



NORTH CAROLINA HEALTH INFORMATION EXCHANGE AUTHORITY

Department of Information Technology
Christie Burris
Executive Director

NC HIEA Advisory Board Meeting
March 2, 2:00-4:00 pm





Operations Update

- Staffing Update
- Metrics/Activities Update
- Legislative Update

Staffing Update



- Welcome Regina Cucurullo!
- Jenell Stewart promoted to Assistant Director, Health Analytics and Outbound Services
- Filling eight new positions
- Two new vacancies
- Requesting five additional positions in the budget expansion request

Quarter 1 & 2 2023 Activities:



FOUNDATION:

- Promoting services and training to participants
- Continue educating about the HIE Act
- Planning upgrade of InterSystems HealthShare/HealthInsight
- Planning data quality dashboard and patient matching enhancements
- Performing documentation requirements for the NCQA DAV program

EXCHANGE SERVICES

- Continue building data connections with health care providers
- Complete pharmacy pilot, begin onboarding pharmacies
- Complete unidirectional data connection from State Lab
- Begin onboarding skilled nursing facilities

Quarter 1 & 2 2023 Activities:



NOTIFICATIONS:

- Continue onboarding participants
- Building maternal health alerts for ACURE4Moms to 20 participating practices

POPULATION HEALTH AND ANALYTICS:

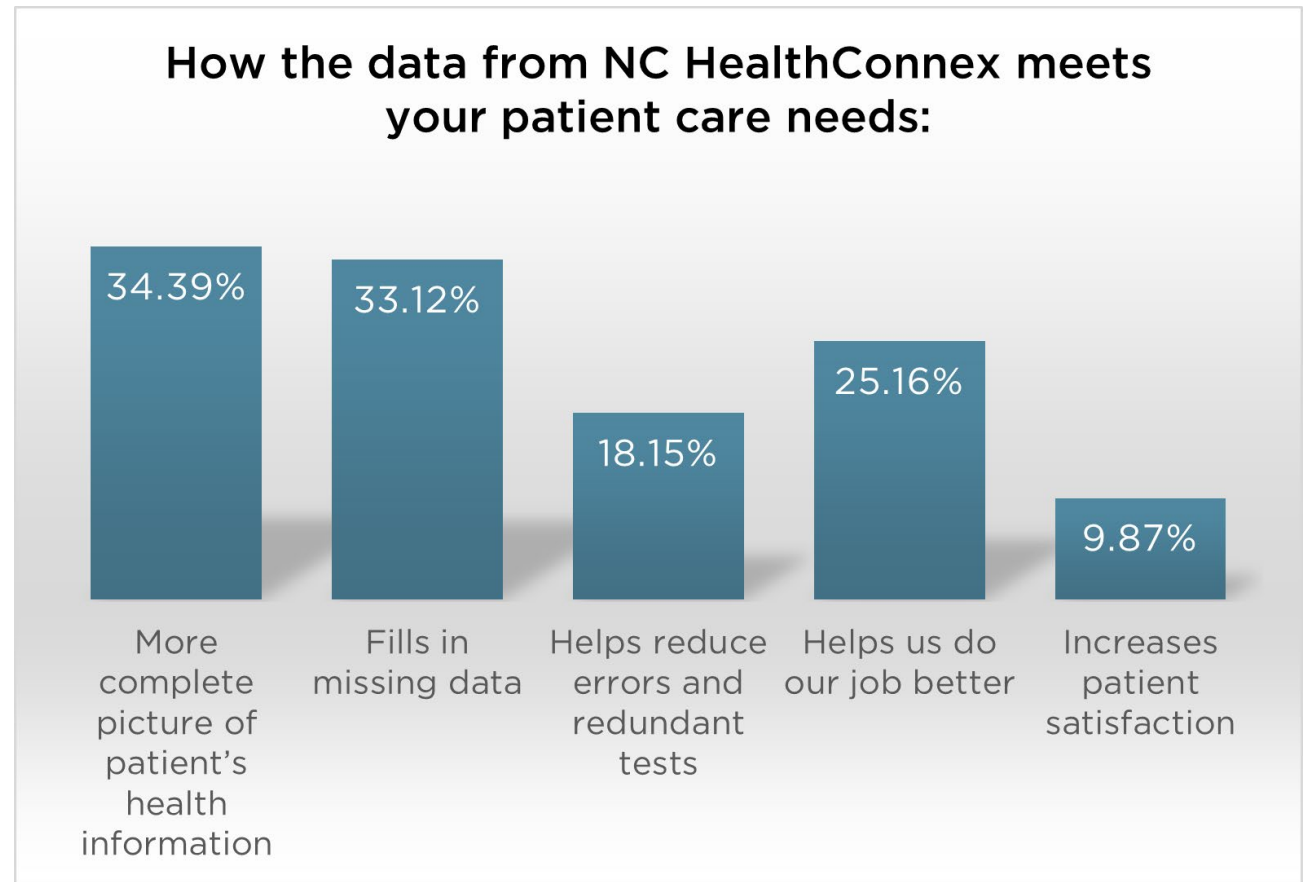
- Continue to enhance the Stroke registry to meet grant requirements
- Support the production of measures in the Standard Plan and Behavioral Health I/DD Tailored Plan Medicaid Measure Sets including:
 - Comprehensive Diabetes Care
 - Controlling High Blood Pressure
 - Screening for Depression and Follow-up

PHP Priority Data Elements Phase 1

| Grouping | Data Element |
|-------------------------------|---|
| Patient Demographics | Patient Name, DOB (Date of Birth), Patient Address, Patient Phone number, Gender, Race, Ethnicity, Preferred language |
| Provider/Facility Information | Name, NPI/TIN, Facility name |
| Vitals/ Observations | Blood Pressure, BMI (Body Mass Index), height, weight |
| Labs/imaging/ results | A1C Value, Cervical cytology, Pregnancy test, Chlamydia screening test, blood glucose and cholesterol testing |
| Screenings/Exams | Depression screening (adolescents, adults), Screening for Depression and Follow-Up, Depression screening (maternal)- positive screening |
| Medications | Antipsychotics, Contraceptive medications, Antidepressants/Anxiolytics, Opioids |

Initial Participant Survey Results

- Approximately 90% of respondents were positive or neutral about the process to complete the participation agreement.
- Approximately 82% of respondents were positive or neutral about the onboarding process to complete their technical connection.
- The most used training resource was the NC HealthConnex [User and Quick Reference Guides](#) (37.34%), followed by [online, self-paced training modules](#) (24.55%) and remote training by NC HIEA staff (20.72%).
- The most preferred learning method was [webinars](#) provided by the NC HIEA Outreach Team, followed by the [online, self-paced training modules and videos](#).

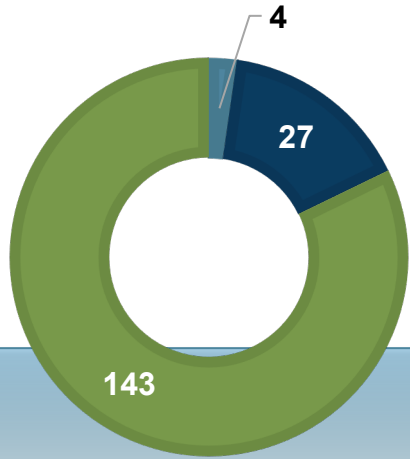




Metrics Update

Enrollment in Services *(as of December 2022)*

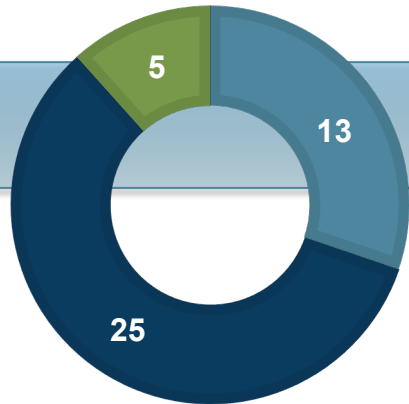
NC*NOTIFY



- 4 Integrations Enrolled
- 27 Integrations in Development
- 143 Integrations Live

143 Integrations Live represents 617 Practices/21,000 providers

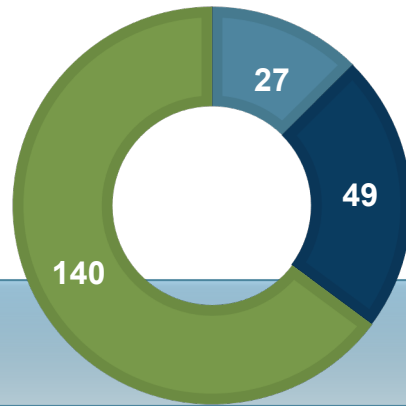
NCIR



- 13 EHRs Enrolled
- 25 EHRs in Development
- 5 EHRs Live

5 EHRs Live represents 204 Practices

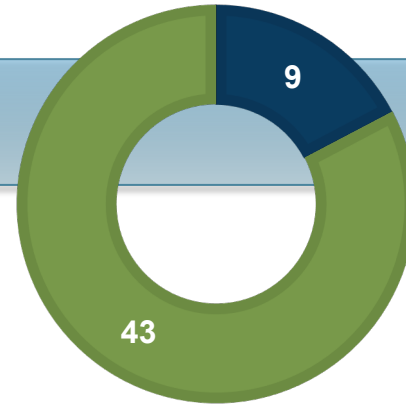
CVMS



- 27 Participants Enrolled
- 49 Participants in Development
- 140 Participants Live

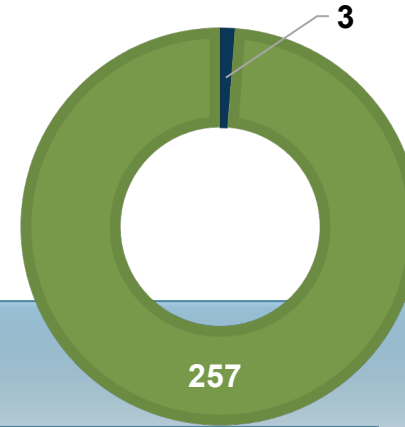
Note: DHHS and the NC HIEA made the decision in December to cease onboarding to CVMS Direct in 2023 as many will be moving to NCIR.

ELR



- No Enrollments
- 9 Feeds in Development
- 43 Feeds Live

DSM



- No Enrollments
- 3 Participants in Development
- 257 Domains Live

Key Metrics:

(as of December 2022)

Data Exchange - December 2022:

- Received: 8.3M CCDs / 35M ADTs
- Patient Search: 6M patient queries bidirectional
- Document Query: 1.4M document queries bidirectional
- Document Retrieval: 3.5M document retrievals bidirectional
- Portal Accounts 8,302

Data Connections:

- Facilities Live: 10,057
- Net new 2022: 117 (976 facilities)

NC*Notify:

Alerts generated: 7.3M

Patients monitored 5.3M

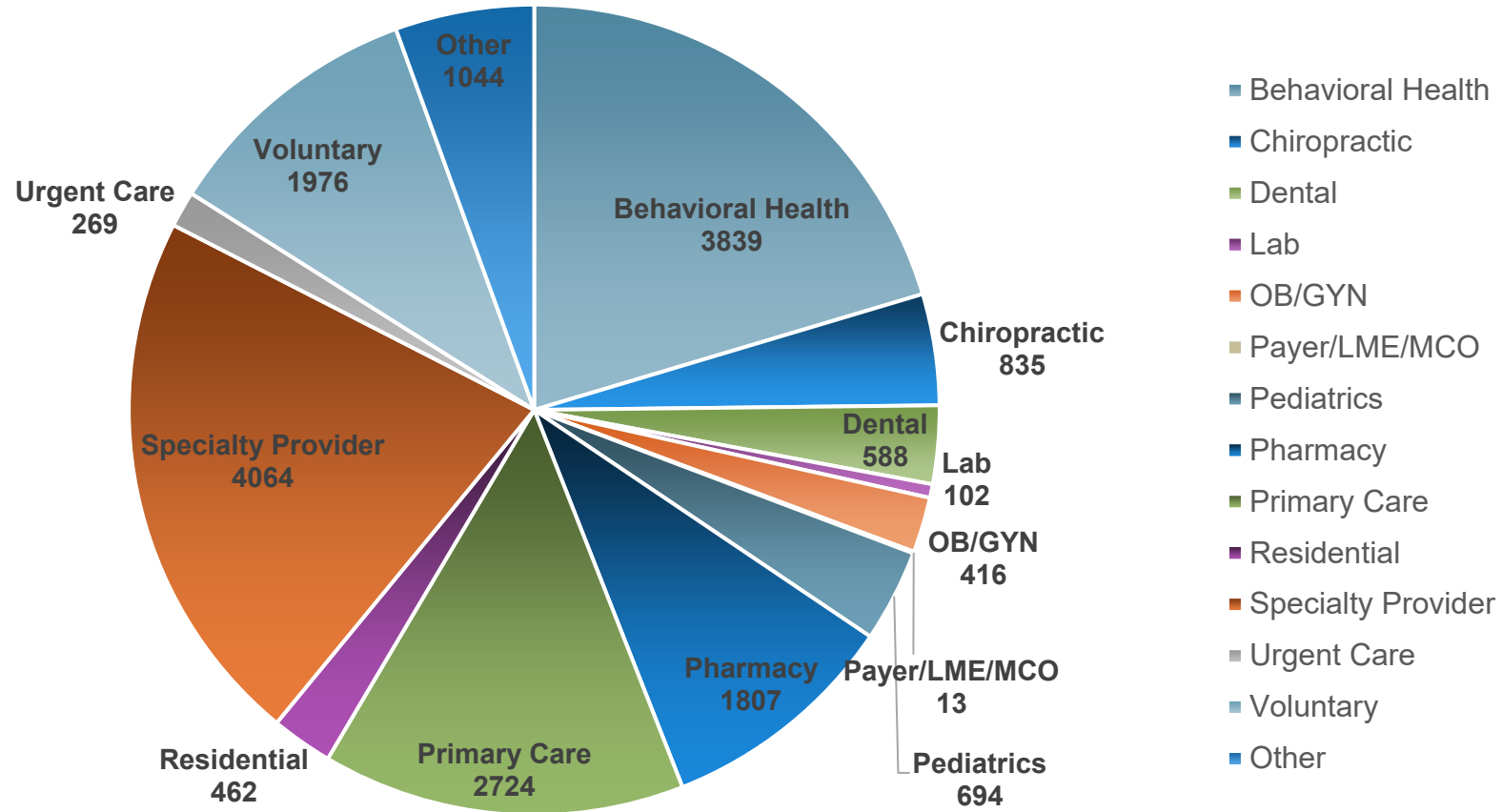




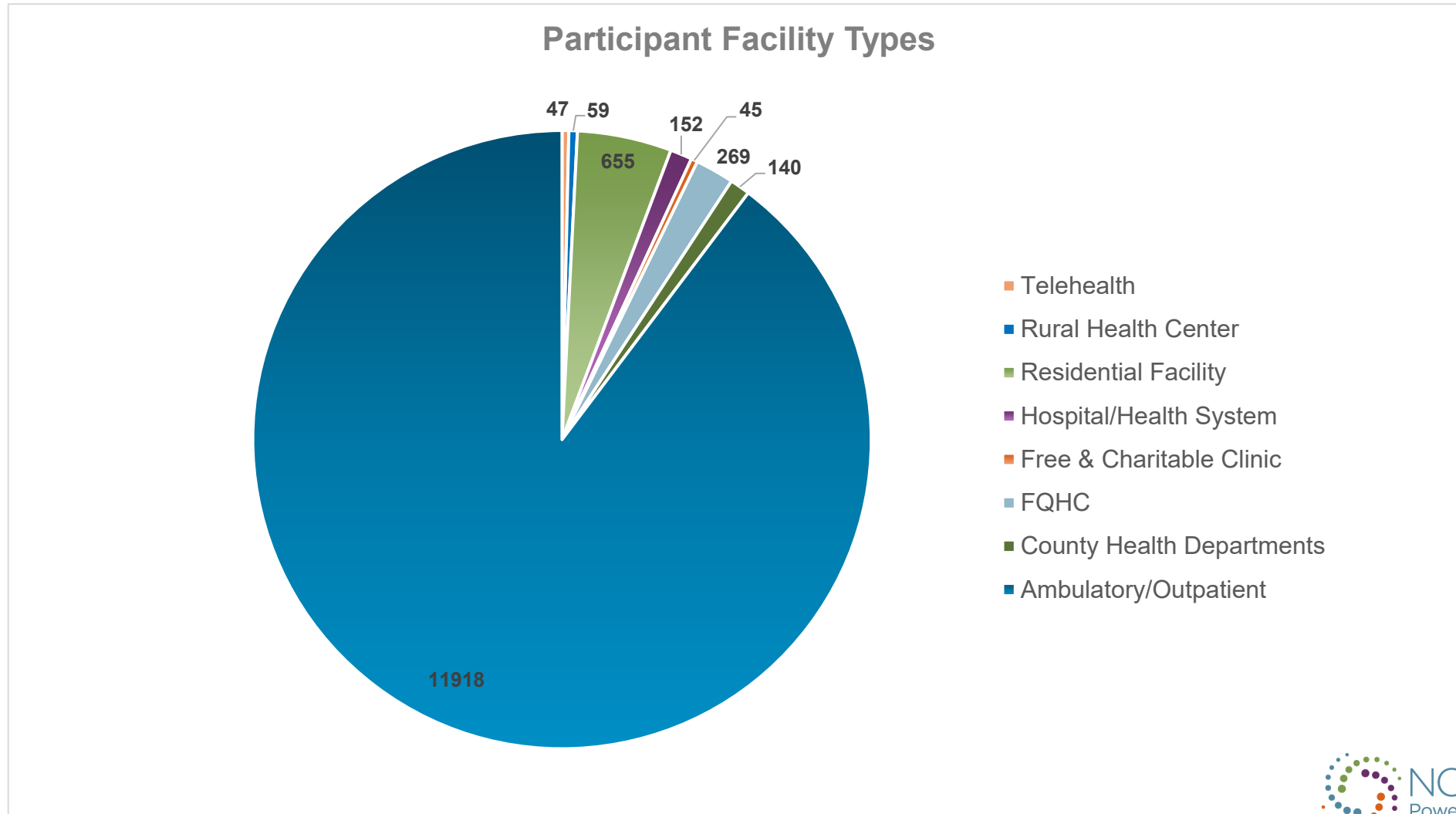
NC HealthConnex Participant Status

Who is Connecting to NC HealthConnex?

Participant Provider Types

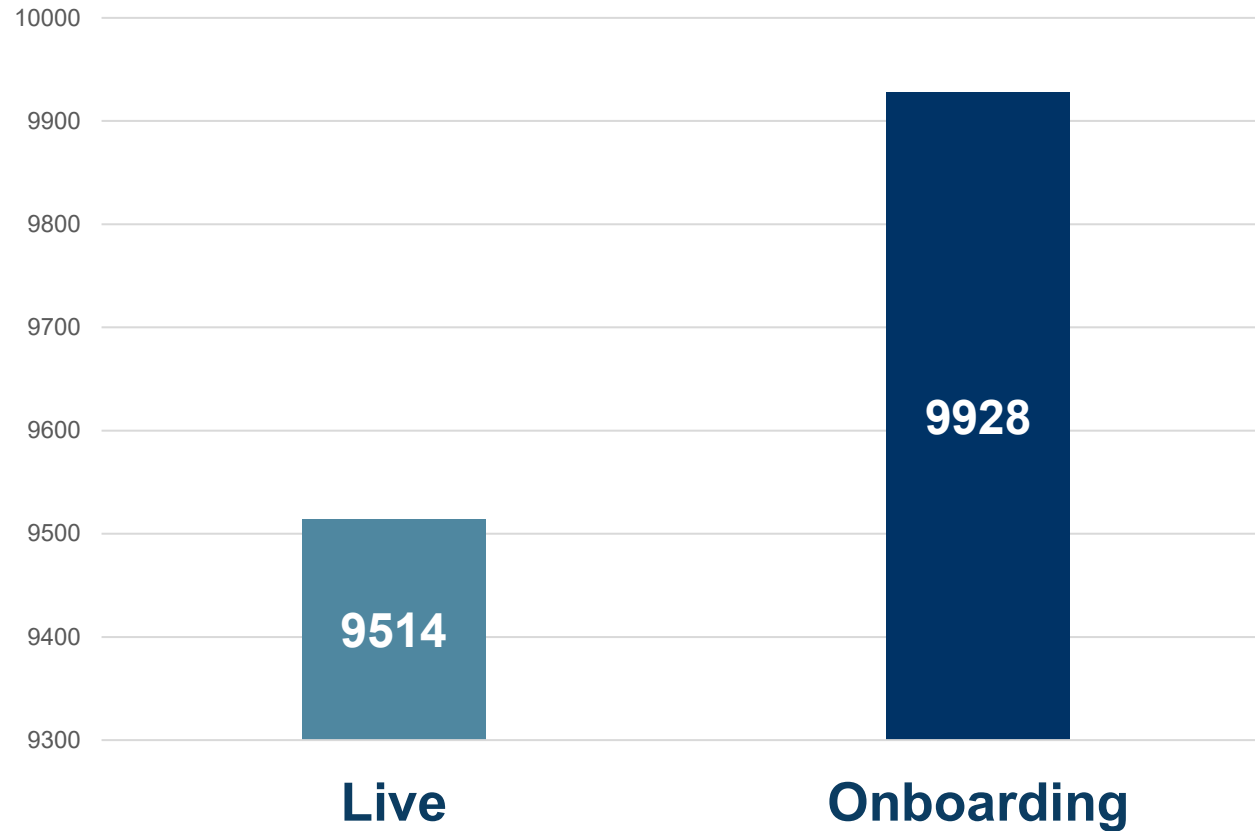


Who is Connecting to NC HealthConnex?



NC HealthConnex Connectivity Status (as of February 2023):

Live Vs Onboarding



84% Full Participants

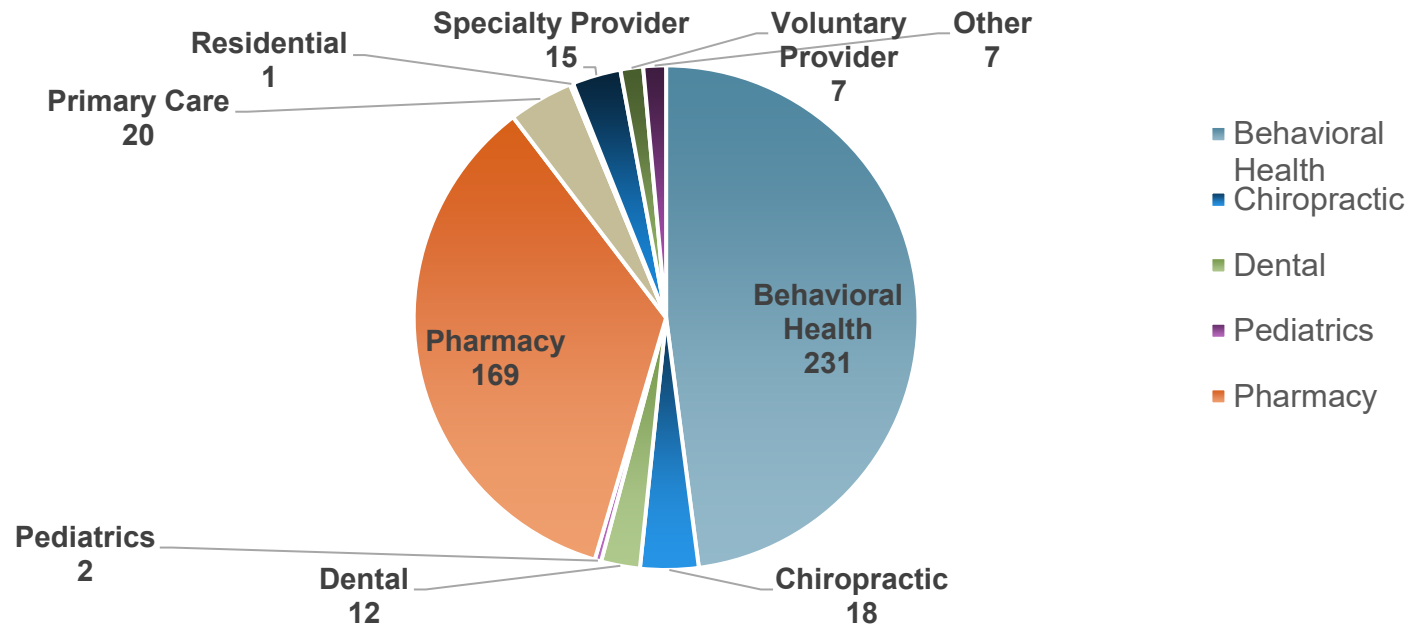
16% Submit Only

Outreach/Provider Relations Update

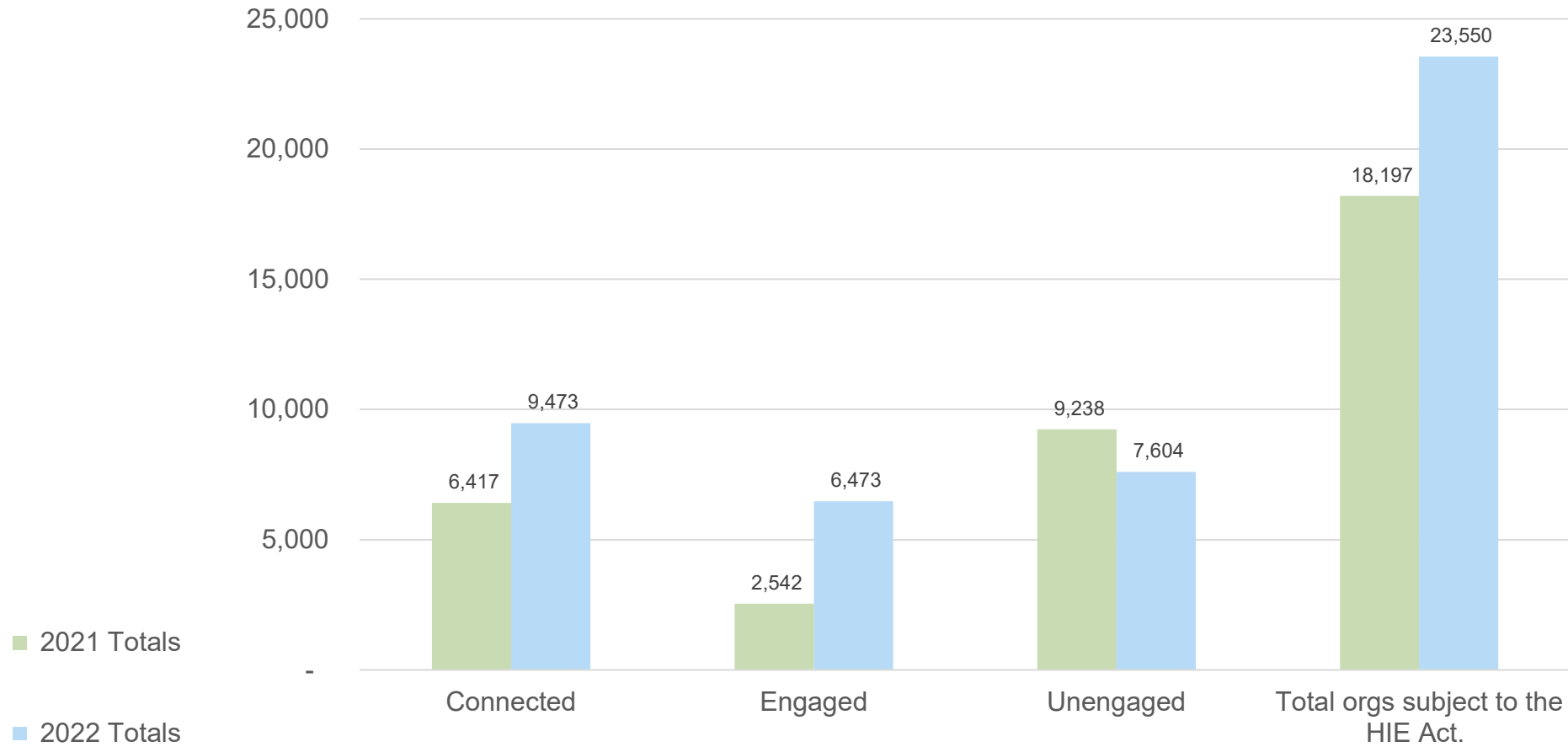
January 2022 - November 2022 - Executed **665** Participation Agreements representing *2,120 facilities*

November 2022 - February 2023 - Executed **492** Participation Agreements representing *1576 facilities*

The January 1, 2023, deadline has been a motivator to move forward in the onboarding process.



Legislative Reporting – Comparison



Data as of November 2022



Legislative Update

Legislative Update

Bill Introductions:

[HB196](#) – DIT/Omnibus Law Changes. -AB

- Moves dental and chiropractic providers to voluntary status
- Adds two new board seats – *“A provider of Medicaid or other state-funded healthcare services that is connected to the Health Information Exchange Network”*

[SB 156](#) - Medicaid Children & Families Specialty Plan

[SB147](#) - Update Reqs./Advance Health Care Directives

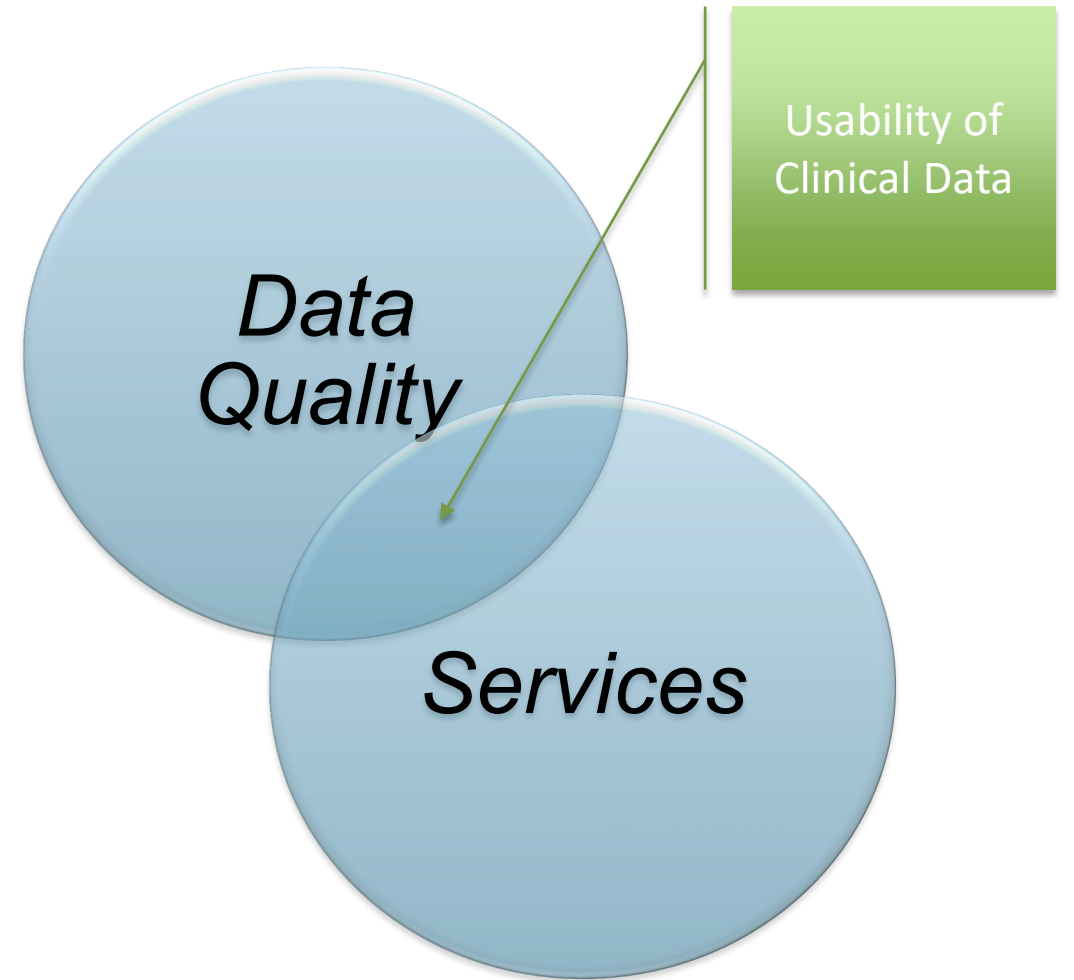
Submission of Update to the Advisory Board’s Recommendations:

- [Report](#) submitted to NCGA March 1
- Enforcement language included as an attachment

Work Group Updates

Clinical Data User Group Update

- Focus on clinical user feedback related to services and data quality
- Initial planning around composition of workgroup and charter currently underway
 - Charter and participant survey drafts prepared
 - Scheduling initial call with Advisory Board chair to finalize charter and participant survey
 - Anticipate participant representatives being selected early in the second quarter, with kickoff shortly thereafter



Use Case Workgroup (UCW) Update

ACURE4MOMS

The University of North Carolina at Chapel Hill has designed a study called ACURE4Moms to improve pregnancy outcomes and decrease health disparities. “ACURE” stands for “Accountability for Care through Undoing Racism and Equity.” ACURE4Moms is a randomized controlled trial that aims to improve maternal health outcomes, satisfaction, and communication, particularly for Black moms.

Quarterly committee meetings are scheduled through 2023.

Currently three proposals are being vetted for cost and feasibility.

Once vetted, if they choose to move forward, they will be invited to present at the April UCW committee meeting.

ACURE4Moms – 1st phase maternal health alerts for providers in the data arm are in development.

Use Case Workgroup vs Research Workgroup

Use Case Workgroup

The primary purpose of the Use Case Workgroup (UCW) will be to provide expert review of NC HealthConnex use cases. Reviewers will ensure that the proposed use cases are broadly applicable to the overall health care community within the state of North Carolina.

Research Workgroup

The primary purpose of this workgroup was to propose a framework which was presented at the Sept. 2021 Advisory Board meeting to focus on the following statutory requirements:

Statewide Health Information Exchange Act

- NC HIEA is to develop “[p]rotocols for data integrity, data sharing, data security, HIPAA compliance, and business intelligence as defined in G.S. 143B-1381. To the extent permitted by HIPAA, protocols for data sharing **shall allow for the disclosure of data for academic research.**” N.C. Gen. Stat. § 90-414.7(b)(15)b.

Proposed Research Request Review Framework: Objectives

- **Develop a research request program that supports academic research with a clear patient purpose to improve care, diagnosis, or treatment**
 - Proposed addition to NC HIEA Guiding Principles:
 - *The NC HIEA will support academic research that enhances patient-centered care that crosses organizational and geographic boundaries as well as academic research to improve outcomes and care that requires multi-site data that would otherwise be unavailable.*
- **Establish an application period with clearly defined schedule, requirements for requests, and notification of “award status.”**
 - Proposing twice yearly process initially; could accelerate as the HIE and program matures (see slide)
 - Create applications and forms tailored to research requests by leveraging state and federal examples

Proposed Research Request Review Framework: Objectives

- **Designate a formal body to oversee the request process**
 - Propose appointing the Use Case Work Group as the body that will formally review qualifying applications and provides NC HIEA with recommendations for (i) approval and/or (ii) priority requests
 - HIEA staff will “qualify” applications based on prerequisites in the application
- **Require requestors to fund data requests (cost recovery)**
- **Advisory Board articulates research priorities to inform Use Case Work Group evaluations; receives reports on evaluation process and on completed research**

Proposed Research Request Review Framework: Key Elements

Written Application (Must be a NCHHealthConnex Participant or Affiliated with a Participant)

- Application to build on present Use Case Work Group materials should include:
 - Research Request Summary
 - Primary Investigator
 - Study Protocol
 - IRB Approval Letter
 - Data Management Plan
 - Data Use Agreement
 - Evidence of funding or acknowledgement that NC HIEA honoring request is contingent upon applicant securing funding
 - Specifications Document

Proposed Research Request Review Framework: Elements

Use Case Work Group: Evaluation

- UCWG to apply a consistent review
 - Review materials vetted by NC HIEA staff before meeting
 - Formulate a rubric for evaluation - Rank recommendations and/or sort requests into multiple categories (e.g., priority recommendation; recommended, if resources available; do not recommend)
 - Understand NC HIEA resources available to support research projects
 - Dedicated Program Officer (new hire)
 - Part-time legal support
 - Part-time HIEA analyst support
 - Technical support for delivery

Proposed Research Request Review Framework: Elements

Full Advisory Board, Research Workgroup

- Help set NC HIEA research agenda
 - Define research goals and objectives; identify priority use cases
 - Refine and approve research-related policies or protocols
 - Input into UCWG make-up, activities
 - Evaluate effectiveness of processes implemented (*request an annual convening of the Workgroup for evaluation of program*)
- Receive reports
 - UCWG recommendations and NC HIEA implementation
 - Completed studies by researchers
- Calibrate involvement with research requests over time

Additional Topics Reviewed (Pre-decisional)

Characteristics of Academic Research

- Requestor is affiliated/partnered with academic institution
- Request has been approved by an IRB
- Requestor agrees to publish finding, peer review
- Request has clear patient purpose to improve care, diagnosis or treatment

Defining Commercialization of Data

“Commercial Purposes” are defined as:

- Access, use, redisclosure, and storage of clinical and demographic data sent to or through NC HealthConnex (“HIE data”) beyond the purposes of supporting (i) treatment, payment, and health care operations as they are described in HIPAA.; (ii) population health; (iii) government programs; or (iv) academic research.

- Redisclosure or exchange of HIE Data with third-party organizations for the primary purposes of improving business operations, cost-cutting, or profit-seeking, without explicitly stated benefits to patients.

- Sale of HIE Data in exchange for money, other clinical or demographic data, services, or other items of value.

- NC HIEA and the Department of Information Technology reserve the right to conduct due diligence by examining data uses and proposed use cases in order to ensure legal compliance.

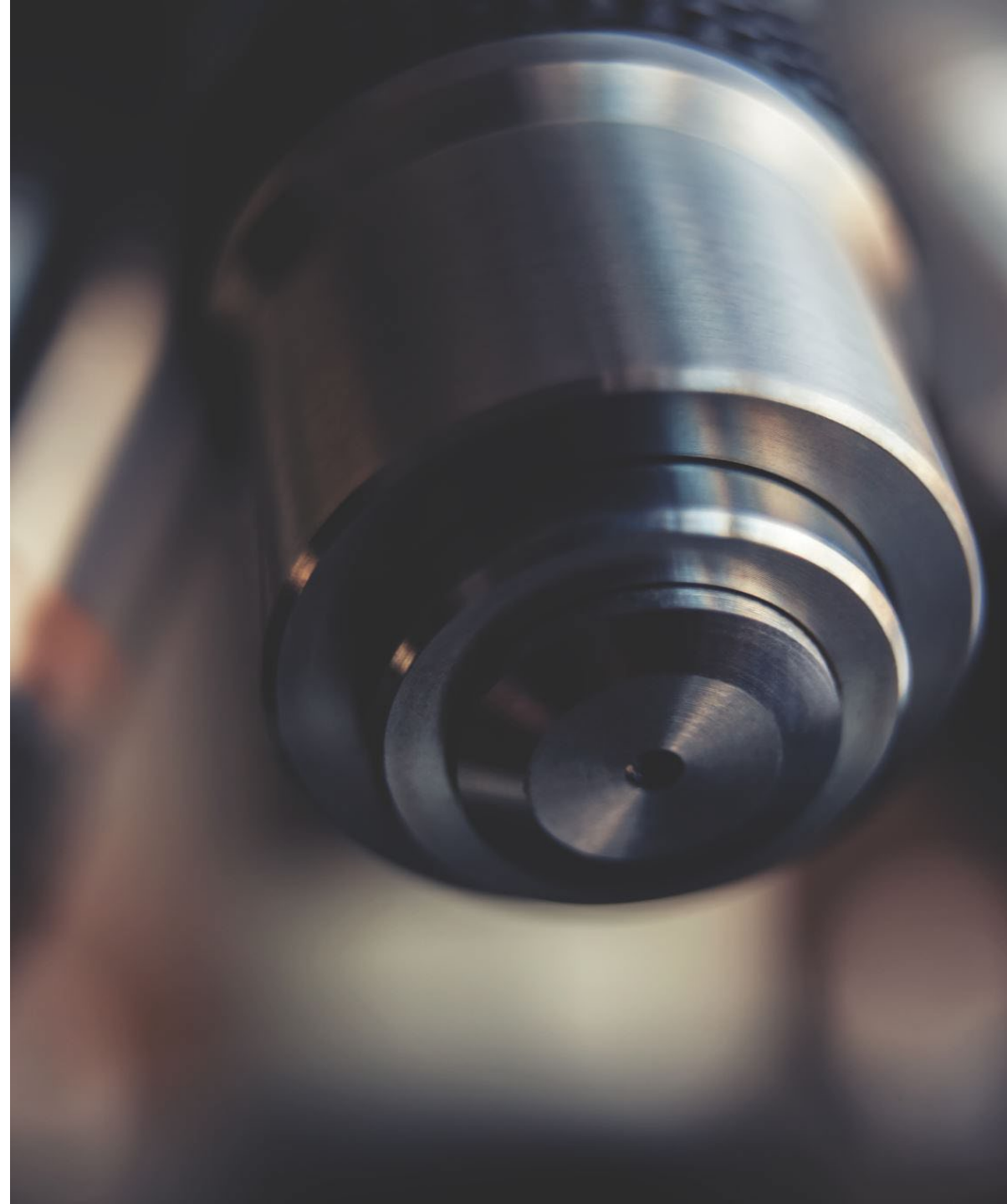


Proposed Research Request Review Framework: Implementation

- Advisory Board research agenda
- Resource allocation / budget; fees
- Governance: policy updates, formal documents, internal protocols
- Use Case Work Group
 - Membership, protocols
- Create operative documents
 - Data request application; application schedule; review rubric
 - Data use agreements
 - IRB and compliance review documents

AN OBJECTIVE APPROACH TO VALUE-BASED USE CASE PRIORITIZATION

Richard J. Pro, DBA, MBA, MS, FAHM
Co-Chair, NC HIEA Use Case Committee



Use Case A

36

46

21

32

48

21

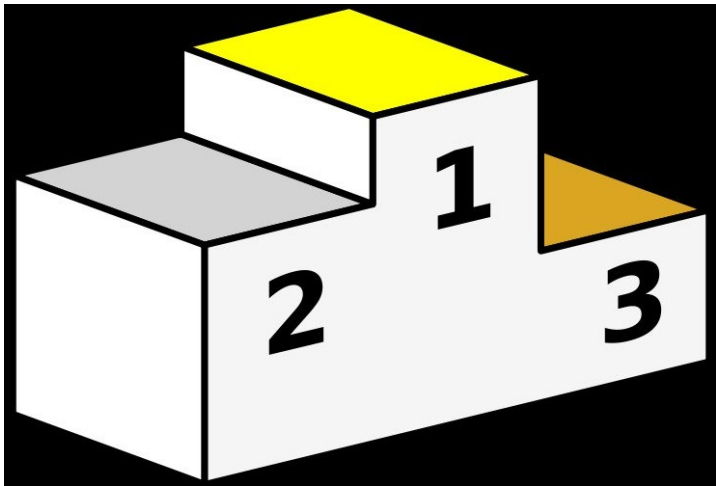
204

PROBLEM:

HOW CAN THE NC HIEA USE CASE COMMITTEE ENSURE **OBJECTIVITY AND TRANSPARENCY** IN THE USE CASE SELECTION PROCESS?

- Objectives
 - Create a **standardized, automated** process for the scoring of use case proposals.
 - Ensure that use case selection **aligns with the mission** of the NC HIE.
 - **Evaluate the relative “value”** of competing proposals using objective criteria.
 - Document a **defensible, uniformly-applied** decision-making process.
 - **Communicate the basis for scoring** to all stakeholders to inform the application process.

THE ANALYTIC HIERARCHY PROCESS (AHP)



- Analytic Hierarchy Process: *The analytic hierarchy process (AHP) is a structured technique for organizing and analyzing complex decisions. The foundation of AHP decision-making is mathematics and psychology.*

Source: <https://www.spicelogic.com/docs/ahpsoftware>

Saaty, Thomas; *Modeling Unstructured Decision Problems – The Theory of Analytical Hierarchies, Mathematics and Computers in Simulation XX (1978) 147-158.*

- Decide on a list of **factors that represent value** produced by a proposed project.
- **Present the factors in pairs** to survey participants. All pair combinations are presented.
- Participants **choose the “higher value” factor** of the pair and by **how much (1-5 scale)**.
- Results are combined to **calculate a relative weight** for each factor.
- **All proposals are auto-scored** based on the combination of factors identified as relevant by the investigator.

AHP: HOW DOES IT WORK?

- Decision Example: **Which car to buy?**
- Survey Stage 1: What is **important to the stakeholders** (produces value)?
Cost, Safety, Comfort
- Survey Stage 2: **Compare value drivers in pairs**. Summarize results. Re-survey once per year.
 - Cost or Safety? Cost 2x more important than Safety
 - Safety or Comfort? Safety 3x more important than Comfort
 - Cost or Comfort? Cost 6x more important than Comfort
- Resulting **relative weights** for all comparisons:

Cost = 0.6

Safety = 0.3

Comfort = 0.1



AHP: A PRACTICAL EXAMPLE

| Options | Cost (x0.6) | | Safety Ranking (x 0.3) | | Comfort Ranking (x 0.1) | |
|---------|-------------|------|------------------------|------|-------------------------|------|
| Car A | \$27,000 | 0.66 | 6 | 0.23 | 7 | 0.11 |
| Car B | \$30,000 | 0.59 | 9 | 0.35 | 5 | 0.08 |
| Car C | \$32,000 | 0.56 | 8 | 0.31 | 8 | 0.12 |

| | Car A | Car B | Car C |
|-----------------|-------|-------|-------|
| AHP Value Score | 1.00 | 1.02 | 0.99 |

Optimal Choice



AHP AND NC HIE USE CASE SCORING

Sample Value Indicators

- Benefits a disadvantaged population? (Y/N)
- Benefits women's health? (Y/N)
- Requires NC HIE support resources? (1-2, 3-5, 5-10, >10)
- Geographical benefit? (Local = 1 county, Regional = 2-5 counties, State > 5 counties)
- Time to value, i.e., results published? (< 6 months, 6 months to 1 year, >1 to 2 years, >2 years)
- Level of sponsor resource funding? (<\$550k, <\$1M, <\$5M, ≥\$5M)



Proposed AHP Scoring Procedure

- Survey a representative group of stakeholders to create value indicators.
- Survey a representative group of stakeholders re: value pairs comparisons.
- Compute value indicator relative weights.
- Publish scoring methodology (not weights).
- Add value indicators to use case application form.

THANK YOU

Dr. Richard J. Pro

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Questions and Discussion



NCQA Data Aggregator Validation Program

NCQA Data Aggregator Validation (DAV)



- Overview of the DAV Program
- Partnership with Medicaid
- Benefits to NC HIE Participants
- Dependencies
- NC HIE Planning and Preparation
- Timeline



NCQA Data Aggregator Validation: Overview of the DAV Program

- Evaluates clinical data streams to help ensure that health plans, providers, government organizations and others can trust the accuracy of aggregated clinical data.
- For use in Healthcare Effectiveness Data and Information Set (HEDIS®) reporting and other quality programs.
- Assesses two sets of standards looking at the ingestion, data management and output of clinical data:
 - Process, System and Data standards: Assesses the processes, policies and procedures for ingesting, managing and aggregating data.
 - Output Data Integrity standards: Assess an organization's adherence to the NCQA Continuity of Care Document (CCD) Implementation Guide and primary source verification by testing and reviewing CCD output files.

NCQA Data Aggregator Validation: Partnership with Medicaid

- Data Quality Initiatives
 - Dashboard/Reporting
 - Medicaid Incentives for Data Quality Improvements
- Data Aggregator Validation Program
 - Allows clinical measures produced from HIE data to be NCQA-certified
- Social Determinant of Health Data (SDOH)


NCQA Data Aggregator Validation: Benefits to NC HIEA Participants

- Reducing the administrative burden on the provider community
- Data Accuracy / Trusted data
- Meets standard supplemental data auditing requirements for all validated data streams

NCQA Data Aggregator Validation: Dependencies

- Finalize legal agreements
- Complete the DAV application
- Confirmation from participants selected for initial cohort clusters

NCQA Data Aggregator Validation: Preparation In Progress



| | |
|--|--|
| Technical Preparation | <ul style="list-style-type: none">• CCD development and validation• Interface/data review for selected clusters |
| Technical Documentation Review/Updates | <ul style="list-style-type: none">• Interface level documentation• System level documentation |
| Process Documentation Review/Updates | <ul style="list-style-type: none">• Implementation/on-boarding processes• Data quality processes |
| | |

NCQA Data Aggregator Validation: July 17 – December 1

CCD Implementation Guide Conformance

- Duration = 10 weeks
- File testing

Protocol and Standards Assessment

- Duration = 16 weeks
- Submission of validation assessment and documentation
- Virtual review and follow-ups

Primary Source Verification (PSV)

- Duration = 18 weeks
- Clusters identified
- Case selection/submission and follow-ups

Final Report and Comment Period

- Validated or Not Validated
- Status is valid for 12 months

Questions

ISC HealthShare Upgrade Planning

Intersystems HealthShare Upgrade



Intersystems HealthShare is the software used for most HIE functions:

- Data ingestion, transformation and aggregation
- Resolving patient identity across Participants (Master Patient Index)
- Access to HIE data via the Clinical Portal and other HIE services.



Intersystems HealthShare Upgrade – Why?

- 1) Clinical Portal enhancements
 - ✓ Search capabilities
 - ✓ Improved sorting and grouping
 - ✓ Faster load times
 - ✓ Vital Sign graphing
- 2) Additional capabilities for healthcare claims data
- 3) Improvements related to infrastructure and storage
 - ✓ Document and Journal compression
 - ✓ FHIR repository - separate database
- 4) Third-party software version requirements

Intersystems HealthShare Upgrade – Approach

- Install the latest version of HealthShare in new, non-production environments
 - Other development work in progress will not be impacted (e.g., new data connections, NCQA DAV Certification)
- Evaluate and remediate errors with applying the software upgrade
- Execute service specific test scripts, resolve errors
 - 400+ interfaces (10,000+ facilities), 50+ custom services (eg: NC Notify, Registry Dashboards)
- Install the latest version of HealthShare in production; execute final tests before release
- There will be some downtime for production upgrade

Intersystems HealthShare Upgrade – Draft Timeline

Q1 2023

- Evaluate Clinical Portal features
- Complete scoping

Q2 2023

- Upgrade non-production environments and address software upgrade issues
- Initiate testing of interfaces and services
- Finalize Clinical Portal customizations

Q3 2023

- Interface and service testing continues
- Clinical Portal customization

Q4 2023

- Complete testing and Clinical Portal customization

Q1 2024

- Code freeze
- Upgrade production environment

Questions