HIEA Board Meeting Cyber Briefing

Maria S. Thompson
State Chief Risk Officer

Security Program Overview

- Enterprise Security & Risk Management Office (ESRMO) is responsible for:
  - Cyber Policies, procedures and project reviews
  - Cyber awareness and training
  - Forensics
  - Vulnerability management
  - Security control assessments/audits

- Adopted NIST SP 800-53 as Risk Management Framework in 2018
- Implemented Continuous Monitoring Plan for annual reporting
- Mandatory Cyber Awareness for all Executive Branch Agencies

ESRMO Mission

The Enterprise Security and Risk Management Office (ESRMO) provides leadership in the development, delivery and maintenance of an information security and risk management program that safeguards the state's information assets and the supporting infrastructure against unauthorized use, disclosure, modification, damage or loss. The ESRMO supports a comprehensive statewide program that encompasses information security implementation, monitoring, threat and vulnerability management, cyber incident management, and enterprise business continuity management. The ESRMO works with executive branch agencies to help them comply with legal and regulatory requirements, the statewide technical architecture, policies, industry best practices, and other requirements. Working with state agencies, federal and local governments, citizens and private sector businesses, ESRMO helps to manage risk to support secure and sustainable information technology services to meet the needs of our citizens

NC DIT

Strategic Plan

✓ Information technology provides North Carolina with many exciting opportunities to streamline government operations and improve the delivery of services to our citizens. Our Strategic Plan focuses on enhancing customer service, achieving operational efficiency, and collaborating across State agencies as One IT organization.

✓ The Strategic plan can be located at: http://it.nc.gov/statewide-resources/strategic-plan

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Strategic Plan

💡 ## Integrate security tools across the enterprise

- Reduce redundancy across state agencies. Leverage common platforms. Consolidate workforce training and resource needs

💡 ## Establish continuous monitoring for local government

- Establish a statewide program for monitoring of threats. Enhance visibility and optimize cyber intelligence sharing

💡 ## Automation and Orchestration

- Automate cyber responses to allow cyber teams to focus on those critical incidents. Reduce the IT footprint and excessive pivoting by IR team across multiple solutions.

💡 ## Increase the cyber maturity for the State

- Create processes that are standard and repeatable. ==Align cyber strategies to the business==. Gain insight into current state and allow us to focus on high-value projects first, transitioning towards a target state.

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Cyber Program Overview Whole-of-State Cyber Approach

- Security Score Monitoring of local county, LEAs, Community College infrastructure

- iSensor county placement for continuous monitoring of local county network traffic

- National Guard Proactive assessment and Assist program for local government

- National Guard Cyber Incident Response support

- Establishment of statewide information sharing requirement under HB 217

- 2-1-1 Cybercrime Hotline launched August 2020

- Established a Joint Cyber Task Force

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Cyber Program Overview Whole-of-State Cyber Approach

20-001 Statewide Cyber Assessment

- DIT Funded - 10 Soldier Cyber Assessment and Assist Team
- Prioritize Assessing 40 Tier 1 Counties until 01JUL2020

Focus:

Security Program Review, Environmental Factors, Technical Review Policies, Cyber Hygiene, Configuration Baselines, Patch and Vulnerability Management

Concept of Operations:

- Scope: Schedule, SOW, Rules For the Use of Cyber
- Assess: Hands on Onsite Assessment, Executive and Technical Reports
- Train: Remediation Training

End State:

Allow the counties to "See Themselves" from a cyber risk perspective

"Train" the counties in remediation techniques from assessment findings

Understand the total threat landscape across NC counties

RCC WEST   **RCC CENTRAL**   **RCC EAST**
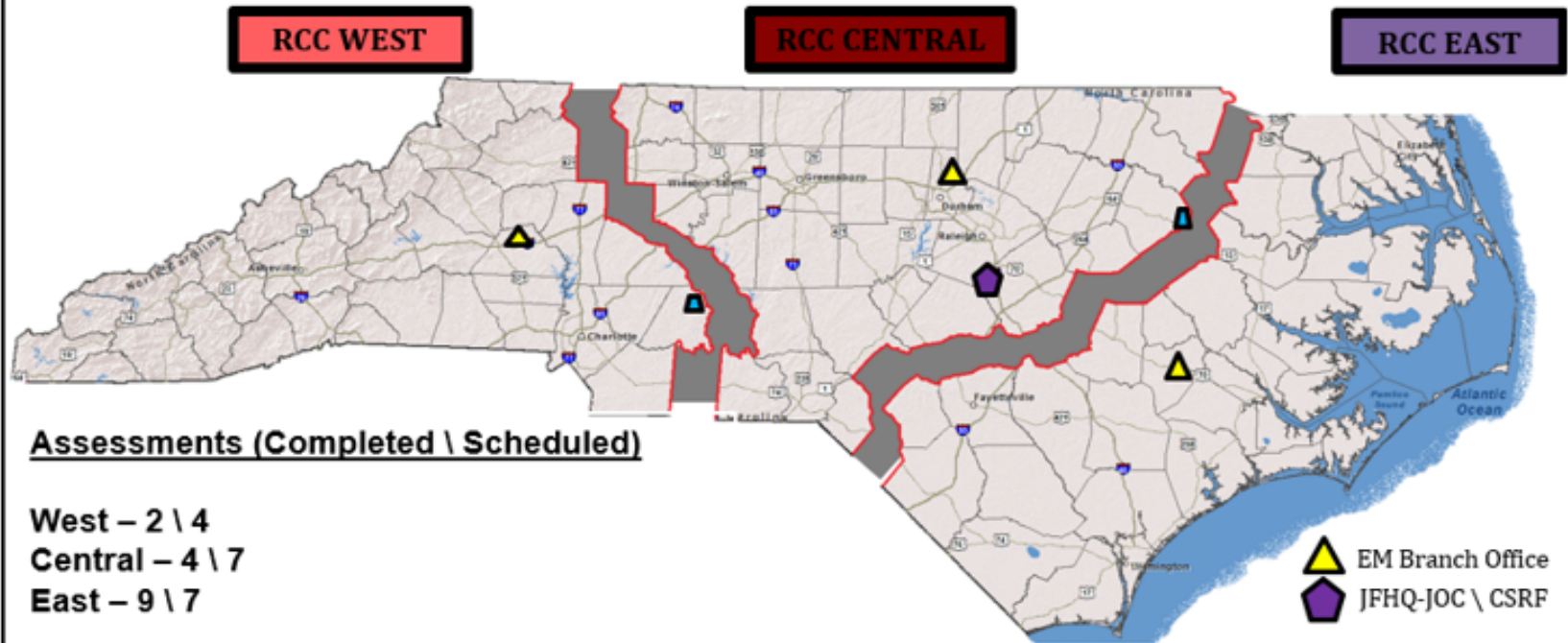
Assessments (Completed \ Scheduled)

West – 2 \ 4
Central – 4 \ 7
East – 9 \ 7

* Schedule completely full through MAY

▲ EM Branch Office
⬟ JFHQ-JOC \ CSRF

Category I Finding:

Definition: allow primary security protections to be bypassed if compromised

Per location: ▮ CAT I findings
Total: ▮ CAT I findings

Bottom Line: Exploits developed and available

Category II Finding:

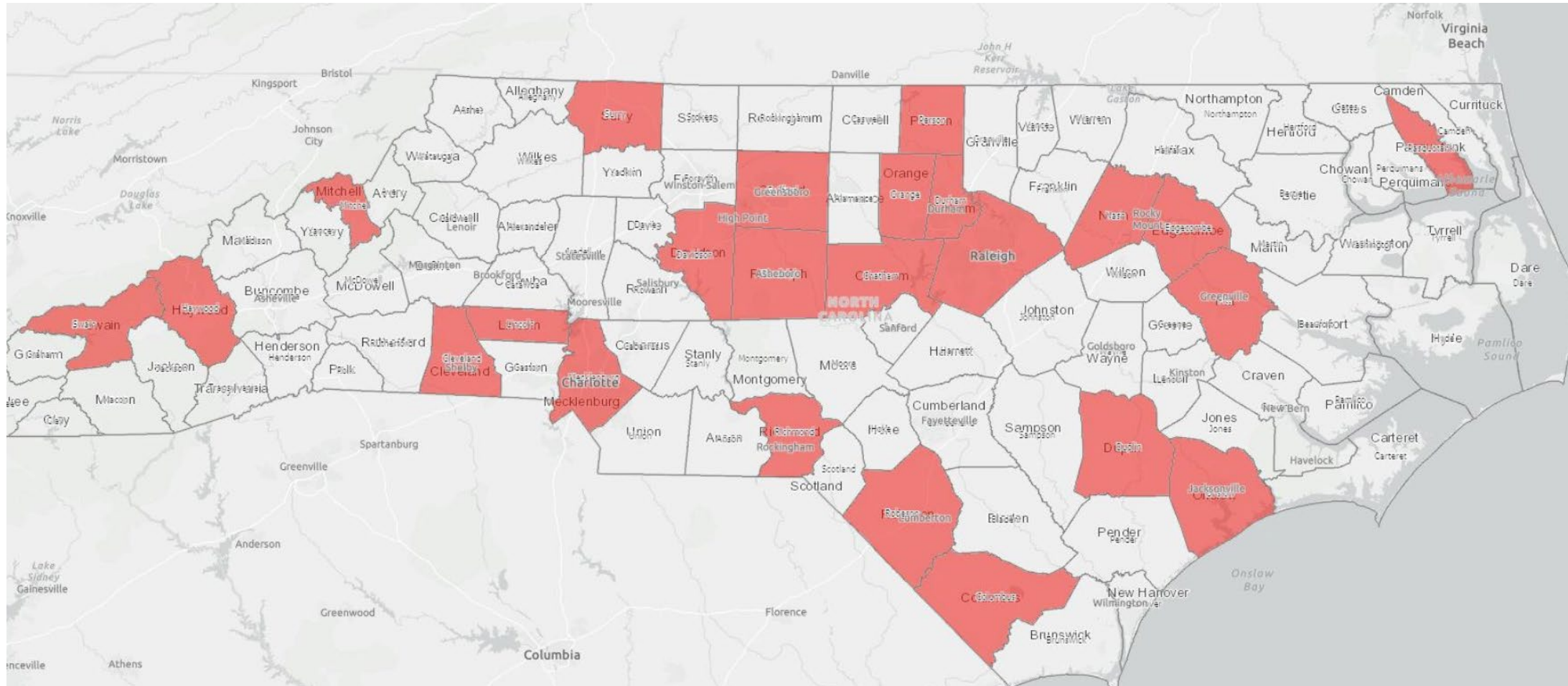**Definition:** potential to lead to unauthorized system access

Per location: ▮ CAT II findings
Total : ▮ CAT II findings

Bottom Line: Exploit development required

Cyber Program Overview Whole-of-State Cyber Approach

Security Challenges- 2019 Ransomware Attacks

Reported Cases

- 3 –Counties
- 1 – City
- 1 – Sheriffs Office & 911 System
- 1 – Community College
- 1 – K-12 School System
- 1 – State Agency
- 1 – County EMS
- 21 – ABC Board locations

Types of Variants

- RYUK
- DopplePaymer
- Sodinokibi

Sector	Known Ransomware	Details
Local Governments and Municipalities	RobbinHood, Ryuk, REvil, DoppelPaymer	The targeting of municipalities and local governments was popular among BGH criminal operators beginning in Spring 2019 and continuing through the rest of the year. Targets included several U.S. states and cities, and multiple incidents were seen in Spain.
Academic	Ryuk	An extension of local government targeting was first observed in Summer 2019: an outbreak of ransomware infections targeting public school systems in the U.S. This trend intensified in September 2019 during the back-to-school period and continued intermittently through the end of the year.

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Security Challenges- 2020 Ransomware Attacks

Reported Cases

- 5 –Counties
- 3 – Cities
- 1 - Town
- 5 – K-12 School Systems
- 3 – Higher Education

Types of Variants

- RYUK
- DopplePaymer
- Sodinokibi
- AKO
- Conti
- Matrix
- LockBit
- Phobos
- Suncrypt
- Snatch
- Makop

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Incident Reporting

✓ **Incident Reporting Process:**

- Agency management shall ensure that all information technology security incidents occurring within the agency are reported to the Enterprise Security and Risk Management Office (ESRMO), acting on behalf of the State Chief Information Officer, within twenty-four **(24) hours** of incident confirmation, as required by N.C.G.S. §143B-1343.

- Agencies and local government shall report incidents to the ESRMO by one of the following methods:
  - Contact DIT Customer Support Center 800-722-3946.
  - Use the incident reporting website https://it.nc.gov/cybersecurity-situation-report
  - Contact a member of the Security and Risk Management Services staff directly.

- **Incident Reporting Page:** https://it.nc.gov/cybersecurity-situation-report

✓ **Forensic Services:**

- Inappropriate Use investigations
- Malware analysis
- Mobile device forensics
- Data recovery
- **Forensic Request Form:** http://it.nc.gov/document/forensic-examination-request-form

Supply Chain - Vendor Risk Management

3rd Party risks are on the rise. N.C.G.S. § 143B-1376 requires governance over state data stored by state agencies and at vendor sites: "The State CIO shall establish standards for the management and safeguarding of all State data held by State agencies and private entities and shall develop and implement a process to monitor and ensure adherence to the established standards."

"The State CIO shall ensure that State data held by non-State entities is properly protected and is held in facilities that meet State security standards."

- Complete Vendor Risks Assessment Report (VRAR)
- Provide 3rd party attestation, both prior to contract and annually there after. Examples are:
  - ✓ FedRAMP Moderate
  - ✓ SOC 2 Type 2
  - ✓ HITRUST
  - ✓ ISO 27001/27002
- If system will store, process or transmit data classified as restricted or highly restricted, they will be added to the State's continuous monitoring program (e.g. security scoring solutions)

**Currently looking at StateRAMP to augment continuous monitoring practices for vendors

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State Response

Let's Connect!

@NCDIT
@BroadbandIO
@ncicenter

NCDIT

@NCDIT

NC Department of Information Technology

NC DIT

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it.nc.gov

Update

1. Operations Update

2. CARES Act and CVMS Support Update

3. HITECH Closeout, Transition to MES Funding

Operations Update

Year in Review – 2020 Highlights

Provider Relations, Outreach & Training:

- Executed 1,100+ Participation Agreements

- Completed 300+ trainings/presentations

Exchange Services:

- Enhanced NC*Notify to include real-time notifications and a user interface to manage notifications via Single Sign On (SSO) from the NC HealthConnex clinical portal

- Completed EHX HUB onboarding; new partners include Atrium Health CareConnect HIE and Oregon Community Health Information Network (OCHIN)

- Completed SSO to the Controlled Substance Reporting System (CSRS)

- Added 10 state ADT connections via Patient Centered Data Home Network, total is 19

- Onboarded Quest and LabCorp to NC HealthConnex

Year in Review – 2020 Highlights

Data Quality & Analytics:

- Migrated data quality dashboard to new analytics environment

- Migrated diabetes registry dashboard to new analytics environment

- Developed revised data target and onboarding materials

- Developed prototype COVID-19 dashboard for real time analysis of statewide impact

State and Federal Initiatives:

- Supported DHHS Division of Public Health with COVID-related data exchange/extracts

- Developed COVID-19 Medicaid dashboard to monitor impact on member population

- Advocated for HIE Act deadline to extend from June 2020 to October 2021, (NCSL 2020-3)

- Approved for additional HITECH 90/10 funds through September 2021

  - Single Sign On with EHRs, USCDI enhancements, data quality initiatives, additional resources

2021 Focus:

Foundational/Operations:

- Provider Outreach & Education
- HITRUST Gap Analysis
- HITECH Closeout
- Advance Care Planning Study
- Information Blocking Compliance
- Research Request Process
- Training Development and Promotion with AHEC
- Data Quality Program
- HIEA Staffing

Notifications:

- Onboarding to NC*Notify V3 and V4
- COVID lab result notifications
- Enhancements to Clinical Intelligence Engine, additional data sources

Exchange:

- Data Connections
- Claims Data
- Use Cases – *Colorectal Cancer Registry, Office Based Opioid Therapy, Lincoln Project*
- EHX Hub onboarding
- Single Sign On Functionality with EHRs

Public Health, Population Health & Analytics:

- Deliver NC EDSS, NC DETECT solutions and provide ongoing support
- COVID Vaccine Management System (CVMS) - pharmacy and health system connectivity, EMPI support
- ELR & NCIR onboarding
- Medicaid COVID-19 dashboard Phase 2
- Data Quality dashboard Phase 2
- Medicaid Quality Program

Public Health Reporting - ELR

Number of Live ELR Interfaces

- 11 Hospitals (all ELR results)
- 2 Reference Labs (COVID-19 results only)

Number of Hospitals Active Onboarding

- 4 Hospitals/Health Systems Onboarding
  - Harnett Health – late-stage (2 locations)
  - Caromont Health – mid-stage (2 locations)
  - FirstHealth of the Carolinas - early stage (4 locations)
  - Onslow Memorial Hospital – early stage

Number of Health Departments Active Onboarding

- Guilford County Health Department (All Reportables)
- Forsyth County Health Department (COVID-19 Only)

HHS Announces New Laboratory Data Reporting Guidance for COVID-19 Testing (June 4, 2020)
Guidance: https://www.hhs.gov/sites/default/files/covid-19-laboratory-data-reporting-guidance.pdf
FAQ: https://www.hhs.gov/sites/default/files/laboratory-data-reporting-for-covid-19-testing-faqs.pdf

NC HealthConnex
Powering Health Care Outcomes

Public Health Reporting – NC Immunization Registry

Number of Live Practices	• 60 Live Practices • 6 additional scheduled for January 2021

Number of EHRs OnBoarding	• 5 EHRs Onboarding
	   • Epic - Cone Health – technical readiness
	   • eClinicalWorks – technical testing
	   • Indian Health Services – technical readiness
	   • Epic – FirstHealth – technical readiness
	   • Henry Schein – technical readiness

Practices interested in connecting to NCIR via NC HealthConnex passthrough	• 2,445 provider practices have expressed interest in utilizing the NC HealthConnex passthrough…
	   • 1,970 of these are mandated to connect to HIEA
	   • 475 of these are voluntary connections

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Diabetes Registry Enrollment

832 Participant Organizations Enrolled
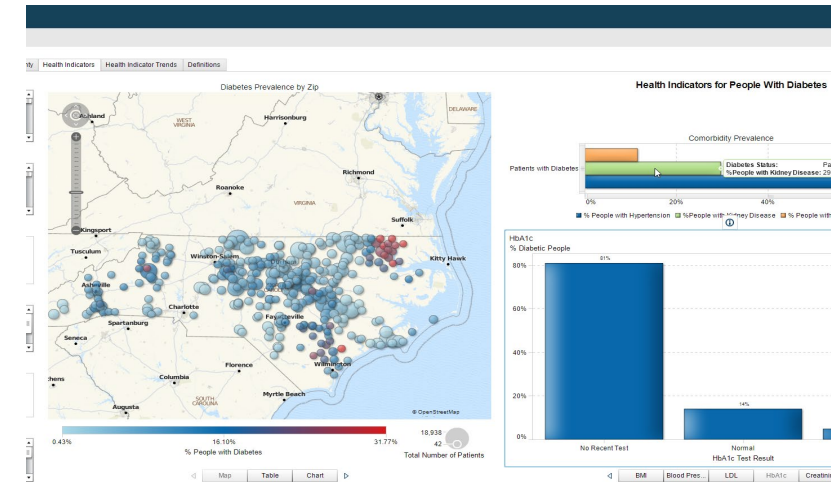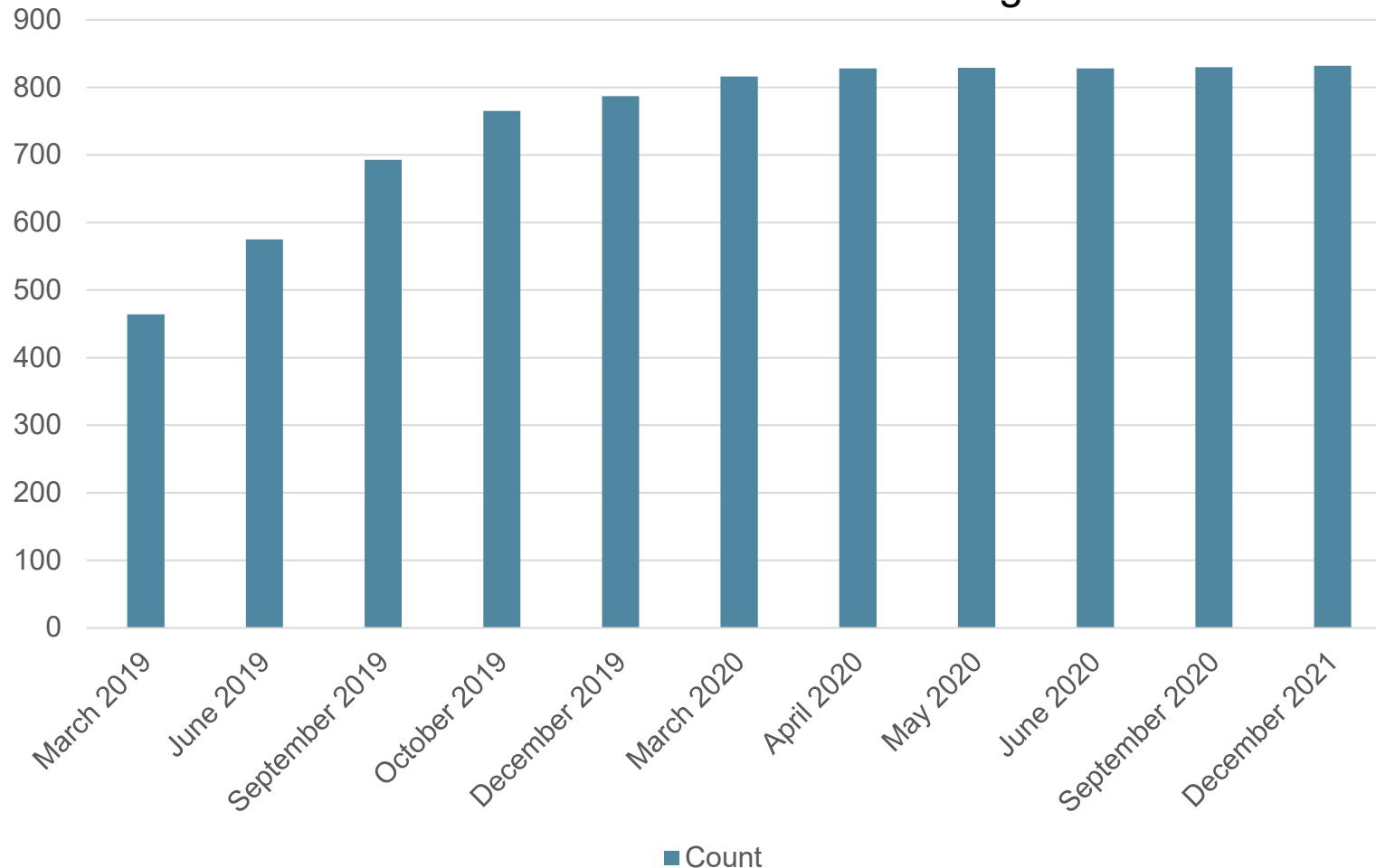
Future Use Cases:

✓ Adding data from the registry to the NC*Notify service

• Develop a summary level dashboard and imbed in Clinical Portal

NC Notify
Event Notifications Powered by
NC HealthConnex

Active Participants	• 118 Participants = ~19,000 providers • 94 live
Number of Patients Monitored	• Roughly 2.5 Million
New Subscribers Enrolled	• 24 New Participants
December 2020 Alerts	• 519,481 Alerts Generated
New Milestones	• Increase in enrollment and migrations are underway • Framework has been completed to provide new COVID alerts to providers • 60+ participants migrated or newly enrolled to V3/V3+ service

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NCNotify

Event Notifications Powered by
NC **HealthConnex**

Emergency department visits were down 42% across the U.S. due to COVID-19, according to data published in the *Morbidity and Mortality Weekly Report* from the U.S. Centers for Disease Control and Prevention.

Event Notifications By Month

Month	Notifications
January	195,469
February	174,094
March	161,960
April	126,718
May	152,105
June	168,051
July	183,128
August	228,719
September	290,680
October	388,511
November	412,181
December	519,481

NC **HealthConnex**
Powering Health Care Outcomes
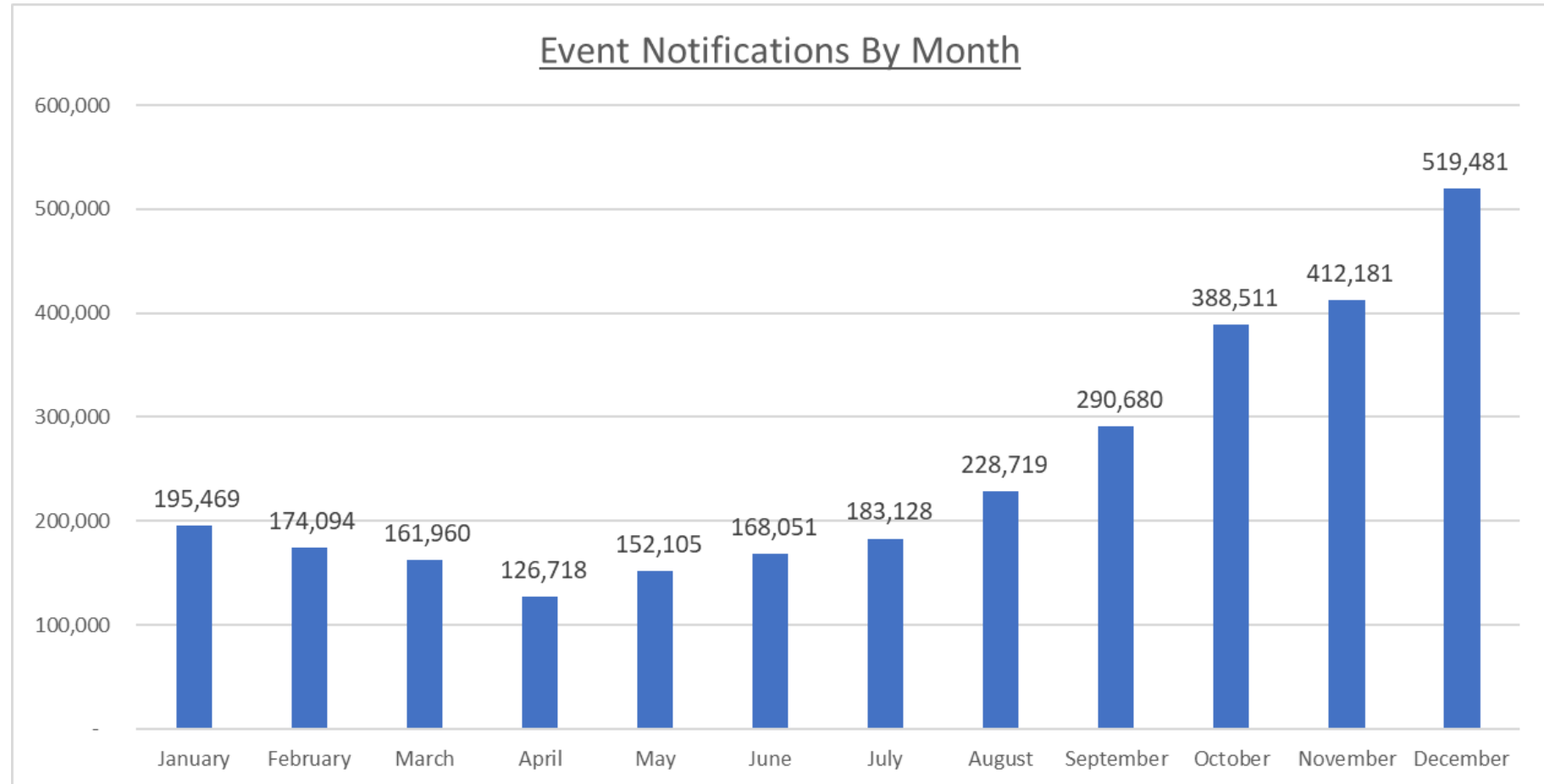
NC Notify — Event Notifications Powered by NC HealthConnex

How it Works

- Patient goes to hospital
- Patient gets X-rays and other tests
- Information about the visit is sent to NC HealthConnex
- The patient's provider is notified in near real time
- Follow up appointment is made with the patient's provider for additional care
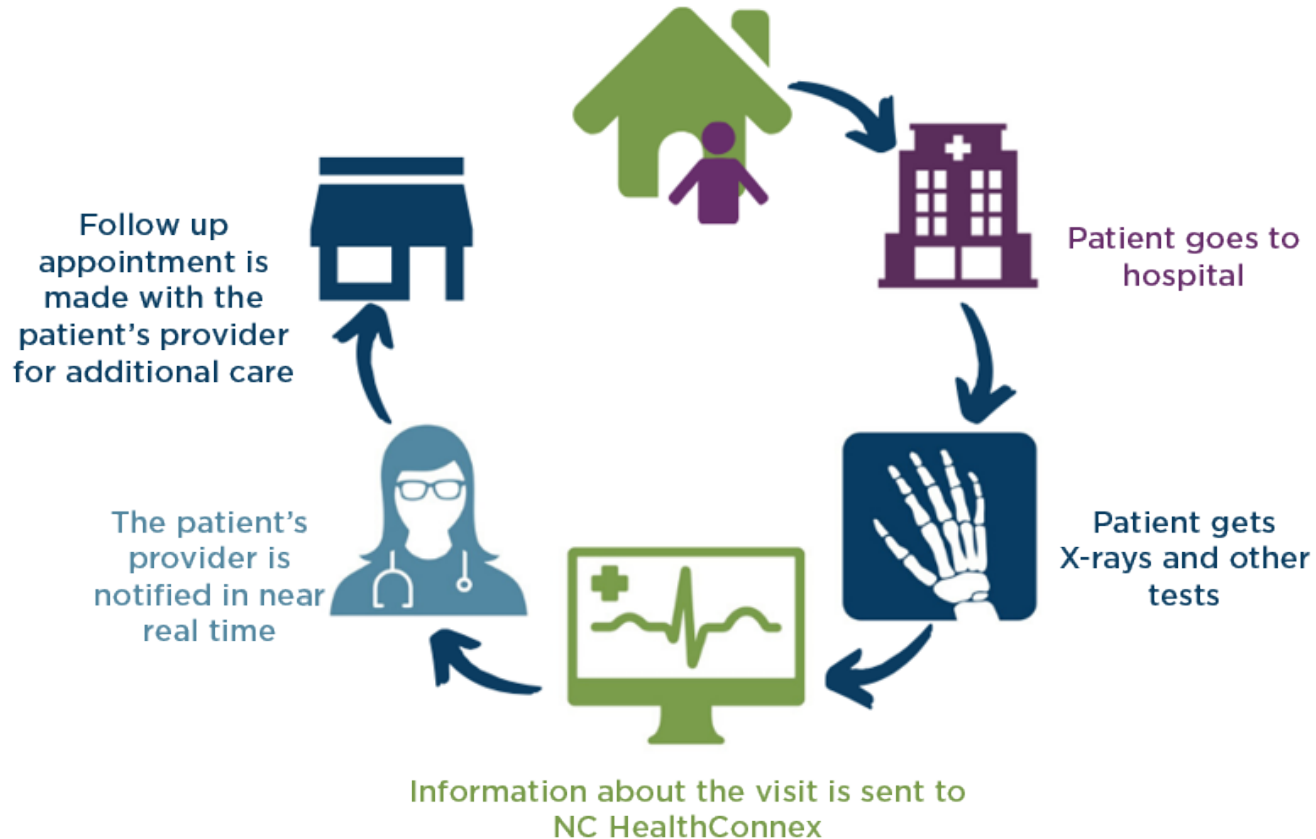
Version 4 Capabilities

- COVID Lab Result Alerts

- Dental Alerts

- Care Team Change

- High Utilizer Alerts

- Diabetes Registry & Pre-Diabetes Alerts

- Place Of Service Enhancements

- Chronic Care Management Alerts

NC HealthConnex — Powering Health Care Outcomes

Medicaid Region	1	2	3	4	5	6
Percentage of Enrollees	15.0%	18.5%	19.0%	19.0%	15.1%	13.2%

"Every morning we print the list and send it over to our nurses to follow up and schedule appointments."

-Family Practice Facility
Dunn, NC

Enrollees by Provider Type

➢ 85% - Primary Care/Pediatrics

➢ 6% - Behavioral Health

➢ 5% - LME/MCOs

➢ 4% - Hospitals

"My nurses use the care coordination bubbles to work the list of events as they come in every day. It helps us to keep track of who needs to be contacted and who doesn't."

-Federally Qualified Health Center
Newly Enrolled V3+ Subscriber

Data Quality Dashboard

Data Target | Data Target Elements by Section | All Data Target Elements

Data Quality-Data Elements Volume - Data Target Elements by Section FRM,GMC

Organization and Date Filters ▾

| Allg | DX | Enc | Family HX | Gnl | Imm | Ins | Med | Prb | Proc | Px | Rslt | Soc HX | Vitals |

‹ Data Elements Percent Populated Section Total Counts ›

Organization ▲	Data Target Element ▲	Updated ▾ 10/25/2020 % Pop	10/18/2020 % Pop	10/11/2020 % Pop	10/04/2020 % Pop	09/27/2020 % Pop	09/20/2020 % Pop	09/13/2020 % Pop	09/06/2020 % Pop
FRM	Allergy Status	31%	37%	5%	14%	53%	23%	34%	13%
	Code	49%	4%	44%	39%	3%	51%	50%	33%
	Code Description	21%	49%	29%	26%	19%	50%	48%	1%
	Code System Name	48%	9%	48%	38%	41%	37%	31%	35%
	DateTime of Observation	0%	53%	17%	52%	20%	22%	17%	42%
	Organization Entered At	43%	32%	48%	53%	51%	32%	49%	47%
	Severity Display Name	47%	33%	22%	14%	35%	15%	4%	47%
	Time High of Allergy	17%	48%	20%	15%	50%	9%	50%	2%
	Time Low of Allergy	53%	10%	27%	23%	9%	53%	31%	38%
GMC	Allergy Category	17%	3%	53%	52%	38%	52%	5%	54%
	Allergy Reaction Display Name	52%	50%	24%	52%	9%	48%	6%	41%
	Allergy Status	48%	2%	1%	17%	6%	43%	46%	34%

Section
- ☑ Allergy
- ☐ Diagnosis
- ☐ Encounter
- ☐ Family History

Data Target Element
- ☑ Allergy-Allergy Category
- ☐ Allergy-Allergy Reaction Display Name
- ☐ Allergy-Allergy Status
- ☐ Allergy-Code

Percent Populated by Updated Date and Data Target Element

Organization
% Pop

Updated

—●— Section-Data Target Element

NC HIEA & NC AHEC Online Training Modules

We are pleased to announce that seven Video Modules have
been produced (an additional three since last report).

1. NC HealthConnex Overview
2. Unpacking the Welcome Packet
3. PAA (Participant Account Administrator) Role and
   Responsibilities
4. Clinical Portal Overview
5. Direct Secure Messaging
6. Patient Education
7. NC*Notify

These Modules are linked to our website; they require registration
to gain access and will launch a satisfaction survey upon
completion. One additional Module is in production.

*Participants can register here for Module 1, NC HealthConnex Overview. Registration is required to receive
the link to Module 1. This training will last approximately 12 minutes.*

Overview Trainings:
How to Connect
Conference Presentation
Welcome Package
NC HealthConnex Overview

Clinical Portal Trainings:
Credentialing
Clinical Portal
Comprehensive Training and Portal Demo
Portal Demo

Value-Added Features Trainings:
Teletown Hall
NC*Notify
Diabetes Registry
DSM/Provider Directory
NCIR

https://hiea.nc.gov/providers/training-resources/nc-hiea-ahec-resources

Value-Added Features Trainings
58%

Overview Trainings
11%

Clinical Portal Trainings
31%
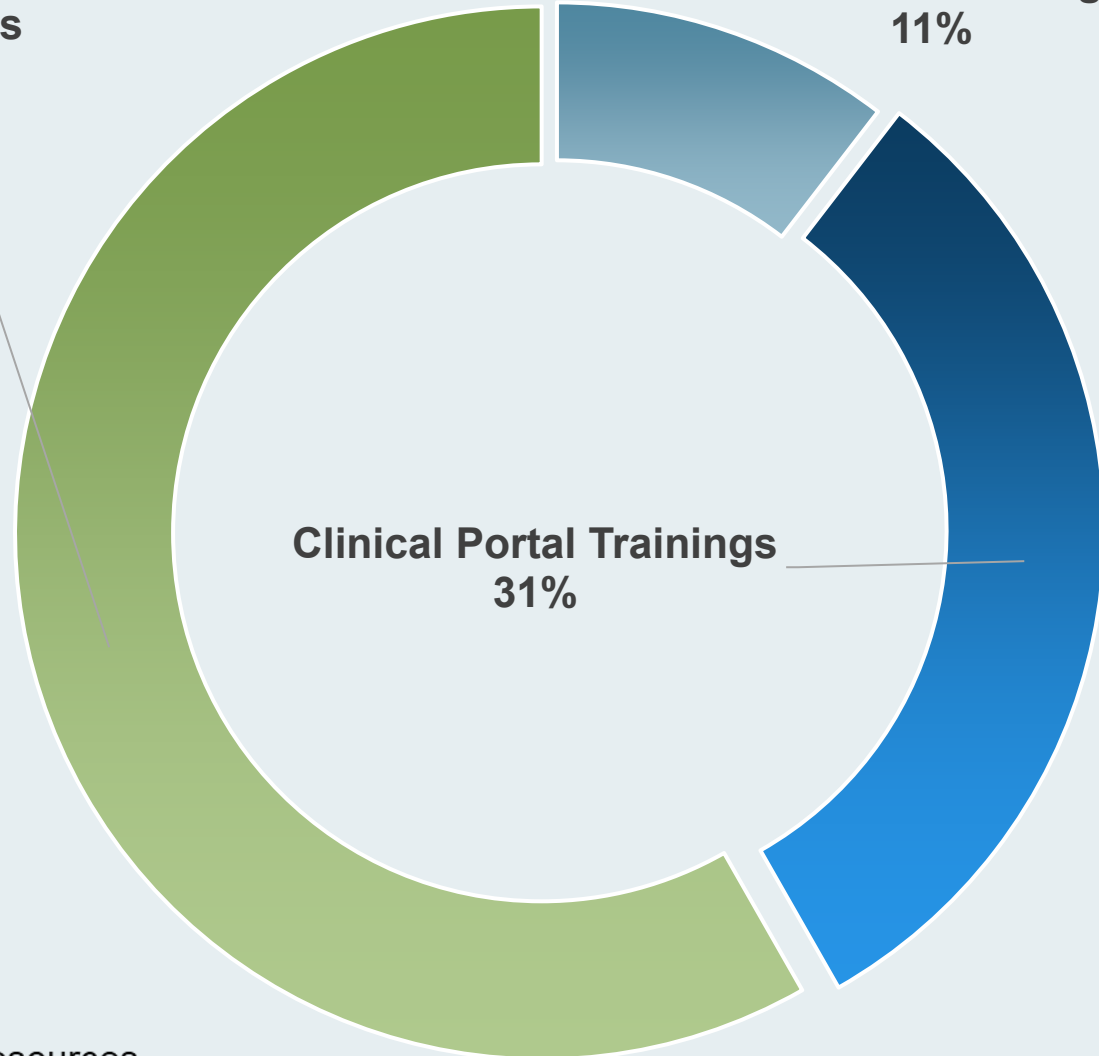
CARES Act & CVMS Update

COVID Focus Areas

NC HealthConnex is supporting the public health response in partnership with the DHHS Division of Public Health as well as working on behalf of its participant and stakeholder communities to provide access to COVID-19 data from NC DHHS.
This work is broken into four key focus areas:

DHHS Data Sharing

- Longitudinal Data on Positive Patients (NC EDDS)
- Statewide Disease Surveillance (NC DETECT)
- Vaccine Administration (CVMS Support)

COVID-19 Data Delivery

- NC*Notify COVID Positive Alerts
- NC*Notify Lab Result Routing

NC Medicaid Tools

- Enhanced Cohort Monitor
- COVID Dashboard

Analytic Insights

- COVID Long Term Care Risk Analysis
- NC HIEA COVID Dashboard

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DHHS Data Sharing – COVID Vaccine

Use Case: Providing NC DHHS with vaccine administration data from points of care

Stakeholders: NC Department of Public Health

Timeline: Q1 & 2 2021

- Receiving vaccine administration data and sending to NC CVMS system
    - CVS and Walgreens (long-term care)
    - Hospitals and Health Systems

- Enhancement of vaccine data by matching against NC HealthConnex master patient index

- Interim reporting of aggregate vaccine numbers to NC DHHS

- Long-term EHR integrations to support reporting and point of care use cases

DHHS Data Sharing - COVID Labs

Use Case: Providing NC DHHS with additional demographic and clinical data for COVID-19 positives

Stakeholders: NC Department of Public Health

Timeline: Phase 1 Live; Phase 2 in Q1 2021

- 5.6M records received for processing as of January (initial file set)

- Records will be matched against NC HealthConnex master patient index

- Enhancing match process and resulting demographics with GDAC enterprise entity resolution

  - Phase 1 pilot completed (100 records); Phase 2 will operationalize this enhancement

Resulting Data Set

1. Enhanced demographics
2. Encounters
3. Results
4. Medications
5. Procedures

Statewide Disease Surveillance

Use Case: Expanding NC DETECT data sources to ensure more complete coverage of the state

Stakeholders: NC Department of Public Health

Timeline: Initial file 9/30; Daily files Q4 2020

Extracts will be provided from the HIE on a recurring basis including key data:

- Encounters
- Procedures
- Diagnosis
- Observations
- Medications
- Immunizations

Current data feeds monitored

- Emergency department
- Poison control
- Emergency Medical Services (EMS)
- Urgent Care (limited)

https://ncdetect.org/

NC HealthConnex additions

- Ambulatory/Outpatient Clinics
- Local Health Department/FQHC
- Hospital/Health System (non-emergency)
- Urgent Care
- Specialists

COVID Long Term Care Risk Analysis

Use Case: Risk-based modeling for predicting outbreaks at long-term care facilities

Stakeholders: NC DHHS*

Timeline: September 2020

* Pilot program

Uses several public and NC specific data sets

- County-level disease data
- NC DHHS outbreak data
- Regulatory data from CMS
- CDC data for COVID and PPE

- Risk model originally developed by SAS for CMS; tuned to county level inputs.

- Assists in containment of COVID-19 cases and prioritizing public health interventions.

- Report includes key outputs from the model:

  - Composite risk score for each long-term care facility (Skilled nursing)

    - Probability of having breakout vs. not having

COVID Data Delivery

Use Case: Distribution of COVID-19 data to Providers for patient care

Stakeholders: Provider Community

Timeline: Rolling implementation in Q1 2021

- Development complete to incorporate lab results into the clinical record/Notify service completed in December
- Communication to participants of this service is underway
- This solution will utilize enhanced patient matching; expected go-live next two weeks
- Anticipate onboarding to begin next four weeks

Lab Result Routing

- All COVID results reported to DHHS
- Panel-based alerting for attribution
  - Provided by subscriber or auto-attribution
- Available via Notify portal, flat-file, or HL7

NOTE: Version 3 of the service offers two tiers (v3/v3+) tailored to needs of Participants. V3+ is delivered in partnership with Audacious Inquiry to offer web-based NC*Notify portal (SSO from Clinical Viewer) for viewing alerts and uploading panels. This tier is the focus of new functionality and features for long term growth of the service.

NC Medicaid COVID Dashboard

NCDHHS
NC Medicaid
Division of Health Benefits

Use Case: NC Medicaid needs to understand impacts of COVID-19 on the Medicaid population

Stakeholders: NC Department of Health Benefits

Timeline: Phase 1 - July 2020; Phase 2 - Q4 2020

Phase 1

- Tracking cases with HIE cohort monitor
- Population filtered by Medicaid global eligibility file
- Geographic, Facility, and comorbidity detailed views
- Comparison of HIE full population to Medicaid

Phase 2 Dashboard Enhancements:

- Weekly processing of the eligibility file for changes in data
- Stratification of patients receiving telehealth
- Medicaid program, eligibility, disability and living arrangement flags
- Additional cohorts for outcomes – extended, recovered, deaths (HIE)
- Expansion of comorbidities/patient attributes such as smoking and depression
- Date Range Slider to locate COVID-19 hotspots over time
- Path Analysis of patient movement among cohorts over time

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HITECH Close Out

Health information Technology for Economic and Clinical Health (HITECH)
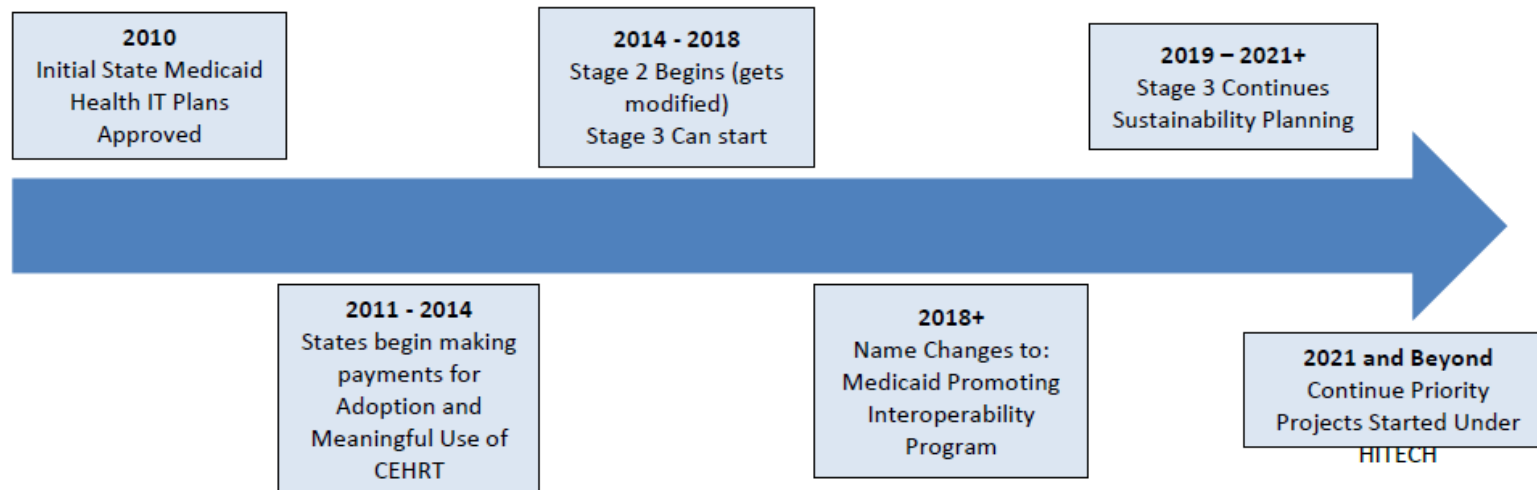# vs
Medicaid Enterprise System (MES)

Next Step Transition Activities:
1. Identify outcomes/metrics and send to CMS for review for System/Services Certification
2. Cost Allocation
3. Operational Advanced Planning Document (OAPD)

MEDICAID EHR TEAM
ANALYSIS, TRAINING & TECHNICAL ASSISTANCE

Sustaining HITECH Initiatives

Purpose: The passage of the Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009 facilitated a dynamic shift away from a paper-based to digital healthcare system, and State Medicaid Agencies (SMAs) have been at the forefront of this transition. The SMAs have administered the Medicaid Electronic Health Record Incentive Program, now known as the Promoting Interoperability Program, which has distributed billions of dollars to eligible providers for the adoption and meaningful use of Certified Electronic Health Record Technology (CEHRT). SMAs have also leveraged federally enhanced HITECH funds to support state health information technology (HIT) initiatives related to secure electronic exchange of health information, electronic clinical quality measure reporting, enhancements to Public Health systems, as well as many others. However, the enhanced HITECH funding is only available through 2021, with exception of activities necessary to close out the Promoting Interoperability incentive program. CMS is encouraging SMAs to plan for ways to continue the projects originally funded through the HITECH Act. This document is intended to assist SMAs in understanding their options to continue to support HIT in the Medicaid program now and post-2021 (see Figure 1 as an overview of timing of major HITECH activities).

Figure 1 - HITECH and Beyond Timeline

| **2010** Initial State Medicaid Health IT Plans Approved | **2014 - 2018** Stage 2 Begins (gets modified) Stage 3 Can start | **2019 – 2021+** Stage 3 Continues Sustainability Planning |

| **2011 - 2014** States begin making payments for Adoption and Meaningful Use of CEHRT | **2018+** Name Changes to: Medicaid Promoting Interoperability Program | **2021 and Beyond** Continue Priority Projects Started Under HITECH |

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HITECH vs MES
Outcomes/Metrics for Outcomes Based
Certification Process (OBC)

- CMS is encouraging states to develop outcomes that are measurable, achievable, support the priorities of the Medicaid program, and that reflect the short-term goals of the MES project.

- In addition to Outcomes, a state should also identify Metrics, which are data providing evidence that outcomes are being met on an ongoing basis.

- All NC HealthConnex services need certification to receive enhanced operations federal financial participation (FFP)
  - ✓ Enhanced operations (FFP) is 75%/25%

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HITECH vs MES
Cost Allocation

- CMS Guidance regarding cost allocation under MES funding:
  - ✓ The HIE must be able to provide data for reasonable proportion to benefit Medicaid.
  - ✓ The HIE must have a required sustainability plan.
  - ✓ The HIE must identify a direct/indirect cost allocation model.

HITECH vs MES
Operational Advance Planning Document
(OAPD)

- An OAPD is submitted annually by a state whose system is not in development/has been certified and is therefore eligible for 75% FFP for ongoing operations.

Eric Myers

Senior Technical Consultant

SAS Institute

Data Connections Update

- Current metrics
  - Connections
  - HIE usage
- Remaining Connection Queue and Approach
- Current Context and Challenges for Connections
- Strategies to Address Challenges
- Other Connection Initiatives for 2021

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Current Statewide Coverage

Medicaid

80% of patients eligible for Medicaid have data in NC HealthConnex
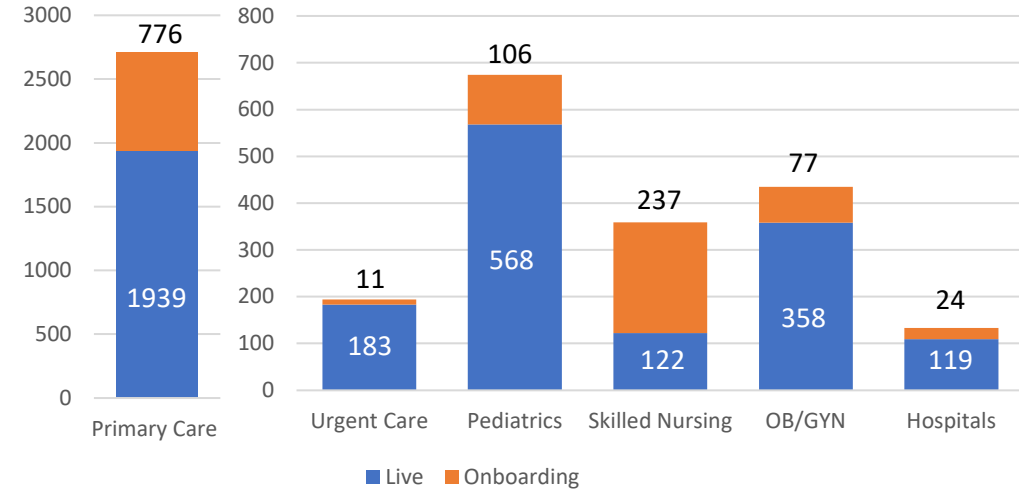
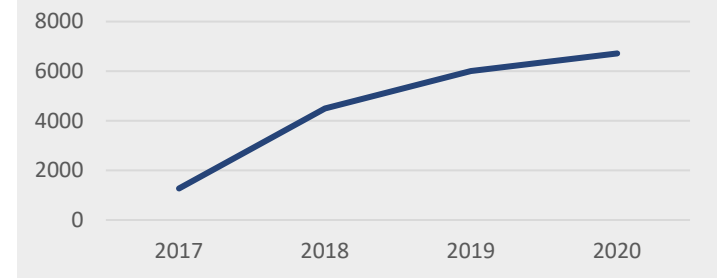|	
Patients eligible for Medicaid as of **December 1, 2020**	2,455,677
Patients found in NC HealthConnex	1,984,055

State Health Plan

86% of State Health Plan members with data in NC HealthConnex

State Health Plan Members as of **November 30, 2020**	573,820
Patients found in NC HealthConnex	493,947

Connecting Core Provider Types

Primary Care: Live 1939, Onboarding 776
Urgent Care: Live 183, Onboarding 11
Pediatrics: Live 568, Onboarding 106
Skilled Nursing: Live 122, Onboarding 237
OB/GYN: Live 358, Onboarding 77
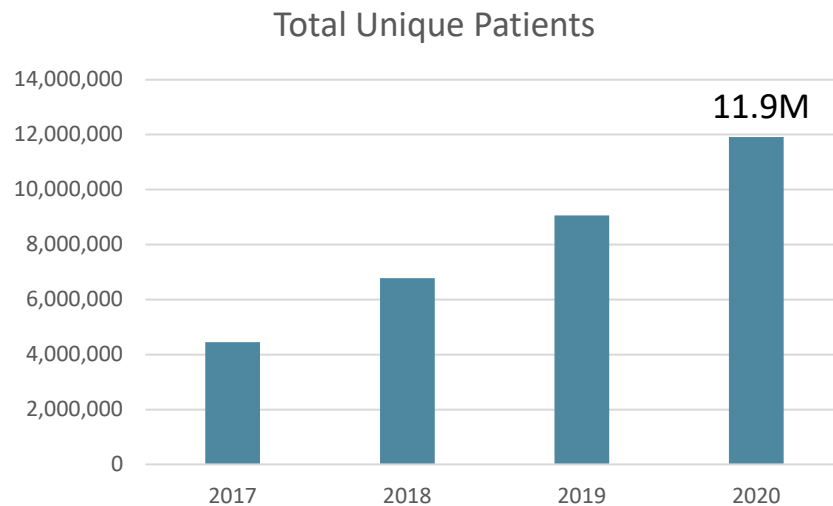Hospitals: Live 119, Onboarding 24

■ Live ■ Onboarding
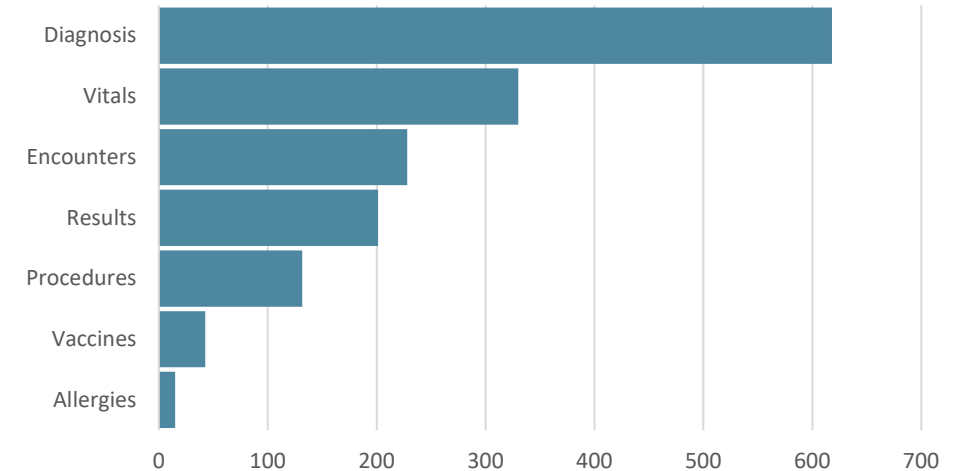
Total Facilities Connected

Clinical Data Volumes

In the first full year on the modern HIE platform, NC HealthConnex has supported an explosive growth in data received and exchanged. Total patient records have **increased 40% per year** since 2017. The HIE is nearing the 1M messages per day mark.
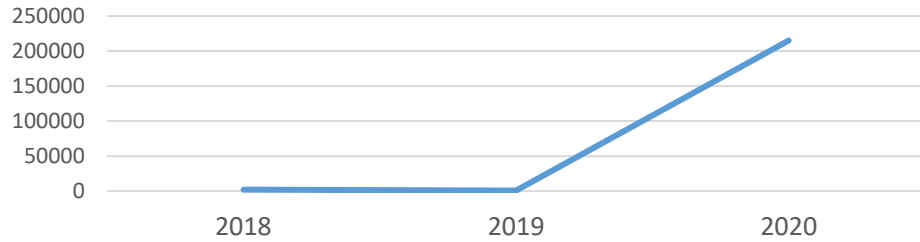
Data Received (Millions of Records)

Total Unique Patients

11.9M

Daily inbound messages: 909k
- 156k CCDs
- 753k HL7

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HIE Brokered Data Exchange

Monthly Traffic with eHealth Partners

	2018	**2019**	**2020**
Documents Sent	0	487	868
Documents Received	345	170	214,683

Monthly Direct Secure Messages (DSM) Exchanged
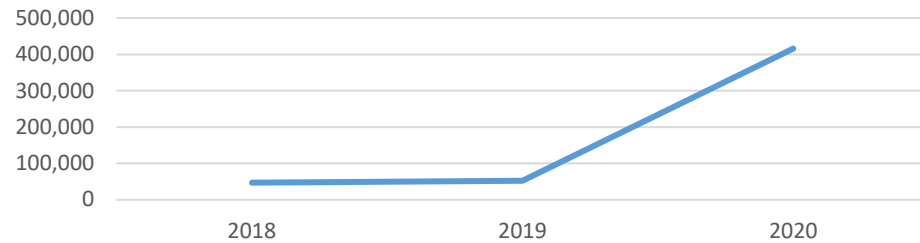
	2018	**2019**	**2020**
Total	47k	52k	416k

*SHIEC Patient centered data home (PCDH) also enables cross-HIE data sharing and averages **13k ADT messages per month** to/from NC HealthConnex.
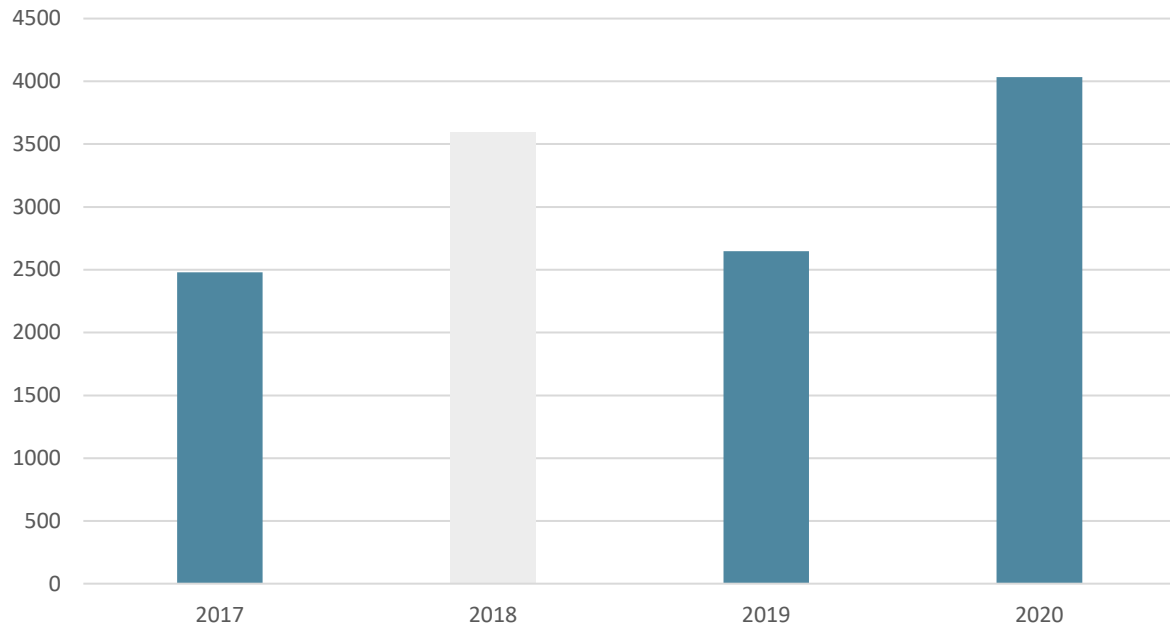
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HIE Clinical Portal Usage

Key Stats:
- 4,035 Active portal accounts
- 3,258 logins to the portal in December 2020

Total Portal Accounts

NOTE: 2018-19 marked Orion platform transition

Monthly Logins (Dec)
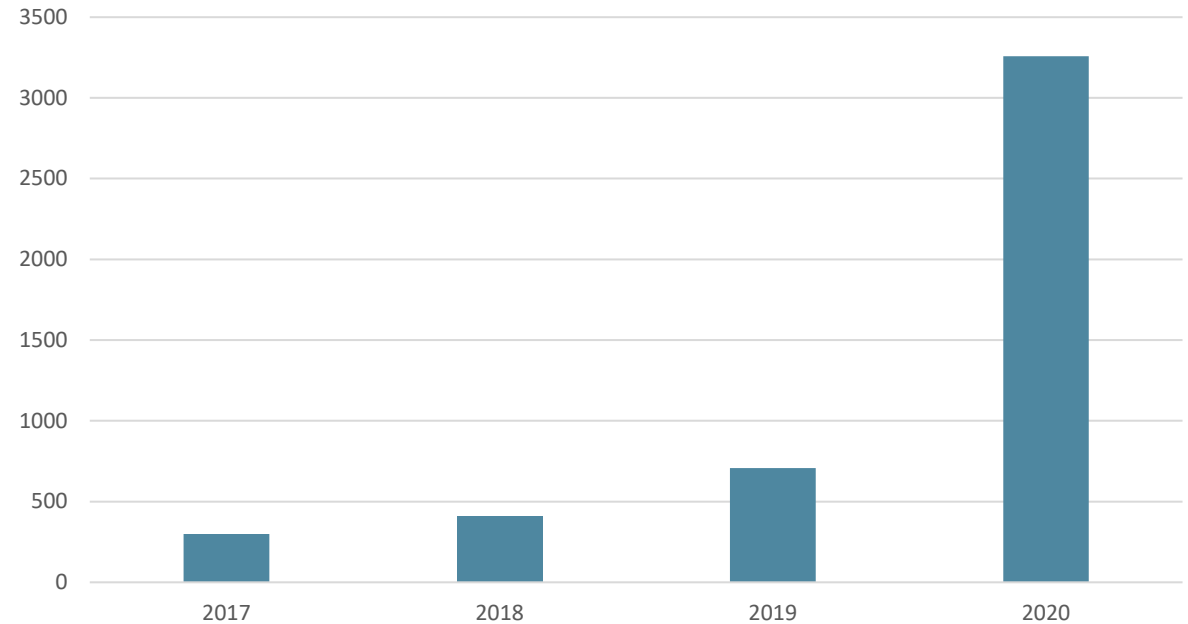
Highlights:
- 6 of the 10 top portal users in December were local HDs
- 360% increase in logins from 2019 – 2020
- In 2020 over 4M documents were directly queried via EHRs
- Expecting additional increases with EHR/SSO initiatives

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Connection Phases for October 2021 Deadline

1. Participants with an original mandate of June 1, 2018
   - Primary care, OB/GYN, specialists, hospitals, urgent care, skilled nursing, etc.
   - Target completion of April 2021

2. Participants with an earlier mandate of June 1, 2020
   - Behavioral Health
   - Target completion of June 2021

3. Participants with an earlier mandate of June 1, 2020
   - Chiropractors and Participants without EHR technology
   - Target completion of July 2021
     - Outreach has been made to require technology by January 2021

4. Participants with an earlier mandate June 1, 2021
   - Dentists, pharmacists, PHP, LME/MCO, DHHS-operated facilities, ambulatory surgical centers
   - Target completion of August 2021

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Phase 1 Deep Dive

Payer and Connection Types			
	Medicaid	SHP	Total
New Connections	163	17	180
Roll-ons	633	52	685
Total Phase 1	**795**	**69**	**865**

Average Timeline
- New Connection: 4+ months
- Roll-ons: < 1 month

Development Progress

236	389	240
Pre-Dev	Development	Complete
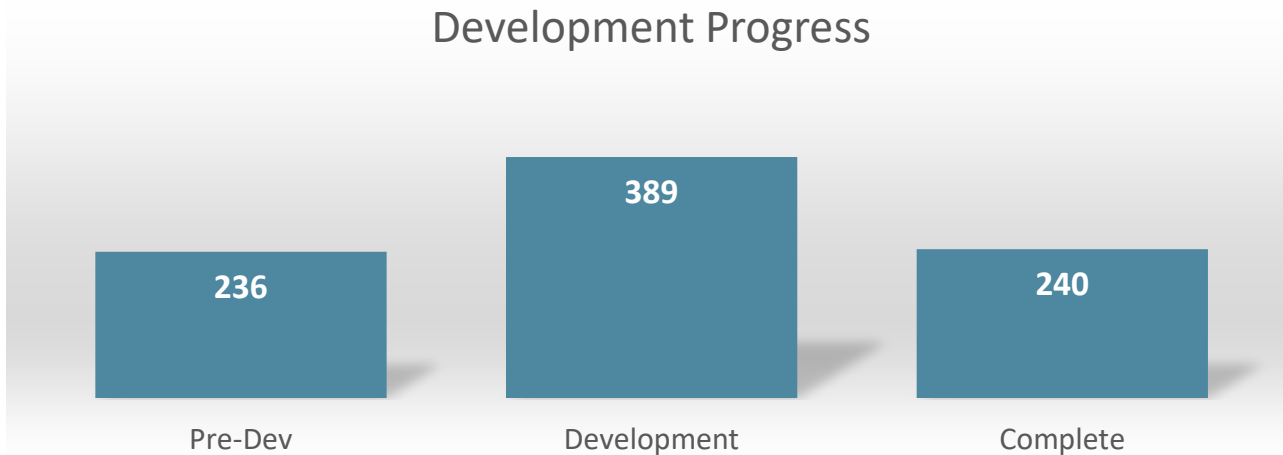
Pre-Development Statuses:
- Waiting on EHR (34)
- Participant Delay (172)
  - *EHR Contract; COVID; Cost;*
- Other (30)

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Phases 2 and Beyond

Phase 2 – Behavioral Health			
	Medicaid	SHP	Total
New Connections	30	3	33
Roll-ons	553	528	1081
Total	**583**	**531**	**1114**

Phase 3 – Chiropractors			
	Medicaid	SHP	Total
New Connections	24	12	36
Roll-ons	182	421	603
Total	**206**	**433**	**639**

Phase 2 and 3 Strategies:
- New connections are significantly less than phase 1
  - Significantly more EHR consolidation in these markets
- Revised data target to increase connection velocity
- Data aggregators can be heavily utilized in phase 2
- Initial outreach has been made to all new EHRs

Phase 4 takeaways:
- Payer onboarding packet in review
- Pharmacy stakeholder groups engaged
- Major dental EHRs are in discussions (e.g. Dentrix)

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Connection Context and Challenges

- COVID-19 pandemic has caused delays on EHRs and Participants

- Continued mandate extensions have lessened the urgency of the Participants to connect

- Financial burden
  - EHR costs to connect
  - Monthly EHR maintenance fees (Participants are delaying connection to reduce it)
    NOTE: Participants are considering dropping Medicaid and State Health Plan to avoid connection costs

- Federal funding deadlines do not align with mandate extensions for some Participants, leading to potential funding gap

- EHR delays
  - Conflicting development lifecycle/roadmap for integrations
  - Addressing critical data quality feedback

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Connection Strategies to Address Challenges

- Resource scaling to meet the challenge
  - HIEA
  - SAS
  - Partners

- Improved campaigns to participants
  - Assist the participant with communicating with their EHR
  - Using boots on the ground partners for outreach and advocacy
  - Direct and persistent outreach to both EHR and Participant contact
    - All known EHRs have been contacted

- "First up" - working actively with any participant that has contacted us or that we have contacted that is ready to engage, regardless of the provider type (e.g. Behavioral Health)

- Working with EHR vendors to lessen financial burden to participants

- Utilization of third-party aggregators to engage with Behavioral Health and Chiropractor providers

- Revised data target for non-standard connections

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Other Connection Initiatives for 2021

- USCDI document feeds from hospitals
  - Seeking new connections for supplemental documents (discharge summaries, H&P, result narrative, etc.)

- Data quality enhancements
  - Assessing new and existing feeds against increased data standards (ex: facility/department info)

- EHR single sign-on
  - Working with EHRs to allow SSO into Clinical Portal

- Cross-community document queries
  - Uplift to modern standards for document queries
  - Allows forwarding of eHealth Exchange queries/results + advanced logging/consent

- FHIR data exchange
  - Enabling read-only FHIR resources from NC HealthConnex

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Information Blocking: Update

- Developments
    - Enforcement and Applicability Dates
    - Resources

- NC HIEA Policy Updates:
    - Planned Schedule

- Forecast: Policy and Implementation

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Information Blocking: Developments

ONC Interim Final Rule: Information Blocking and the ONC Health IT Certification Program: Extension of Compliance Dates and Timeframes in Response to the COVID-19 Public Health Emergency

Applicability Date moved from November 2, 2020, to April 5, 2021
- "Actors" now subject to information blocking provisions beginning that date

Enforcement of information blocking provisions:
- HHS Office of the Inspector General is currently engaged in rulemaking to establish enforcement dates for, among others, health information networks/HIEs
- No enforcement for actions before April 5, 2021

New(er) Resources:
- ONC Information Blocking FAQs: available [online](#).
- ONC webinar regarding Interim Final Rule: available [online](#).

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Information Blocking: NC HIEA Developments

Anticipated Schedule for Policy Revisions:

February 15, 2021: Called meeting from 2:00-3:30 p.m.
- Provision of draft updates to NC HIEA Policies
    - Privacy and Security Policies
    - User Access Policy
-In weeks following meeting:
    - Informal collection of feedback from Advisory Board members and stakeholders
    - NC HIEA to review and incorporate revisions, as needed

March 3: 2021: Regularly scheduled quarterly Advisory Board meeting
- Presentation of revised policies
- Further consultation with Advisory Board

March 4 or 5, 2021: HIEA notification to all Participants (per Participation Agreements)

April 5, 2021: Effective date of new NC HealthConnex policies

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Information Blocking: NC HIEA Forecast

Policy Considerations:
- Articulate commitment to information sharing
- Identify new policies that may serve as basis for invoking exceptions, as needed
    - Harm Prevention, Privacy, Security, Infeasibility, IT Performance, Content & Manner, Fees, Licensing
- Harmonization with North Carolina State Security Manual
- Balancing data stewardship considerations with patient right-of-access

Implementation Considerations:
- Processes for receiving, evaluating, and fulfilling/denying requests (with necessary documentation)
- Legislative request from the NC HIEA for funds to support implementation
- Train personnel
- Authentication process for requestors
- Workflows to receive and address potential complaints
- Integration of new implementation efforts into existing compliance functions
- Memorialize procedures
- Technical infrastructure to fulfill requests
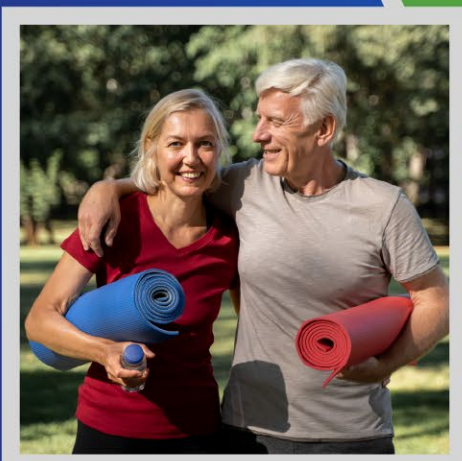
NC HIEA Board Meeting

State Health Plan Response

January 13, 2021

Current Status of State Health Plan (Plan)

► Recognition that no single source of truth exists in the State as to who must connect.
  ► NC HIE tracks connections at the facility level, such as a hospital or office.
  ► DHHS is tracking those who request a Hardship Extension.

► Plan claims are paid at the provider level not at the facility level.

► Current statute mandates that no State dollars be expended to a provider who is not connected to the HIE; therefore, any claims incurred by a Plan member with an unconnected provider, must be paid solely by that member.

► Blue Cross NC, the Plan's Third Party Administrator, indicates that they WILL follow the law and not process claims for providers not connected to the HIE.

► As the State continues to move toward significant HIE connection, it must be recognized that it will be members of the Plan – state employees and retirees – who will be detrimentally impacted if a provider is not connected to the HIE.

North Carolina
State Health Plan
FOR TEACHERS AND STATE EMPLOYEES
A Division of the Department of State Treasurer

STATE TREASURER OF NORTH CAROLINA
DALE R. FOLWELL, CPA