SHIN-NY Evolution Over Last Decade

Tremendous public benefit
- Supports Triple Aim, levels playing field, addresses non-interoperability

Idea became reality
- Local HIEs (QEs)
- Statewide connectivity

Fewer QEs & more sophisticated services
- But performance and services variation across the State

Strong government support
- Significant NYS and federal funding
- NYS regulatory requirements and policy decisions push connections
Our Reason for Being

**Vision**
A dramatically transformed healthcare system where health information exchange is universally used as a tool to make lives better.

**SHIN-NY Mission**
Improve healthcare through the exchange of health information whenever and wherever needed.

**NYeC Mission**
Improve healthcare by collaboratively leading, connecting and integrating health information exchange across the State.
Goal: Right Information at the Right Time

- Reduced burden of physically transferring or recalling medical history
- More efficient emergency department treatment
- Reduction in unnecessary tests, procedures, and medications
- Enhanced care coordination and care transitions
- Improved public health emergency management and monitoring
- Support for administrative and reporting needs of health plans
- Improvements in population health
- Potential to inform scientific and medical research
Major Driving Forces and Dynamics

- Payment for Value
- Financial Pressure and Affordability
- Cybersecurity Threats
- Interoperability and Standards
- Usability
- New Technology
- Consumerism
- Competition
Current State of the SHIN-NY

Highlights
### SHIN-NY Primary Roles and Responsibilities

<table>
<thead>
<tr>
<th>DOH</th>
<th>NYeC</th>
<th>QEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Exercise overall authority for the SHIN-NY (funding, regulation, laws, policy guidance, QE certification requirements, etc.)</td>
<td>• Provide thought leadership and statewide management to advance, align, integrate, and advocate</td>
<td>• Partner with DOH and NYeC to provide thought leadership</td>
</tr>
<tr>
<td>• Serve as a partner with the private sector</td>
<td>• Facilitate and propose policy, technical standards, functionality, business operations, and innovation</td>
<td>• Deliver core SHIN-NY services</td>
</tr>
<tr>
<td>• Utilize state levers to promote SHIN-NY</td>
<td>• Oversee delivery of QE core services through performance-based contracts</td>
<td>• Meet performance goals and comply with State requirements</td>
</tr>
<tr>
<td></td>
<td>• Connect QEs statewide and meet performance goals</td>
<td>• Directly support healthcare reform initiatives, care models, and innovation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• If desired, offer enhanced services for additional fees</td>
</tr>
</tbody>
</table>

Amended from January 2017 NYeC Board Meeting
QEs provide core services including:

- Secure messaging
- Notifications and alerts
- Results-delivery
- Patient record look-up and clinical viewer
- Consent management
- Public health access

QEs offer different value-added services (for a charge)

<table>
<thead>
<tr>
<th>QE</th>
<th>% of Patients Overlapping Other QEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTHeLINK</td>
<td>13</td>
</tr>
<tr>
<td>Rochester</td>
<td>13</td>
</tr>
<tr>
<td>HealtheConnections</td>
<td>21</td>
</tr>
<tr>
<td>Hixny</td>
<td>11</td>
</tr>
<tr>
<td>HealthlinkNY</td>
<td>33</td>
</tr>
<tr>
<td>Bronx</td>
<td>42</td>
</tr>
<tr>
<td>Healthix</td>
<td>14</td>
</tr>
<tr>
<td>NYCIG</td>
<td>53</td>
</tr>
</tbody>
</table>

Statewide Patient Record Lookup (SPRL) is operating
Cross-QE Alerts are being fully phased-in
Core Services Delivery and Participation

OVER 8.2 MILLION
Alerts Delivered

95% of FQHC

98% of Hospitals*

OVER 5.0 MILLION
Patient Record Returns
(Via EHR & Clinical Viewer)

79% of Public Health Departments

55% of Long-Term Care Facilities

OVER 43.1 MILLION
Results Delivered

47% of Home Care Agencies**

57% of Physicians

We need to focus on increasing participation

Core service delivery data as of June 30, 2017 ... data is continuously being updated, improved, and refined

* Some hospitals requested and obtained waivers from NYS DOH exempting them from the SHIN-NY Regulation to connect at this time (due to EHR capabilities and other factors)

** Unduplicated licensed Article 36 organizations. Earlier data was more broadly inclusive and included duplication across QEs.
Consent

Only about ½ of New Yorkers have provided written consent

NYeC’s Memo regarding Consent Recommendations:  

NYeC’s Consent White Paper:  

NYeC Public Comment Period:  

Data as of June 30, 2017
Strong Governance and Oversight

SHIN-NY Regulation Adopted March 2016
10 NYCRR Part 300
Detailed policy guidance

• Hospitals with certified EHRs were required to connect by 3/9/17
• Health care facilities* with certified EHRs required to connect by 3/9/18
• SHIN-NY connections voluntary for other providers

QEs must go through rigorous review to obtain certification

*Ambulatory surgery centers, diagnostic and treatment centers, clinics, nursing homes, home care services agencies, hospices, health maintenance organizations that are health care providers, and shared health facilities.
SHIN-NY Funding
Funding Challenges

- Moving to lower Medicaid match
  HITECH Enhanced match expires 2021

- Federal ACA Repeal and Replace
  could cost NYS billions

- Tremendous potential pressure on
  NYS Budget, especially 2020-21

- SHIN-NY (NYeC with QEs) will
  advocate for maximum funding

- But current funding levels
  cannot be maintained long-term

- Performance contracting
  structure is intended to
  prepare SHIN-NY for
  decreased government
  funding overall by allocating
  existing funds to data-driven
  outcomes and innovation
  while decreasing core
  infrastructure payments

- Up for re-authorization in 2020

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  advocate for maximum funding

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  cannot be maintained long-term

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  structure is intended to
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  funding overall by allocating
  existing funds to data-driven
  outcomes and innovation
  while decreasing core
  infrastructure payments
Government Funding
2017-2018—A Transition Year

**Base Funding**
Traditional budget-based approach
- DOH manages, administers, and processes payments with NYeC assistance
- Additional reporting and data collection
- Consistent rules on allowable membership fees

**Performance**
- Continued SHIN-NY Dashboard performance metrics monitoring

**Additional Funding**
NYeC manages competitive process and makes awards
- Investments in process or technology innovations via competitive applications:
  - To directly increase SHIN-NY connections, complete data contributions, or data quality
  - Work and results shared with QEs
  - QE partnerships encouraged
  - QE must be in satisfactory standing
Performance-Based Contracting
Starting in 2018—NYeC Contracts With QEs

**Infrastructure Payments**
NYeC determines payments based on available funding

Reasonable payment for*:
- Patient identity management, HIE platform, security, EHR connectivity, data availability (standardized), consent management

**Performance Payments**
NYeC monitors, reports, audits and makes payments

Gap-to-Goal payments on:
- Some current metrics
- New metrics (including data quality and others)**
Bonus payment for all QEs if enterprise hits overall statewide targets

**Innovation Pool**
NYeC manages competitive process and makes awards

Investments in process or technology innovations via competitive applications:
- Must align with statewide goals
- Work and results shared statewide
- Only high-performing QEs eligible
- QE partnerships encouraged
- Local match required

*Certain multi-year IAPD projects may be continued  **Year 1 is pay-for-reporting
Other Dynamics and Developments

Industry, Technology, Security, and Expectations
Highest Security Remains a Top Priority

Massive 'WannaCry' cyberattack hits countries around world, cripples British health system

COSTAS PITAS AND CARLOS RUANO
LONDON and MADRID — Reuters
Published Friday, May 12, 2017 11:23AM EDT
Last updated Saturday, May 13, 2017 5:17PM EDT

Your medical record is worth more to hackers than your credit card

New York Financial Regulator Rolls Out Cybersecurity Proposals
EHR Vendor Landscape – Factors to Consider

• EHR vendors and national HIE groups have developed interoperability solutions and networks:
  o CommonWell, Carequality, Epic Care Everywhere

• Vendor adherence to interoperability standards including:
  o CCD/C-CDA and common clinical data set

• Certification status:
  o Vendors in newer priority areas like long-term care and behavioral health are often not certified
  o Balancing security and affordable solutions for providers

• Statewide EHR vendor challenges include:
  o Vendor prioritization of QE support on behalf of participants
  o Vendor responsiveness to demand for HIE connections
  o Development of hubs/gateways to QEs
  o Pricing models for HIE connections
Continuous Technological Change

Growing interest in accessing discrete data rather than lengthy comprehensive files - many seeking ability to search and exchange targeted information
Federal HIT Policy Landscape
Changes Expected

- Value-based care likely to continue
- MACRA/MIPS likely to continue
- Meaningful Use Stage 3 will change
- Interoperability is a focus
- Transparency and patient engagement interest
Value-Based Care (VBC)
SHIN-NY Enables and Supports Value-Based Care
Leads to Better Care and Lower Costs

Use of the SHIN-NY to access patient information is associated with:

- 57% reduction in patient readmissions within 30-days after hospital discharge
- 30% fewer emergency department admissions
- 52% reduction in laboratory tests and a 36% reduction in the estimated number of radiology exams
- 25% fewer repeat images within 90-days of first imaging procedure

http://www.nyehealth.org/shin-ny/value-of-hie/
SHIN-NY Supports Value-Based Care
(Medicaid, Medicare, and Commercial)

- **DSRIP**: QEs are connecting PPSs and helping facilitate formation of integrated delivery systems (Project 2.a.i, and others)

- **SHIP**: SHIN-NY services align with certain APC milestones (e.g., increasing public health department adoption for provider collaboration, using alerts to improve care, eMOLST, etc.)

- **MACRA/MIPS**: Increasing number of clinical transactions in the SHIN-NY supports providers in MIPS and APMs as a tool to improve care, lower cost, and advance care information

- **Commercial/General**: Integrated delivery systems (including ACOs, PPSs, and other risk arrangements) typically experience about 30% leakage outside their system or health plan; this can be a challenge SHIN-NY helps with by providing information about care outside of the network
Key Components of VBC and Population Health

- Interoperability and standards
- Non-clinical data integration
- Quality measurement reporting
- Patient engagement
- Social determinants of health
Stakeholder Input and Priorities

Listening Tour, Focus Groups, and Other Messages Heard
Listening Tour
Ongoing Customer and Stakeholder Input

Stakeholder Focus Groups

- All Provider Types
- Health Plans
- Consumers
- Qualified Entities
- DOH Workgroups

And many others ...
Listening Tour
High-Level Takeaways

- Generally strong support for SHIN-NY
- Potential of SHIN-NY recognized
- Key component for VBC
- Varying views on SHIN-NY priorities
- Each QE/region in different places
- Overall enthusiasm to re-evaluate
- Everyone agrees on need to integrate
- Overlapping boundaries
- Significant investment in private HIE

- Need to further rebuild trust and confidence
- Conflict of interest concerns
- Some desire for more voices
- Need for more frequent and meaningful communication
- Should focus on customer needs
- Some believe focus needs to move back to basics
- Need for more consumer education
- Some see inefficiencies in current system

Report to Board January 2017
Physician Frustrations

- Healthcare IT News: Frustrations linger around electronic health records and user-centered design
- Journal of Graduate Medical Education: Racing Against the Clock: Internal Medicine Residents’ Time Spent On Electronic Health Records
- The New York Times: The Widespread Problem of Doctor Burnout
- The American Journal of Emergency Medicine: 4000 Clicks: a productivity analysis of electronic medical records in a community hospital ED
- Chicago Tribune: Beleaguered by electronic record mandates, some doctors burning out
- Medical Economics: Need to create doctor-friendly technology is more important than ever
Provider Focus Groups
What We Heard They Want

- Simplicity & ease of use (SSO)
- Speedy, relevant information
- Better quality & complete data
- “Search – ability”
- Finish the basics
- Information that goes across borders
- Alignment & standardization
- Easy reporting
- Output that matters
- EHR integration
- Highest privacy & security
- Consent policy changes
- Help educating patients

NYeC
What We Heard From the QEs

• Finish building the infrastructure, but recognize challenges and resource needs
• Promote trust and understanding (NYeC/DOH outreach)
• Sharing best practices and collaborative learning
• Foundation for technology requires high-quality data
• Some agreement on functionality enhancements such as single sign-on
• Need to provide more meaningful, action-oriented, and proactive data to providers

• Integration with other types of data very important
• More meaningful metrics and connections to VBC are needed
• Population health broadens the participants (e.g., CBOs)
• Efficiency possible with shared services, but need to maintain agility and flexibility at local level
• Some interest in leveraging QE expertise and specialization
• Unified approach with vendors
• Explore creative funding opportunities
SHIN-NY 2020 Roadmap Framework
Five Key Strategies: Informed by Stakeholders

1. Ensuring Strong HIE Foundation
2. Supporting Value-Based Care (Tools, Supports, and Services)
3. Enabling Interoperability and Innovations
4. Promoting SHIN-NY Efficiency and Affordability
5. Advocating Collectively
### Strategy 1: Ensuring Strong HIE Foundation

Using performance-based contracting, policy changes, and advocacy:

<table>
<thead>
<tr>
<th>Connections, Contribution, Completeness and Quality</th>
<th>Security</th>
<th>Reliability, Sharing, and Customer Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 100% of hospitals participating and contributing full data (CCDA)* by 2020</td>
<td>• QEs and NYeC HITRUST certification by end of 2018</td>
<td>• New TBD measurement for SHIN-NY enterprise-wide availability</td>
</tr>
<tr>
<td>• 70% of all other providers participating and contributing full data (CCDA)* by 2020</td>
<td></td>
<td>• Customer satisfaction survey</td>
</tr>
<tr>
<td>• New TBD measurement for data quality</td>
<td></td>
<td>• 95% of patients consent**</td>
</tr>
</tbody>
</table>

*Data contribution requires connection to QEs

** Target will be adjusted if NYS does not move to “Opt-Out” system
Strategy 2: Supporting Value-Based Care

Using performance-based contracting, policy changes, and advocacy:

<table>
<thead>
<tr>
<th>Enhanced Functionality (up to 3)</th>
<th>Additional Data and Services (up to 3)</th>
<th>Policy Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Single sign-on for Health Commerce System (I-STOP, others)</td>
<td>• Medication fills</td>
<td>• No written consent for alerts when treating relationship</td>
</tr>
<tr>
<td>• Smarter, actionable alerts</td>
<td>• Quality measurement reporting</td>
<td>• Incorporation of SHIN-NY consent with other forms</td>
</tr>
<tr>
<td>• MACRA/MIPS compliance</td>
<td>• Standardized data formats</td>
<td>• Exploration of opt-out</td>
</tr>
<tr>
<td>• Care plan exchange</td>
<td>• Medical claims (via APD)</td>
<td>• Data governance</td>
</tr>
<tr>
<td>• Additional EHR integration</td>
<td>• eMOLST</td>
<td>• Others</td>
</tr>
<tr>
<td>• Patient-centered data home</td>
<td>• EDRS</td>
<td></td>
</tr>
<tr>
<td>• Others</td>
<td>• Registries</td>
<td></td>
</tr>
</tbody>
</table>

Projects undertaken would have specific goals and impact would be measured. Performance-based contracts will include a TBD measure for more meaningful usage of core services, especially alerts.
### Strategy 3: Enabling Interoperability and Innovations

Using performance-based contracting to promote market-based solutions:

<table>
<thead>
<tr>
<th><strong>Interoperability and Innovations</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Patient engagement tools</td>
</tr>
<tr>
<td>• Value-based care tools/services</td>
</tr>
<tr>
<td>• HL7 FHIR pilot/discrete data</td>
</tr>
<tr>
<td>• Blockchain</td>
</tr>
<tr>
<td>• Artificial intelligence</td>
</tr>
<tr>
<td>• Machine learning</td>
</tr>
<tr>
<td>• Natural language processing</td>
</tr>
<tr>
<td>• Others</td>
</tr>
</tbody>
</table>
Strategy 4: Promoting SHIN-NY Efficiency and Affordability

Using performance-based contracting to promote market-based solutions:

<table>
<thead>
<tr>
<th>Core Infrastructure Payments to Encourage</th>
<th>Policy Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Group purchasing</td>
<td>• New “wire once” / “pay once” policy</td>
</tr>
<tr>
<td>• QE specialization</td>
<td></td>
</tr>
<tr>
<td>• Standardization</td>
<td></td>
</tr>
<tr>
<td>• Shared services</td>
<td></td>
</tr>
<tr>
<td>• Potential QE mergers</td>
<td></td>
</tr>
</tbody>
</table>

Measurements and monitoring of system savings and efficiencies
## Strategy 5: Advocating Collectively

### Working together using all available resources:

<table>
<thead>
<tr>
<th>Value, Funding and Policy</th>
<th>EHR Vendors</th>
<th>Interoperability and Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Academic studies</td>
<td>• Adherence to CCD/C-CDA</td>
<td>• Participate and influence federal discussions</td>
</tr>
<tr>
<td>• Consistent messaging</td>
<td>• Lack of certified EHRs</td>
<td>• Collaborate with other states and regional HIEs</td>
</tr>
<tr>
<td>• Consumer education</td>
<td>• Prioritization of QE participants</td>
<td>• Promote standards statewide</td>
</tr>
<tr>
<td>• New advisory groups</td>
<td>• Responsiveness to development of gateways</td>
<td></td>
</tr>
<tr>
<td>• Strong advocacy with Executive and Legislature</td>
<td>• Inconsistent pricing and charging for HIE connections</td>
<td></td>
</tr>
<tr>
<td>✓ Funding levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Proposed statutory changes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Support for provider assistance programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Others</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How Does Gap-To-Goal Work?

An Example Assuming Even Progression Over 3 Years

<table>
<thead>
<tr>
<th>Performance Metric</th>
<th>% Improvement Gap-to-Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provider Participation Level</td>
<td>33%</td>
</tr>
</tbody>
</table>

The previous year’s measurement result is used to calculate this year’s improvement target. Improvement targets are set by adding the annual increment & previous year’s measurement result.

<table>
<thead>
<tr>
<th>Performance Goal (%)</th>
<th>QE Result Last Year (%)</th>
<th>Gap Amount (%)</th>
<th>Annual Increment (%)</th>
<th>Improvement Target (%) This Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>70.0</td>
<td>50.0</td>
<td>20.0</td>
<td>6.6</td>
<td>56.6</td>
</tr>
</tbody>
</table>

- Statewide goal has been established for each performance measure
- The previous year’s measurement result is used to calculate this year’s improvement target
- The gap amount is the performance goal minus the previous year’s result
- Annual increments are calculated from 33% of the gap amount
What Does Success Look Like in 2020?
Performance contracting will incentivize QEs to increase data connections and quality as they coordinate these connections with EHR vendors and providers.

Related QE performance measures will evolve each year (see below).

NYeC is developing a provider directory to support this effort.
Minimum Data Set: Contribution Requirements

Common Clinical Data Set

- Patient Name
- Sex
- DOB
- Race
- Ethnicity
- Preferred Language
- Smoking Status
- Problems
- Medications
- Medication Allergies
- Laboratory test(s)
- Laboratory value(s)/result(s)
- Vital signs (height, weight, blood pressure, BMI)
- Care plan field(s), including goals and instructions
- Procedures
- Care team member(s)
- Encounter diagnosis
- Immunizations
- Functional and cognitive status
- Discharge instructions
Improve Provider Experience: Quadruple Aim

Examples

Value-Based Care Support
- Claims
- Quality Reporting
- Social Determinants of Health

Enhanced Functionality
- I-STOP/PDMP
- Smarter Alerts

Policy Compliance
- DSRIP
- MACRA/MIPS
- APC
Maximum participation offers patients the opportunity to provide consent so healthcare practitioners may:

- rely upon comprehensive information for care; and
- reduce the burden on the patient of transferring medical records and recalling medical history.

Maximum data contribution supports the varied needs of different provider types by providing comprehensive patient information to and from:

- Hospitals
- Physicians
- Clinics
- Long-Term Care
- Home Care
- Hospice
- Laboratories
- Pharmacies
- Public Health
- Behavioral Health
- Community-Based Organizations
Looking Forward While Celebrating the Last 10 Years ...
Future Sustainability

• This short-term 2020 Roadmap paves the way for reduced reliance on government funding and establishes a solid base for additional private support.

• SHIN-NY has the potential to directly support, enable and fuel:
  ✓ A learning health system
  ✓ Patient-centered, value-based care and numerous tools
  ✓ Public health
  ✓ Science and research
  ✓ Patient engagement

• Sustainability work will continue and be informed by other preparedness components contained in this Roadmap, including:
  ✓ Adoption barrier review and workflow assessments
  ✓ Market demand analysis
  ✓ Customer satisfaction surveys
  ✓ Revised, modernized, and aligned data governance
Looking Ahead: Immediate Next Steps

Focus, discipline, and execution

• Continue work with DOH, QEs and stakeholders
• Internal implementation plan
• Major 2017 Initiatives:
  ✓ Implement additional QE Funding Program
  ✓ Execute performance-based contracts
    o Many, many complicated details
  ✓ Establish Advisory Groups
  ✓ Identify enhanced functionality and additional data/services priorities
nyehealth.org

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