NORTH CAROLINA HEALTH INFORMATION EXCHANGE AUTHORITY

North Carolina Diabetes Advisory Council Meeting

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NC Health Information Exchange Authority
We connect health care providers to safely and securely share health information through a trusted network to improve health care quality and outcomes for North Carolinians.
The Vision for Connectivity

North Carolina set out a vision to create communities of connected health care providers electronically across the state.

- Allow providers to view their patients’ longitudinal health record in real-time
- Improve health care quality, enhance patient safety, improve health outcomes
- Consolidate data reporting requirements across the state to ease administrative burden and create efficiencies by eliminating duplicative data integrations
- Create outbound services to give providers insight to their at risk patient population
What Does the Law Mandate?

Hospitals as defined by G.S. 131E-176(3), doctors (licensed to practice under Article 1 of Chapter 90 of the General Statutes), and mid-level practitioners who provide Medicaid services and who have an electronic health record were required to connect by June 1, 2018.

All other providers of Medicaid and state-funded services shall connect by June 1, 2019 except:

• Dentists and ambulatory surgical centers are required to submit clinical and demographic data by June 1, 2021
• Pharmacies are required to submit claims data pertaining to State services once per day by June 1, 2021 using pharmacy industry standardized formats
A Health Information Exchange (HIE) is a secure, electronic network that gives authorized health care providers the ability to access and share health-related information across a statewide information highway.
What are the clinical benefits of an HIE?

- A full “picture” of a person’s health, including visits, hospitalizations and medications
- Improved, more accurate and timely medication reconciliation that reduces errors and avoids unnecessary tests
- Instant access to a full panel of test results, reducing errors and gaps in treatment
How Does Health Information Exchange Work?

**Elements Available**
Current data elements available in NC HealthConnex include: Allergies, Encounters, Immunizations, Medications, Problems, Procedures, Results

**Security in Place**
All data is protected, stored and accessed only for purposes permissible under federal and state law.
## What Data Elements Will You Need to Submit?

**The NC HealthConnex Data Target**

*We aim to collect all Meaningful Use Data Elements*

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient ID</td>
<td></td>
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<tr>
<td>Name</td>
<td></td>
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<tr>
<td>Date of Birth</td>
<td></td>
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<tr>
<td>Address/Phone</td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
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<tr>
<td>Race/Ethnicity</td>
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<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Date of Visit</td>
<td></td>
</tr>
<tr>
<td>Visit Number</td>
<td></td>
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<tr>
<td>Reason for Visit</td>
<td></td>
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<tr>
<td>Level of Care</td>
<td></td>
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<tr>
<td>Visit Location</td>
<td></td>
</tr>
<tr>
<td>Care Team Members</td>
<td></td>
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<tr>
<td>Vital signs (height, weight, BP, BMI)</td>
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<tr>
<td>Immunization</td>
<td></td>
</tr>
<tr>
<td>Referrals</td>
<td></td>
</tr>
<tr>
<td>Care plan field(s), including goals and instructions</td>
<td></td>
</tr>
<tr>
<td>Problems</td>
<td></td>
</tr>
<tr>
<td>Medication Allergies</td>
<td></td>
</tr>
<tr>
<td>Medications</td>
<td></td>
</tr>
<tr>
<td>Laboratory Test(s)</td>
<td></td>
</tr>
<tr>
<td>Laboratory Value(s)/Result(s)</td>
<td></td>
</tr>
<tr>
<td>Smoking Status</td>
<td></td>
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<tr>
<td>Discharge Summary</td>
<td></td>
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<tr>
<td>Procedures</td>
<td></td>
</tr>
</tbody>
</table>

*NC HealthConnex*

*Powering Health Care Outcomes*
### Significant Progress

<table>
<thead>
<tr>
<th>Number of Connected Facilities</th>
<th>Spring 2016</th>
<th>Spring 2017</th>
<th>Summer 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>108 Facilities</td>
<td>877 Facilities</td>
<td>4,500+ Facilities</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Facilities in the Onboarding Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
</tr>
<tr>
<td>158 Facilities</td>
</tr>
</tbody>
</table>
How Do Providers Meet the Mandate?

There are two steps to determine a practice’s readiness for connection.

1. Does your practice have an EHR that can send CCD or HL7 messages?
   - **Technology in Place:** The NC HIEA Participation Agreement requests EHRs that are minimally capable of sending HL7 messages, version 2 and higher.

2. Does your practice have a Participation Agreement in place?
   - **The Participation Agreement** is the document that governs the exchange of data between the practice and NC HealthConnex. This contract must be in place before the technical build can begin. Participation Agreements are linked on our website for providers to download, sign and return.
NC HealthConnex Participation Agreement

The contract governing data sharing between the NC HIEA and Health Care Organization

Log on to: nchealthconnex.gov/how-to-connect

✓ Complete the Participation Agreement
✓ Submit to hiea@nc.gov
How Do Providers Connect: The Participation Agreement

Attachment 2
Participant Staff Contact Information

Please provide contact information for the following staff members at your organization. Each field must be filled even if one person occupies more than one role. All fields must be completed or the processing of your Participation Agreement will be delayed.

Participant Account Administrator
Staff member who will be the point of contact for the NC HIEA for communications and credentialing NC HealthConnect users in your organization.
Name:
Position Title:
Email Address:
Phone Number:
Mailing Address:

Technical Services Contact
Staff member who will work with our technology vendor to build a connection from your organization to NC HealthConnect.
Name:
Position Title:
Email Address:
Phone Number:
Once a Participation Agreement (PA) is signed by a health care provider, Patient Education materials are provided to that organization via email, which includes a sample Notice of Privacy Practices.

Providers and patients also have easy access to Patient-Opt out materials on the NC HealthConnex website.

Providers generally have around 3 months after they sign a PA before they are connected to NC HealthConnex. Providers can use this time to educate their patients about the new relationship between your practice and NC HealthConnex.

All NC HIEA Policies are posted on our website, nchealthconnex.gov.
Privacy and Security

- Privacy and Security Policies
- Highest security standards as set by federal and state law
- HIPAA regulations and state law
- HITECH Act
- Regular monitoring and audits
- Data Encryption via Direct Secure Messaging
Suite of Services

**Exchange**
Flexible Delivery
Custom delivery methods integrate into varied provider workflows

**Notify**
NC*Notify
Notifies providers as their patients receive services across the care continuum

**Communicate**
Direct Secure Message
Connection with other providers by sending and receiving secure, encrypted messages.

**Connect**
Provider Directory
More than 21,000 secure messaging addresses of health care providers

**Contribute**
Public Health Reporting
Diabetes Public Health Registry and NC Immunization Registry (help providers meet MU/MIPS)
• Partnership between the NC DHHS’s DPH and NC HealthConnex.

• Starting June 1, supports attestation for Meaningful Use Stage 3 and Modified Stage 2 for eligible hospitals, eligible critical access hospitals, and eligible professionals as well as Medicare Quality Payment Program Advancing Care Information for eligible clinicians.

• Also includes a subscription based service for Participants where detail clinical data is provided based on a list of Participant’s Patients.

• Currently evaluating other clinical registries beyond Diabetes.
Diabetes Disease Registry

NC DHHS’s DPH regularly receives data and visualizations used for tracking the clinical care and outcomes of the patient population in North Carolina diagnosed with or presenting signs or symptoms of Diabetes.

This information is used to:
✓ Identify where there may be geographic areas and/or other populations that would benefit from public health programs
✓ Augment other Public Health data sources with de-identified clinical information about patients with Diabetes
Diabetes Prevalence by County - View of the diabetic population in each county. Users can filter the diabetic population using demographic filters on the left. Patients are displayed on a map based on their most recent home address. Data is also displayed in a table which is sorted by county name. Information in this table includes the county name, the total number of patients who have data in NC Health Connex, as well as the percentage of all patients with data in NC HealthConnex with diabetes, kidney disease, hypertension and high cholesterol. The bar chart displays diabetes prevalence for the 10 counties with the highest rates of diabetes.

Health Indicators - Drill down to view details based on your selections on the previous tab. Users can select additional filters on the left and view the number and prevalence of diabetes and the number of diabetic patients by zip code within the county(ies) selected. Patients are displayed on a map, table and bar chart similar to that presented on “Diabetes Prevalence by County.” In addition, this tab displays the percentage of patients that have any of the three comorbidities shown (hypertension, kidney disease, high cholesterol) and the results of their most recent smoking status screening, BMI measurement, blood pressure measurement, LDL test, and Hba1c test. If a patient does not have results for one of the screenings, measurements or tests, they will display as “No Recent Test”.

Health Indicators Trends - This shows the number of patients that during the past year for that quarter have the value set codes to indicated they have diabetes. This trend chart is useful in gauging how many people are in the HE and how many have diabetes as the number of connections and data sources expands.

Definitions - Codes and code systems that were used to define diagnoses, lab results, procedures and vitals for this report.

General Note - When applying filters you may end up at a small population that will not be displayed due to small cell suppression rules. The typical result is that now rows will appear or a value for “all Others” will be presented.
Question of Interest

Let’s assume an organization is developing a targeted intervention for the following type of diabetic patient:

• Non-Hispanic
• Females
• Under the age of 65

How can the NC HealthConnex Diabetes Registry support this question?
Step 1: Filter your data
Step 2: Review data geo-spatially
### Step 3: Review data in the tabular form

#### Prevalence of Common Health Conditions
- **Diabetes**: Total Number of Patients: 112,672, % People with Diabetes: 4.25%
- **Kidney Disease**: Total Number of Patients: 4,790, % People with Kidney Disease: 1.80%
- **Hypertension**: Total Number of Patients: 2,023, % People with Hypertension: 13.38%
- **High Cholesterol**: Total Number of Patients: 15,078, % People with High Cholesterol: 1.76%

#### Table Format

<table>
<thead>
<tr>
<th>County</th>
<th>Total Number of Patients</th>
<th>% People with Diabetes</th>
<th>% People with Kidney Disease</th>
<th>% People with Hypertension</th>
<th>% People with High Cholesterol</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2,890</td>
<td>14%</td>
<td>3.74%</td>
<td>44.19%</td>
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<td>253</td>
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<td>7.14%</td>
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<td>2,020</td>
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<td>1,278</td>
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<td>1.83%</td>
<td>11.49%</td>
<td>3.55%</td>
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<tr>
<td></td>
<td>816</td>
<td>2%</td>
<td>1.95%</td>
<td>16.23%</td>
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<tr>
<td></td>
<td>10,031</td>
<td>3%</td>
<td>1.42%</td>
<td>19.54%</td>
<td>2.96%</td>
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<tr>
<td></td>
<td>2,001</td>
<td>5%</td>
<td>1.00%</td>
<td>20.11%</td>
<td>2.35%</td>
</tr>
<tr>
<td></td>
<td>1,000</td>
<td>0.5%</td>
<td>2.15%</td>
<td>19.76%</td>
<td>1.76%</td>
</tr>
</tbody>
</table>

**Total**: 112,672 with 4.25% having Diabetes, 4,780 with Kidney Disease, 2,023 with Hypertension, 15,078 with High Cholesterol.
Step 4: Review data in chart form
Step 5: Review other prevalent health indicators for this population.
Step 6: Review other prevalent health indicators trends for this population
### Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI Measurement</td>
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</tr>
<tr>
<td>Creatinine Test</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Diabetes Diagnosis</td>
<td>302</td>
<td></td>
</tr>
<tr>
<td>Diastolic BP Measurement</td>
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<tr>
<td>HbA1c Test</td>
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<td></td>
</tr>
<tr>
<td>Height Measurement</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Hypercholesterolemia Diagnosis</td>
<td></td>
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</tr>
</tbody>
</table>

### Definitions

These are the codes that we used to define disease diagnoses, lab results, procedures, and vital information from the NC Health Connex.

They are derived from the Value Set Authority Center, which is provided by the National Library of Medicine.

https://vsnac.nlm.nih.gov/

To create the Diabetes registry, the following logic is used:

For diagnoses (diabetes, hypertension, hypercholesterolemia, kidney condition) the patient care records are searched for the earliest diagnosis, as defined by the code definitions shown to the right.

For lab results (creatinine, hba1c, ldl) the patient care records are searched for the latest test results, using the code definitions shown to the right.

For procedures (eye exam, foot exam) the patient care records are searched for the most recent procedures, using the code definitions shown to the right.

For vital signs (glu, height, weight, diastolic blood pressure, systolic blood pressure) the patient care records are searched for the latest vital information, using the code definitions shown to the right.

Excel files of definitions can be downloaded here.
What are some of NC HealthConnex Participants’ challenges?

• Knowing where their patients receive care outside of their Organization or EHR

• Limited patient search capabilities in the clinical portal -- Finding events in the HIE requires the Provider explicitly search for a Patient

• Ensuring and supporting successful transitions of care if they are not notified of events in a timely manner
Step 1
Participant Submits Patient File for NC HealthConnex to Monitor

Technical Details
- Flat file with patient demographics
- Sent via sFTP

Step 2
Other Participants Submit Admission & Discharge Messages (ADT)

Step 3
Participant Receives Notification File

Technical Details
- Flat file with patient demographics and visit details
- Sent via sFTP
- Participant defines delivery schedule
What is Required to Subscribe?

1. Full NC HealthConnex Participation Agreement, 2017 or 2018 versions
2. Provider’s EHR is connected and is sending data to NC HealthConnex (live in production)
3. Completed NC*Notify enrollment form
4. A patient list that the participant would like to track (sent via Secure FTP)
5. Mechanism for receiving alerts (Secure FTP)

Note: NC HealthConnex will roll out this service in phased intervals for the remainder of 2018, however all participants are encouraged to complete the enrollment process and enter the queue.
NC*Notify – How to Enroll

- Full participation agreement
- Complete NC*Notify enrollment form
- Send patient list (sent via Secure FTP)
- Mechanism for receiving alerts (Secure FTP)
Benefits - NC*Notify

- Providers are notified when their patients have received care in other care settings
- Schedule follow up appointments with patients
- Follow up on medications prescribed or other discharge instructions
- Insight to provide continuity in care to **reduce avoidable readmissions**
- Insight to **achieve financial goals** under value-based care contracts
- Utilize for compliance with state and federal quality initiatives, including Meaningful Use/Promoting Interoperability
Questions?

Reminder: Please use the Q&A feature in your chat function of the WebEx Feature.

For more information visit, www.nchealthconnex.gov

Tel: 919-754-6912

E-mail: hiea@nc.gov