



Vision: *Help North Carolinians lead their healthiest lives by supporting equitable, whole-person health through data exchange services*



Mission: *Promote the secure and efficient sharing and use of health information to improve health care quality and outcomes*

Early Successes

In nine years, the NC HIEA, in public-private partnership with SAS Institute, has developed a substantial infrastructure that has improved the health of North Carolinians across the state. Early accomplishments include:

- ✓ Upgraded and modernized the NC HealthConnex platform to the industry-leading InterSystems HealthShare, and **built significant technical capacity and infrastructure**, including:
 - the [NC HealthConnex Clinical Portal](#)
 - [NC*Notify](#) clinical event notifications
 - [Direct Secure Messaging](#) service for secure sharing of patient information and the statewide Provider Directory
 - [statewide public health registries](#), including the N.C. Diabetes and N.C. Stroke Registries
 - enablement of the Fast Healthcare Interoperability Resources (FHIR) data standard


Early Successes, cont.

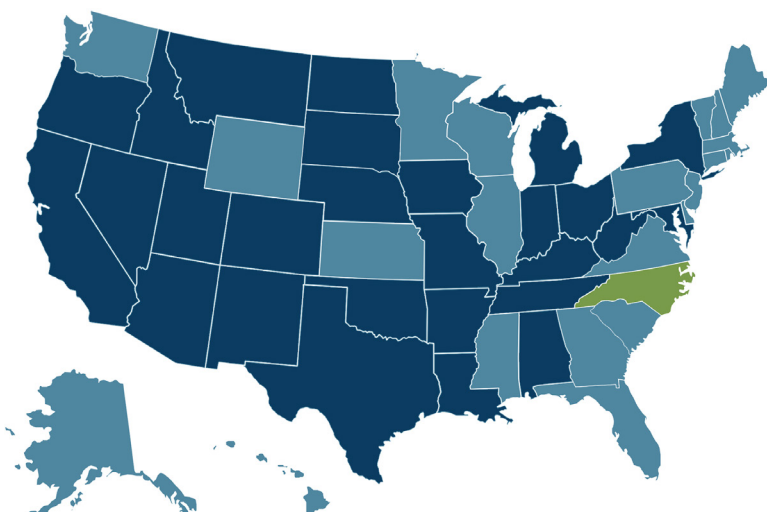
- automated access to, clinical data reporting to and/or data incorporation from various NCDHHS systems, including:
 - [N.C. Immunization Registry \(NCIR\)](#)
 - [N.C. Electronic Disease Surveillance System \(NC EDSS\)](#)
 - [NCCOVID](#)
 - [N.C. Disease Event Tracking and Epidemiologic Collection Tool \(NC DETECT\)](#)
 - [N.C. Controlled Substance Reporting System \(CSRS\)](#)
- a COVID-19 dashboard for near real-time tracking of the Medicaid population's COVID-19 tests, diagnoses, and reported symptoms and indicators that could signify potential COVID-19 cases
- connection to the nationwide [eHealth Exchange](#) and [Patient-Centered Data Home™](#) networks, enabling push-pull exchange of health records with 54+ inter/intra-state and federal HIEs

Ways that NC HealthConnex participants access patient data nationwide, as of 2024.



 eHealth Exchange Connections Only

 eHealth Exchange & Patient Centered Data Home™



- ✓ Partnered with human services agencies and participant organizations on **provision of data extracts** for Health Insurance Portability and Accountability Act of 1996 (HIPAA)-compliant use cases and research, including:



- with NC Medicaid, informing network adequacy, improving care management, enhancing quality measurement and continuous quality improvement, and supporting health plan oversight
- with the [ACURE4Moms study](#), helping to close maternal health care gaps for Black moms, then use lessons learned to improve NC HealthConnex services to better support maternal health care

- ✓ Built **data connections to more than 10,000 health care facilities**, including all acute care and most specialty hospitals statewide, enabling exchange of critical patient data across 60,000 health care providers and 25M+ patients, as well as health plans and state agencies that serve these patients.

- ✓ Received **national and state awards**, including
 - 2019 Strategic Health Information Exchange Collaborative's (now Civitas Networks for Health) Community Partnership Achievement Award for Hurricane Florence response
 - 2019 "StateScoop 50" State Leadership Award
 - honorable mention for the 2020 National Association of State Chief Information Officers Award in the category of Digital Services: Government to Business
 - finalist for the 2022 NC Tech Data for Good Award

Landscape Update: Value-Based Care, Health Equity and Emerging Data Standards

Under new models of care, health care providers are rewarded for quality of care outcomes, and patients are engaged and empowered to participate in their own health care. There is broad consensus among government and health care leaders that the fee-for-service health care system that focused on treating illness rather than promoting wellness is no longer affordable. The Health Care Cost Institute found that from 2018-2022, the average price of care increased by 14%, and the cost per person under employer-sponsored plans increased by nearly 19%.²

To tame these trends and promote better health, systemic change is in full force in North Carolina through a combination of integrated care models (e.g., combining behavioral and physical health programs and plans) and value-based care organizations that seek to provide efficient, coordinated and timely treatment across care providers. Research shows that participation in an advanced primary care model, a type of value-based care arrangement, coupled with use of population health management technologies via an HIE lowers hospital admission (and readmission) rates, average length of stay and outpatient surgery rates by 20-30%.³

With health records nearly universally digital in most health care sectors, the models outlined above rely on ready access to a patient's health records across their many care providers. The HIE Act tasks NC HealthConnex with supporting Medicaid's transformation to a more integrated, value-based model. Federal programs also financially incentivize use of an HIE for sending and receiving health information across care providers (see [ONC Health IT Playbook - Value Based Care](#)).

Three and a half years into NC Medicaid's managed care framework, the NC HIEA is supporting those efforts by enabling the exchange of patient information by Medicaid providers through NC HealthConnex and by providing clinical and demographic data to NC Medicaid for operational optimization, care management, health plan oversight and continuous quality improvement. In alignment with federal guidance and technical best practices, the NC HIEA is also working to support Medicaid patient engagement by delivering relevant clinical data to NC Medicaid that will be made accessible to Medicaid patients.



Renewed focus must also be placed on improving the care and resources available to historically marginalized populations. The NC HIEA is focused on building out connectivity among smaller, independent health care practitioners and providing access to NC HealthConnex tools to those serving these populations but lacking EHRs. Further, the NC HIEA is working to incorporate health-related social data—data on the conditions in which patients live, learn, work, and play—into NC HealthConnex tools, and to provide disaggregated quality data to providers, care managers, health plans, and state agency partners. These data can be used at the point of care and in

efforts to more effectively target programs and services aimed at closing gaps in care. In parallel with these efforts, the NC HIEA is dedicated to educating and empowering these patient populations around the value of electronic sharing of their health records.

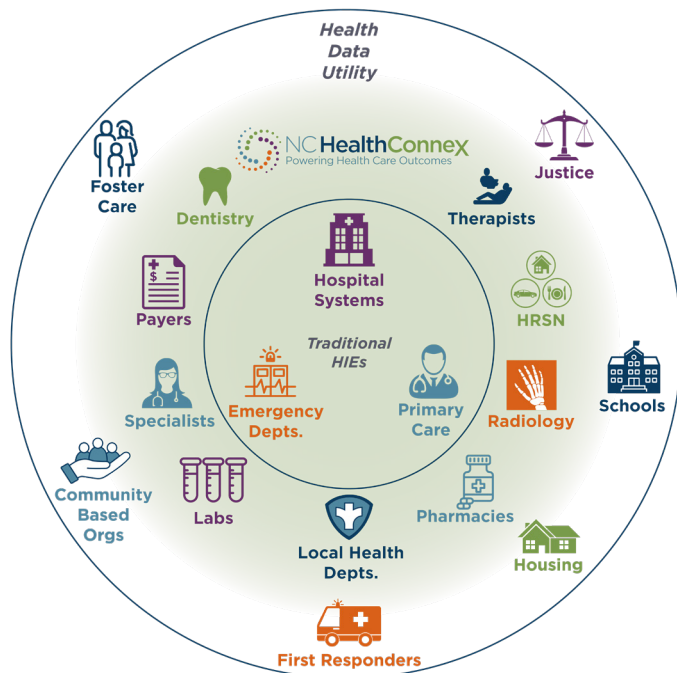
This evolution cannot succeed without the technical infrastructure to support and continually identify opportunities to provide better value, higher quality and more equitable care both at the point of care and in the community. The NC HIEA is committed to the pursuit of alignment with emerging data standards, including participation with the nationwide Trusted Exchange Framework and Common Agreement (TEFCA) and leveraging the Fast Healthcare Interoperability Resources (FHIR) and United States Core Data for Interoperability (USCDI) standards, as well as comprehensive privacy and security safeguards and the responsible incorporation of Artificial Intelligence (AI) tools.

²Health Care Cost Institute. 2022 Health Care Cost and Utilization Report. Available: PowerPoint Presentation ([healthcostinstitute.org](https://www.healthcostinstitute.org))

³The Impact of Population Health Analytics on Health Care Quality and Efficacy Among CPC+ Participants | Milbank Memorial Fund

Future Forward: The Health Data Utility

The COVID-19 pandemic and recent severe weather events have highlighted a nationwide need for modernized public health infrastructure that can “talk to” myriad systems that house patient data. In the wake of such disasters, adequate infrastructure would enable health care providers to locate their patients and allow patients to access their own health records when seeking care outside of their communities. Civitas Networks for Health is a national organization working with lawmakers to leverage existing health information exchange networks to build a more comprehensive, anticipatory infrastructure through the creation or designation and subsequent funding of “health data utilities” or HDUs.



Civitas’ definition of a HDU is “a regional or statewide entity that combines, enhances, and exchanges electronic health data across care and service settings for treatment, care coordination, quality improvement, health equity, and public and community health purposes. It serves as health equity infrastructure and enables specific, defined use cases, with extra protections to ensure patient privacy and protection.” Civitas also notes that HDUs “should build on existing technical, organizational, and trust infrastructure in states and regions.”⁴

The goal of formalizing this new type of entity is to empower non-profit or state agency-run HIEs and similar networks across the country to support and facilitate the flow of information between public health, human services and clinical health information technology systems while protecting privacy and ensuring security. HDUs do this by bringing together data from many sources, including ambulatory providers, laboratories, community-based organizations, post-acute providers, hospitals, human services agencies, and payers and health plans and offering the data to support state public health efforts, emergency response and policymaking in accordance with all applicable state and federal data privacy laws. Civitas notes that HDUs should also support bidirectional exchange (i.e., two-way sharing of patient data), so providers have near real-time access to public health and clinical data necessary to provide the best care.

As evident in this Roadmap, NC HealthConnex meets the organizational and governance criteria laid out in [Civitas’ HDU Framework](#) and is already serving as a HDU for North Carolina in many of the ways outlined above. The NC HIEA hopes to promote greater utilization of its broadscale, statewide patient matching and patient data transport infrastructure, as well as on-demand access to discrete data as permitted by HIPAA, to further support state systems and programs reliant on health data. Building upon its multi-stakeholder governance and leveraging the NC HealthConnex infrastructure more broadly to support social services and community-based organizations could reduce duplication of technical resources and save state and federal dollars. Should NC HealthConnex be designated as a HDU by the state and the HDU concept be codified at the national level, federal funding opportunities may become available to further this work, pressing NC HealthConnex into service as a primary mediator of patient data among providers and state systems and contributing to its long-term financial sustainability.

⁴Civitas Networks for Health. Available: Health Data Utilities (civitasforhealth.org)

Long-Term Sustainability

As the state population grows and the health care landscape evolves, so does the NC HealthConnex infrastructure that supports connected care and serves the health data needs of partners at NCDHHS and other stakeholder organizations. The NC HIEA is fortunate to have state support and remains committed to offering its base exchange services to North Carolina health care providers at no cost.

The 2021 end to federal Health Information Technology for Economic and Clinical Health (HITECH) Act funding—which contributed significantly to the build of thousands of data connections to NC HealthConnex—prompted the NC HIEA to pursue additional funding opportunities, including grant-funded use cases for public health and federal matching funds to Medicaid’s share of HIE operations by the Centers for Medicare and Medicaid Services (CMS). In addition to state, federal and grant funds, the NC HIEA aims to develop cost-recovery models for emerging high-value use cases by those organizations requesting and benefiting from them.

Goals and Objectives

Remain at the Forefront of Data Quality and Emerging Data Standards

- Objective 1:** Enhance the NC HealthConnex Data Quality Program
- Objective 2:** Expand FHIR/API Services
- Objective 3:** Mature the NC HIEA Risk Management Program
- Objective 4:** Continually Modernize Infrastructure

Support the Value-Based Care and Public Health Priorities of our Agency and Organization Partners

- Objective 1:** Facilitate Data Sharing for Medicaid Operations and Care Management
- Objective 2:** Provide Clinical Data for and Assist with Quality Measurement
- Objective 3:** Leverage NC*Notify for Medicaid, Public Health and Behavioral Health
- Objective 4:** Inform Care and Transitions for Justice-Involved Populations
- Objective 5:** Build, Enhance and Support Chronic Disease Surveillance Tools

Broaden Exchange Capabilities to Support Equitable, Whole-Person Care

- Objective 1:** Complete Integration with State-Funded Providers, Pharmacies and NC Medicaid
- Objective 2:** Enable State Laboratory Electronic Test Orders and Results
- Objective 3:** Expand Bidirectional Exchange and Provider Clinical Portal Single Sign-On Capability
- Objective 4:** Collaborate with Additional State and Nationwide Systems
- Objective 5:** Incorporate New Data Sources and Types

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Cultivate Stability by Expanding HIE Services and Their Utilization

- Objective 1:** Provide State Health Data Utility Services and Institute Cost Recovery and Sharing
- Objective 2:** Institute Additional Governance and Oversight
- Objective 3:** Promote Training and Support NC HealthConnex Adoption and Use
- Objective 4:** Collaborate with Clinical Research

GOAL 1: Broaden Exchange Capabilities to Support Equitable, Whole-Person Care

The NC HIEA's primary goal is to facilitate the exchange and sharing of patient data among the hundreds of patient record systems in use across North Carolina. Innovation and data democratization—the broad availability of data to everyone without roadblocks or gatekeepers—require seamless, secure communication across systems.




The NC HIEA aims to broaden data exchange by bridging incompatible systems and isolated databases through innovative, seamless integration efforts and intelligent patient matching—and by connecting additional data sources that house health-related social data and other data useful to care management—to ensure fast, reliable and secure exchange of critical patient information.

“NC HealthConnex is super vital because we’re able to see some of the treatment history that gets missed or lost when a family is in crisis...We always really want to know where they’ve been and the kinds of medications they have tried when we’re working towards stabilization.”

**–Ashley Sparks,
Alexander Youth Network**

Objective 1: Complete Integration with State-Funded Providers, Pharmacies and NC Medicaid


The NC HIEA aims to establish these “last-mile” connections to receive complete clinical and claims data that will not only inform care but provide insight and cost savings to providers and the state. Claims data are rich in demographic, diagnosis, procedure and patient adherence information that have utility for enhancing care outcomes, evaluating utilization and reducing duplication of tests, treatments and services.

-  **Strategy 1.1:** Establish and maintain active data connections with >90% of state-serving health care organizations that are subject to the HIE Act, as funding permits.
-  **Strategy 1.2:** Establish and maintain integrations of claims data from >90% of NC retail and independent pharmacies that are subject to the HIE Act, as funding permits.
-  **Strategy 1.3:** Integrate the full range of claims and encounter data for Medicaid’s fee-for-service and managed care health plans.⁵



Objective 2: Enable State Laboratory Electronic Test Orders and Results (ETOR)

An ETOR service replaces manual, paper-based processes with an electronic, closed-loop process and improves clinical decision support workflows, analytics and notifications. Implementing this service with local health departments and other facilities will reduce administrative burdens on both ends and expedite lab result delivery.

-  **Strategy 2.1:** Implement and scale ETOR for the State Laboratory of Public Health, as funding permits, including all local health departments and other provider organizations in partnership with the Centers for Disease Control and Prevention.




Objective 3: Expand Bidirectional Exchange and Single Sign-On (SSO) Capability

Some NC HealthConnex participants access the consolidated, statewide patient health record within their practice EHR through bidirectional integration or SSO technology. This integrated access increases utilization of the statewide health record and patient data from nationwide networks.

⁵NC HIEA does not currently receive financial data or 42 CFR Part 2 data in claims data integrations.




GOAL 1: Broaden Exchange Capabilities to Support Equitable, Whole-Person Care

Objective 3: Expand Bidirectional Exchange and Single Sign-On (SSO) Capability, cont.

-  **Strategy 3.1:** Build SSO capability with additional EHR vendors and participating organizations.
-  **Strategy 3.2:** Optimize existing NC HealthConnex Clinical Portal SSO service and workflow support utilizing a user-driven agile development approach.
-  **Strategy 3.3:** Increase bidirectional exchange via new FHIR query offerings.






Objective 4: Collaborate with Additional State and Nationwide Systems

Many systems contain health-related data useful for patient care, but barriers exist for providers to access that data within time-constrained clinical workflows. The NC HIEA will listen to stakeholders to prioritize incorporation of various data into NC HealthConnex and manage access according to secure, HIPAA-covered “need to know” policies.

-  **Strategy 4.1:** Participate with the Trusted Exchange Framework and Common Agreement (TEFCA) to expand upon the ability for providers to leverage NC HealthConnex to send, receive and/or access patient data in systems nationwide.
-  **Strategy 4.2:** Investigate integration with NCDHHS’ NCCARE360 to enable sharing of health-related social needs screening and referral data and easy access for users across systems.
-  **Strategy 4.3:** At the direction of NCDHHS, provide SSO from NCTracks, NC Medicaid’s claims and eligibility system, to NC HealthConnex, enabling Medicaid providers’ easy navigation from a patient’s eligibility and enrollment status to their statewide patient health record.

Objective 5: Incorporate New Data Sources and Types

Many types of health-related data present in other electronic systems pose value to NC HealthConnex participants and partners to inform care decisions and programs.

-  **Strategy 5.1:** Incorporate additional behavioral health care data as permitted under 42 CFR Part 2.
-  **Strategy 5.2:** Expand upon the health-related social needs data available in NC HealthConnex by collecting this data from more sources and making it more readily available to a patient’s providers and health plan.
-  **Strategy 5.3:** Integrate with emergency medical services (EMS) providers to ensure EMS data are available in NC HealthConnex and NC HealthConnex data is accessible by EMS at the point of care.
-  **Strategy 5.4:** Make radiological and diagnostic imaging accessible via NC HealthConnex.
-  **Strategy 5.5:** Enhance NC HealthConnex’s event notification service, NC*Notify, with an updated platform, improved user experience and new alert offerings to include additional data sources and types.



GOAL 2: Remain at the Forefront of Data Quality and Emerging Data Standards

The NC HIEA is committed to providing a secure, modern platform that aligns with evolving health care technology policies and standards to seamlessly share data. Facilitating increased data sharing for improved health outcomes and care coordination is the primary goal. The NC HIEA will continuously mature its data quality program and align with emerging data standards to improve the accuracy, quality and targeted nature (“right data, right moment”) of shared data to promote data integrity and usability for NC HealthConnex participants and state partners.

“Our real-time data gathering from the HIE has allowed us to remodel our system to asynchronous, real-time knowledge-based care, where our providers’ workflows are disrupted 24/7, giving them immediate, actionable knowledge to make their care plans living documents as our patients navigate the healthcare ecosystem around us.”

*–Jerold Greer,
Daymark Recovery Services*



Objective 1: Enhance the NC HealthConnex Data Quality Program

Data quality improvement initiatives are key to ensuring accuracy, reliability and timeliness of data shared and facilitating use cases that improve health outcomes.



Strategy 1.1: Monitor and compel alignment between submitted data and [United States Core Data for Interoperability \(USCDI\)](#) national standards to deliver a more complete and standardized view of the patient record.



Strategy 1.2: Scale work with NC Medicaid, NC HealthConnex participants and the [National Committee for Quality Assurance’s \(NCQA\) Data Aggregator Validation \(DAV\) Program](#) to validate data submission to support quality measurement and promote continuous quality improvement.



Strategy 1.3: Refine and expand upon operational and data quality metrics collected, metrics-driven organizational improvement processes and transparent reporting to partners and the public.



Strategy 1.4: Enhance and expand the closed-loop feedback program with NC HealthConnex participants to continually improve the data within NC HealthConnex.



Strategy 1.5: Where appropriate, responsibly leverage generative Artificial Intelligence (AI) tools per the [North Carolina State Government Responsible Use of Artificial Intelligence Framework](#) to efficiently identify data quality issues and alignment with standards.



Strategy 1.6: Continue to refine patient matching capabilities to reduce duplication of patient records and ensure accurate sharing of information across systems, including by linking NC HealthConnex patient identifiers to [NC eLink](#) common statewide identifiers.



Strategy 1.7: Institute a formal NC HealthConnex data governance framework.








Objective 2: Expand Fast Healthcare Interoperability Resources (FHIR)/Application Programming Interface (API) Services

The NC HIEA is adapting to offer services beyond traditional query and retrieve (“push and pull”) of patient summary of care records by adopting the FHIR standard, enabling more nimble retrieval of specific, actionable health data on demand.



GOAL 2: Remain at the Forefront of Data Quality and Emerging Data Standards

Objective 2: Expand Fast Healthcare Interoperability Resources (FHIR)/Application Programming Interface (API) Services, cont.

-  **Strategy 2.1:** Improve statewide health data liquidity—the ability for data entered once into a system to be securely stored and also easily accessible to others involved with the care of a patient—by enabling FHIR retrieval across NC HealthConnex services.
-  **Strategy 2.2:** Establish governance rules for FHIR and TEFCAs data access.
-  **Strategy 2.3:** Onboard to a Qualified Health Information Network (QHIN) within TEFCAs.
-  **Strategy 2.4:** Address emerging FHIR use cases, including Medicaid, Public Health and other state agency FHIR queries and bulk FHIR exchange to support patient access, surveillance efforts, and other HIPAA-covered use cases.
-  **Strategy 2.5:** Leverage API services to share data with NCDHHS for relevant use cases.




Objective 3: Mature the NC HIEA Risk Management Program

As it is entrusted with an increasing volume of health data, the NC HIEA will ensure compliance with the highest industry standards for privacy and security.

-  **Strategy 3.1:** Ensure compliance with the [North Carolina Statewide Information Security Manual](#) and [National Institute of Standards and Technology \(NIST\) frameworks](#) relevant to health information exchange.
-  **Strategy 3.2:** Achieve and maintain [Health Information Trust Alliance \(HITRUST\)](#) certification—a gold-standard security framework of administrative, technical and physical safeguards to facilitate compliance with HIPAA and strong defense against security threats.
-  **Strategy 3.3:** Incorporate NCID—North Carolina’s standard identity management service—into the NC HealthConnex Clinical Portal and future self-service capabilities for participants, aligning with other state systems’ and NCDIT security and self-service best practices.

Objective 4: Continually Modernize Infrastructure

The NC HIEA is committed to continual improvement of infrastructure to ensure operational efficiency, ease of use and optimum security.

-  **Strategy 4.1:** Maximize utilization of the InterSystems HealthShare platform to enhance user experience and analytic offerings.
-  **Strategy 4.2:** Optimize the participant feedback loop to efficiently address data feed interruptions and improve the quality of data submission.
-  **Strategy 4.3:** Adopt data integration best practices in a rapidly changing health care environment.

GOAL 3: Support the Value-Based Care and Public Health Priorities of our Agency and Organization Partners





Both population and public health serve the goals of preventing, mitigating and managing disease and disability to ensure optimal health and quality of life. Access to data is essential to track and monitor health conditions and perform analytics to gain insight around interventions that ultimately impact health outcomes. The NC HIEA believes that the data entrusted to NC HealthConnex provide critical surveillance and analytical utility to drive initiatives, create efficiencies and positively impact the health of North Carolinians. The NC HIEA is committed to deploying the NC HealthConnex infrastructure and the data therein to deliver insight to its key stakeholders in support of their efforts to continuously improve population and public health, create operational efficiencies and deliver higher quality, value-based care.

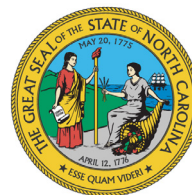
NCDHHS is committed to improving whole-person health for the people of North Carolina. To do that we need to address the full set of factors that drive health and use data to inform our strategies, initiatives and investments. Value-based care helps move us to paying for health, not just health care, and...the coordinated and connected data in NC HealthConnex are essential to these foundational elements of improving health and well-being.

**-Betsey Tilson,
State Health Director, NCDHHS**

Objective 1: Facilitate Data Sharing for Medicaid Operations and Care Management

As a centralized system for claims, encounter, clinical and care management data for NC Medicaid and its health plans (including Tailored Plans and Clinically Integrated Networks), NC HealthConnex will relieve technical administrative burden by facilitating streamlined data sharing amongst the entities and connected Medicaid provider organizations at the direction of the NCDHHS Division of Health Benefits.

-  **Strategy 1.1:** Streamline the sharing of claims and encounter data with NC Medicaid provider organizations for the purposes of care management.
-  **Strategy 1.2:** Facilitate the sharing of care transitions documentation across health plans when a Medicaid beneficiary moves from one plan to another.
-  **Strategy 1.3:** Enable the sharing of patient risk and other care management information across NC Medicaid, its health plans, and its Advanced Medical Home provider organizations and contracted Clinically Integrated Networks.
-  **Strategy 1.4:** Provide reports and/or dashboards to NC Medicaid to assist with closing care gaps, monitoring population health trends and efficiently allocating resources.



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**
Division of Health Benefits



Objective 2: Provide Clinical Data for and Assist with Quality Measurement

Using the claims, encounter and clinical data within NC HealthConnex, the NC HIEA will support quality measurement efforts for NC Medicaid, health plans and connected provider organizations.

-  **Strategy 2.1:** Provide clinical data extracts to NC Medicaid and its health plans in support of quality measurement and population health programs.





GOAL 3: Support the Value-Based Care and Public Health Priorities of our Agency and Organization Partners

Objective 2: Provide Clinical Data for and Assist with Quality Measurement, cont.

-  **Strategy 2.2:** Continually onboard connected provider organizations to NCQA's Data Aggregator Validation program, ensuring the quality and integrity of the organization's data for use in quality measurement and improvement.
-  **Strategy 2.3:** Use available inputs to calculate and report digital quality measures (dQMs) to providers, health plans and NC Medicaid in near real-time.



Objective 3: Leverage NC*Notify for Medicaid, Public Health and Behavioral Health

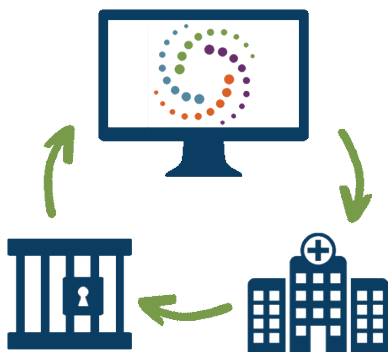
Event notifications can drive timely population health and care management actions to improve health care delivery, programs and patient outcomes. Specifically, expansion of the service could result in faster provider follow-up after an emergency visit, reduced hospital readmission rates or faster identification of a public health outbreak.


-  **Strategy 3.1:** Identify and incorporate relevant alerts based on clinical indicators that drive NC Medicaid programs and interventions.
-  **Strategy 3.2:** Recruit and onboard additional Medicaid provider organizations to the NC*Notify service.
-  **Strategy 3.3:** Enhance NC*Notify alerts to support public health surveillance efforts at the direction of the NCDHHS Division of Public Health.
-  **Strategy 3.4:** Expand NC*Notify alerts to support timely behavioral health care at the direction of the NCDHHS Division of Behavioral Health, Developmental Disabilities and Substance Use Services.


Objective 4: Inform Care and Transitions for Justice-Involved Populations

As it does for other populations, NC HealthConnex may improve health outcomes by ensuring care across the continuum for justice-involved populations—those in sentencing for, currently serving time in, or post-release from jails, youth correctional facilities or prisons.

-  **Strategy 4.1:** Integrate the N.C. Department of Adult Correction EHR into NC HealthConnex.
-  **Strategy 4.2:** Provide those that serve the health care needs of justice-involved populations with access to the NC HealthConnex Clinical Portal.



-  **Strategy 4.3:** Provide access to the statewide patient health record within NC HealthConnex as permitted to support local governments in serving vulnerable populations.

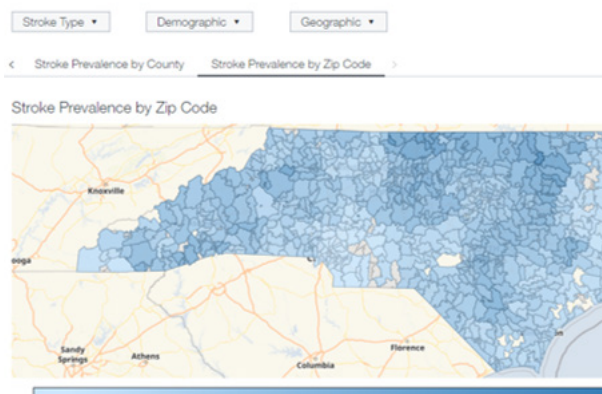
-  **Strategy 4.4:** Coordinate with relevant NCDIT programs, including [NC eLink](#) and [Criminal Justice Law Enforcement Automated Data Services \(CJLEADS\)](#), to support matching patient records and seamless care transitions for justice-involved populations.

GOAL 3: Support the Value-Based Care and Public Health Priorities of our Agency and Organization Partners

Objective 5: Build, Enhance and Support Chronic Disease Surveillance Tools

Statewide disease registries and other surveillance tools support population-level monitoring, program planning and resource prioritization for NCDHHS.

- Strategy 5.1:** Maintain and support the statewide stroke and diabetes disease registries.
- Strategy 5.2:** Develop an aggregated view of provider organizations within registry functionality to allow for comparative analysis.
- Strategy 5.3:** Provide datasets or build registries or other analytic services to support additional high-priority diseases at the direction of NCDHHS.



GOAL 4: Cultivate Stability by Expanding HIE Services and Their Utilization

In addition to serving as a tool for North Carolina health care providers, the NC HIEA will expand and mature its services and governance structures and adopt policy, technology and funding solutions that best serve the health data needs of the state. This will help to ensure equitable and efficient access to health information while fairly sharing the costs of providing requested services.

To increase uptake of the benefits NC HealthConnex already offers to its participants, the NC HIEA will update its strategic communications strategy and further promote awareness and competency with NC HealthConnex as a tool in users' value-based care toolkits. The campaign will also equip providers to better educate their patients on the benefits of electronic sharing of health records. To ensure the long-term sustainability of North Carolina's investment in statewide HIE infrastructure, the NC HIEA will study its impact and evaluate and implement cost-sharing initiatives with partner organizations requesting high-value use cases.







"The NC HIEA provides critical health data infrastructure to support more efficient care coordination, whole-person care efforts and data-driven decisions. The NC HIEA improves the health data ecosystem by enabling connections and data sharing between data silos, such as exchanging clinical and public health data to inform care and public health interventions.

Ultimately, the NC HIEA's capabilities help promote better outcomes for North Carolina residents, contributing to disease prevention and health promotion at the individual and population levels."

**-Hayley Young,
Interim Chief Data Officer, NCDHHS**

Objective 1: Provide State Health Data Utility Services and Institute Cost Recovery and Sharing



The NC HIEA affirms that covered entity providers that contribute data under the state's mandate should be able to access NC HealthConnex base exchange services at no cost, as most do bear technology costs on an up-front and monthly basis to submit data to NC HealthConnex. However, cost recovery for data and services requested by other parties for HIPAA-covered use cases and cost-sharing arrangements with federal and state partners will set the NC HIEA on a path to its long-term goal of becoming receipt-supported.

-  **Strategy 1.1:** Establish, together with partners, a formalized state Health Data Utility and provide requested statewide health data services.
-  **Strategy 1.2:** Develop service-specific cost recovery models for state agencies, health plans and other users who do not submit data, but for whom receipt of clinical data for approved uses cases is of high value.
-  **Strategy 1.3:** Implement a quality measurement and reporting service to support providers and health plans.
-  **Strategy 1.4:** Pursue federal funding opportunities for HIEs and HDUs.

GOAL 4: Cultivate Stability by Expanding HIE Services and Their Utilization






Objective 2: Institute Additional Governance and Oversight

As the NC HIEA expands its scope, services and workforce to build efficiencies and address emerging use cases, it recognizes the need to grow and mature clinical, technical and financial oversight.

-  **Strategy 2.1:** Build upon the NC HIEA Clinical Data User Group to frequently examine, provide feedback on and continuously improve NC HealthConnex services.
-  **Strategy 2.2:** Establish within the NC HIEA more mature data governance, architectural review and change management processes to set and enforce priorities.





Objective 3: Promote Training and Support NC HealthConnex Adoption and Use

Use of NC HealthConnex within value-based care clinical workflows holds significant unrealized promise for improved care and administrative efficiencies among many NC HealthConnex participants.

-  **Strategy 3.1:** Continue partnership with the [North Carolina Area Health Education Centers \(NC AHEC\)](#) to provide onsite and virtual training for Medicaid providers and support process improvement by documenting NC HealthConnex use cases within value-based care provider workflows and evaluating participants' knowledge and use of NC HealthConnex to design ongoing training and support.
-  **Strategy 3.2:** Provide direct training services to non-Medicaid health care organizations.
-  **Strategy 3.3:** Coordinate with NC AHEC to increase awareness and understanding of the purpose, functionality and provider return on investment of NC HealthConnex.
-  **Strategy 3.4:** Launch and administer a provider support program that assists early adopters of new initiatives like digital quality measures (dQMs) and health-related social needs (HRSN) screening data submission.
-  **Strategy 3.5:** Develop and implement an enhanced marketing and communications strategy that educates health care providers, stakeholders and patients to promote broader use of NC HealthConnex.

Objective 4: Collaborate with Clinical Research

Research is a fundamental part of learning and provides significant insight into disease trends, health risks and solutions that ultimately impact patient outcomes.

-  **Strategy 4.1:** Provide datasets to support academic research for permitted use cases under HIPAA.
-  **Strategy 4.2:** Create policies, procedures and methods for how de-identified NC HealthConnex data may be used to support permitted use case research.
-  **Strategy 4.3:** Collaborate with the [North Carolina Longitudinal Data Service \(NCLDS\)](#)—which provides secure, privacy-protected access to data linked across time and data sources—to support specific research use cases.
-  **Strategy 4.4:** Partner with a research institution to evaluate the economic and health impact of NC HealthConnex services.

For Additional Information, Contact:

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