

Clinical Narrative

Clinical Priorities Work Group

Version 1.0

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1.0 EXECUTIVE SUMMARY

1.1 Document Purpose

This document summarizes the process and outcomes of the Clinical Priorities Work Group's (CPW) effort to develop and prioritize a set of Use Case-specific clinical requirements as part of the Statewide Collaboration Process (SCP). The requirements are driving the technical implementation of the projects receiving funding under the Health Care Efficiency and Affordability Law for New Yorkers Capital Grant Program (HEAL 5) which are charged with advancing the Statewide Health Information Network for New York (SHIN-NY), clinical informatics services, and interoperable electronic health records (EHRs). The complete set of Version 1.0 requirements developed by the SCP can be found at <https://nyec.centraldesktop.com/scpgeneralaccess/FrontPage>.

1.2 Description of the Statewide Collaboration Process

The SCP is being facilitated by the New York eHealth Collaborative (NYeC) under contract with the New York State Department of Health (NYS DOH). NYeC is a public-private partnership and statewide governance body playing an integral role in New York's health information technology (health IT) strategy. NYeC's key responsibilities include (1) convening, educating and engaging key constituencies, including health care and health IT leaders across the state, Regional Health Information Organizations (RHIOs), Community Health Information Technology Adoption Collaboratives (CHITAs), and other health IT initiatives; (2) developing Statewide Policy Guidance through a transparent governance process, and (3) evaluating and establishing accountability measures for New York's health IT strategy.

The SCP is designed to collaboratively develop Statewide Policy Guidance including common policies and procedures, standards, technical approaches and services for New York's health information infrastructure. Participants include representatives from all of the projects receiving funding under the HEAL 5 program and other interested stakeholders in the health care system of New York State. Within the SCP decisions are made and recommendations advanced in a collaborative, consensus-based manner through a fully open, transparent process. The SCP is largely driven by the efforts of its four collaborative work groups, which recommend policies and procedures, standards, technical approaches and services initially to the NYeC Policy and Operations Council, and thereafter to the NYeC Board and NYS DOH. The four work groups are: (1) Clinical Priorities; (2) Privacy and Security; (3) Protocols and Services; and (4) EHR Collaborative.

The SCP provides a framework where developing policies and standards for New York's health information infrastructure go hand-in-hand with field testing them as part of each HEAL 5 project's implementation. This framework allows for the validation and ongoing refinement of policies and standards to ensure health information liquidity and value realization from New York's health information infrastructure. This is a crucial process over the next few years.

1.3 Clinical Priorities Work Group Overview

The CPW was formed to:

- Define clinical priorities that best demonstrate critical areas and opportunities for improvement in both the quality and efficiency of health care for New Yorkers;
- Demonstrate and communicate the value of interoperable health IT adoption and its effective use to clinicians and other stakeholders; and
- Develop clinical requirements, identify workflow issues, and advance policy recommendations to help drive and test the development of policies, protocols, and standards for New York’s Health Information Infrastructure, including the SHIN-NY, EHRs, personal health records (PHRs), and clinical informatics services.

There were four Subgroups set up to facilitate achievement of these goals. Each Subgroup was assigned one or more Use Cases to drive development of initial requirements. These Subgroups include: 1) Medicaid Medication Management; 2) Connecting New Yorkers and Clinicians; 3) Public Health and Prevention; and 4) Quality Reporting for Outcomes and Clinical Decision Support. Exhibit 1 lists the Use Case, description of the initial priorities for each Use Case, and the Subgroup to which it was assigned.

Exhibit 1: HEAL 5 Use Case Descriptions¹

HEAL 5 Use Case	Description	CPW Subgroup
Advancing Medication Management: Interoperable EHRs for Medicaid	Sharing Medicaid medication history information with clinicians emphasizing medication management and electronic prescribing as the initial priority. This includes providing additional sources of medication history information from pharmacies and pharmacy benefit managers to enhance clinical decision support capabilities, such as drug-drug interaction checking. This Use Case includes Medicare electronic prescribing standards.	Medicaid Medication Management
Connecting New Yorkers and Clinicians	Providing the capacity to connect New Yorkers to their clinicians and providers to share clinical results, care management programs, and emergency contact information.	Connecting New Yorkers and Clinicians
Health Information Exchange for Public Health	Improving situational awareness and reporting for public health purposes and reducing administrative costs of preparing and transmitting data among providers and public health officials. This Use Case incorporates Federal standards emerging from biosurveillance best practices and the nationwide health information network.	Public Health and Prevention
Immunization Reporting via EHRs	Interfacing EHRs with the NYS DOH and NYC DOHMH Immunization Registries to enhance their use and improve safety and efficiency. The Use Case incorporates NY’s Immunization Registry standards and incorporates criteria set forth by the Centers for Disease Control and Prevention (CDC) and the national Certification Commission for Healthcare Information Technology (CCHIT).	Public Health and Prevention

¹ Source: HEAL 5 External Briefing Book_042908a.

HEAL 5 Use Case	Description	CPW Subgroup
Quality Reporting for Prevention via EHRs	Implementing EHRs with embedded quality metrics for reporting prevention and process measures to support quality reporting. The Use Case incorporates the Federal Quality and Lab-EHR Uses Cases and NY's priorities and requirements with respect to quality measures and approaches.	Public Health and Prevention
Quality Reporting for Outcomes	Providing quality-based outcome reports based on clinical information from an interoperable EHR as well as other data sources to payers and providers to improve quality and support new payment models. The Use Case incorporates Federal standards and NY's priorities and requirements with respect to quality measures and approaches.	Quality Reporting for Outcomes and Clinical Decision Support
Clinical Decision Support in a HIE Environment	Providing analytic software to guide medical decisions and facilitate quality interventions. A Clinical Decision Support Use Case must be submitted by each applicant for consideration in the evaluation process.	Quality Reporting for Outcomes and Clinical Decision Support

1.4 Requirement Development Process

Over the course of a four-month period, the CPW and its Subgroups held frequent discussions to develop and refine a comprehensive set of requirements for four out of the seven HEAL 5 Use Cases. The remaining Use Cases will be included in future releases.

The clinical requirements developed by the CPW are statements describing the detailed information that a provider or patient needs at specific points in time during the clinical process. The requirements are structured to describe how an actor in a defined role needs to interact with the system. For instance: “The system shall provide a prompt to alert staff of a diagnosis of a chronic disease such as diabetes. A standardized lab order set is displayed. The order set advises required lab work per quality indicators (A1c, Lipid panel).” The various actors (clinicians, case managers, pharmacists, etc.) who interact with the system are listed with a description of their roles.

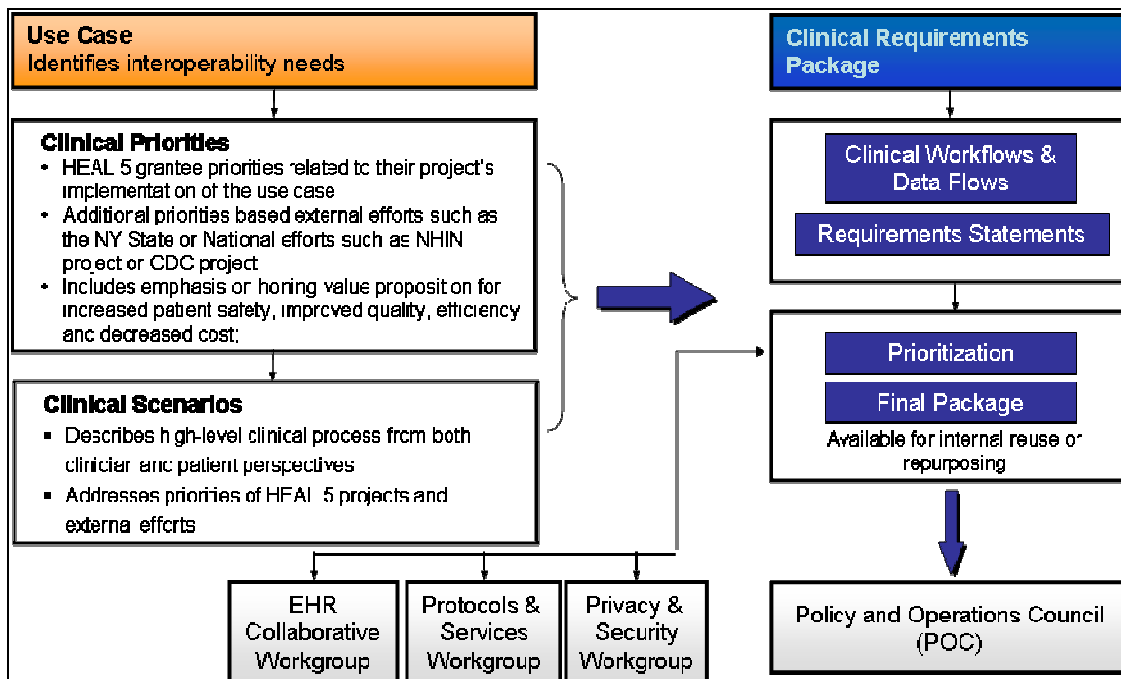
The clinical requirements development process represents a collaborative effort by the HEAL 5 grantees, Work Group and Subgroup co-chairs, staff, and other interested stakeholders such as NYS DOH, health plans, medical groups, and vendors. While the focus of the Version 1.0 clinical requirements are to support the HEAL 5 grants, the process is designed to be repeatable and expandable to other important clinical areas.

The requirements process shown in Exhibit 2 includes six major steps.

1. The Work Group started by identifying the HEAL 5 grantee clinical priorities as identified in their technical applications. Those priorities are listed in each of the Subgroup-specific sections below.
2. The Subgroup and staff then developed a clinical scenario to illustrate how the clinical priorities could be implemented as part of a patient’s journey through the health care system – in particular, the interactions that occur between a patient-provider and provider-provider.

3. The Subgroup and staff detailed the specific workflow steps to execute the scenario, from the point of view of the clinician. Any corresponding requirements were added at this time.
4. The Subgroup members discussed each workflow step and requirement until consensus was reached.
5. The co-chairs, staff, and grantees reviewed the list to ensure that the relevant clinical priorities for the HEAL 5 grantees were included.
6. The Subgroup prioritized the clinical importance and urgency of each requirement before passing on the requirements to the EHR Collaborative, Protocols & Services, and Privacy & Security Work Groups. The prioritization process is detailed in 1.5.

Exhibit 2: Clinical Requirements Development Process



1.5 Prioritization Process

Once the Subgroup approved the final set of requirements, each HEAL 5 project implementing a Use Case was asked to respond to set of questions across a series of dimensions to help prioritize the clinical importance and urgency of each requirement. Projects were also asked to confirm whether the requirement applied to their project.

Exhibit 3: Clinical Requirement Prioritization Dimensions

Dimension #	Dimension	Key Statement
Dimension 1	EHR Functional Requirement	This functional requirement is A) mandatory, B) optional, or C) not applicable to the success of my project.
Dimension 2	Provider	It is A) mandatory, B) optional, or C) not applicable for a provider workflow to change to

Dimension #	Dimension	Key Statement
	Workflow	implement this requirement.
Dimension 3	Common Approach	For this requirement, is it A) mandatory, B) optional, or C) not applicable to be considered for a common approach across the SHIN-NY?
Dimension 4	Implementation	For the requirement listed, it is A) requires early implementation (within next 12 months), B) does not require early implementation, C) is currently being implemented, or D) is not currently being implemented and does not require early implementation
Dimension 5	PHR Functional Requirement	This functional requirement is A) mandatory, B) optional, or C) not applicable to the success of my project.
Dimension 6	HIE Functional Requirement	This functional requirement is A) mandatory, B) optional, or C) not applicable to the success of my project.

For each requirement and dimension, the results were summarized by providing the total number and percentage of projects that responded to each possibility (e.g., for a given requirement, the number and percent of projects that responded “mandatory” to Common Approach). The prioritization results were relayed to the EHR Collaborative and Protocols & Services Work Group for further review and refinement. The ultimate determinant of priority requires consensus across the clinical, technical, and support dimensions. As a result, final priorities for Version 1.0 were determined in a group meeting that included representatives from NYeC, the NYS DOH, and all NYeC Work Groups.

1.6 Use of CPW Work Products

The CPW work products were ultimately used in the following ways:

- Refinement of the HEAL 5 grantee project work plans, informed by the perspectives of similar projects;
- Identification of requirements that should be considered for inclusion in vendor contracts;
- Identification of requirements that should be considered as a potential for a shared service; and
- Identification of clinical requirements that are important to implement within the next year.

The EHR Collaborative and Protocols & Services Work Groups leveraged the work products to further identify:

- The appropriate technology(s) impacted by the requirement – EHR, PHR, and/or HIE.
- Current feasibility of the requirement.
- Available functional or technical specifications to implement the requirement.

1.7 Expectations for Requirements that were Deferred to Future Versions

The HEAL 5 projects will be implemented over a two-year period from August 2008 through August 2010. As with any large software or system implementation that requires immediate results, strategic incrementalism is crucial. The Version 1.0 requirements represent the starting point for the HEAL 5 projects. There are requirements that will not be included as part of Version 1.0, but will be included in future versions of the SHIN-NY and/or will be completed by projects individually as part of the HEAL 5 implementations. For those Use Cases where some requirements were included in Version 1.0 and not others, the ones that were deferred will be added to a timeline for future review. For those Use Cases that had no requirements included in Version 1.0 (e.g. Public Health Use Cases and Clinical Decision Support) or a limited number (e.g. Connecting New Yorkers and Quality Reporting for Outcomes), it is expected that work will begin to identify the appropriate functional and technical specifications for these Use Cases following the release of Version 1.0.

2.0 CLINICAL PRIORITIES WORK GROUP RESULTS

2.1 Advancing Medication Management: Interoperable EHRs for Medicaid Use Case

2.1.1 Projects Implementing Use Case

Exhibit 4: Advancing Medication Management: Interoperable EHRs for Medicaid HEAL 5 Grantees and Project Priorities²

HEAL 5 Grantee	Summary of Project Priorities; Sources: HEAL 5 Technical Applications
Bronx RHIO	<ul style="list-style-type: none"> • Adding Medicaid data to the Bronx RHIO HIE. • Expanding data sources in the HIE by adding two clinical data repositories. • Expanding the critical data available to clinicians to improve the coordination of care. • Adding an exchange capability through the NYC DOHMH CHITA with Federally Qualified Health Centers (FQHCs) and community-based physicians. • Developing a Consent Status Service. • Expanding the number of clinicians who have access to the HIE and improvements to the clinical views and user interface. • Improving the RHIO infrastructure to support expansion of the HIE.
Brooklyn Health Information Exchange (BHIX)	<ul style="list-style-type: none"> • Requesting patient records from Medicaid. • Delivering Medicaid data and available clinical information, through its data integration and messaging services, in a patient-centric manner, to the point of care. • Working with EHR vendors to facilitate interoperability of critical clinical information. • Evaluating Medicaid data along with consented BHIX clinical information by utilizing the BHIX clinical decision support service. • Alerting clinicians with appropriate access rights to Care Considerations. • Providing comprehensive care management support care management plans and clinical decision support for high cost special needs categories (Category 2). • Working with community health centers to integrate clinical information into EHRs and enable quality outcomes reporting for preventing measures (Category 3).
Columbia Memorial Hospital	<ul style="list-style-type: none"> • Improving the availability of clinical information at the point of care to providers who serve Medicaid-enrolled patients and enable access to updated information. • Securing appropriate interfaces to coordinate with HIXNY and obtain clinical information from Medicaid through HIXNY's application programming interfaces with eMedNY.
Greater Rochester Regional Health Information Organization	<ul style="list-style-type: none"> • Exchanging data based on Medication claims such as medication history, patient visit history, procedures, diagnosis, and clinical data between physicians and with the eMedNY. • Accelerating EHR adoption by privately owned community physicians, Federally Qualified Health Centers, and RecoveryNet, a behavioral health CHITA.
Health Information Technology Alliance of Syracuse (HITAS)	<ul style="list-style-type: none"> • Providing improvements to the quality, cost effectiveness, and coordination of care provided to our significant Medicaid population using a fully interoperable CCHIT-Certified EHR and sufficient health information exchange technology. • Enabling providers to securely send health records to a patient or to other providers.
Health Information X-Change of New York (HIXNY)	<ul style="list-style-type: none"> • Providing clinicians with the support they need to coordinate care for Medicaid patients through the interoperability of the exchange. • Monitoring, requesting, and processing clinical information from/to EHR/EMR. • Obtaining Medicaid data through the federated HIXNY architecture using a real-time call to the

² All HEAL 5 Project Priorities were extracted from the HEAL 5 Technical Applications.

HEAL 5 Grantee	Summary of Project Priorities; Sources: HEAL 5 Technical Applications
Interboro Regional Health Information Organization	<ul style="list-style-type: none"> state Medicaid system. Providing EHR solutions to small community practices and community health centers that currently do not have EHRs. Providing IT adoption and support services to assist providers in readiness assessment, implementation, and workflow and process improvement. Providing options for community practices and health centers with EHRs to participate in the data exchange. Providing results and information delivery to the providers through expanding the number and types of competing organizations participating in the clinical data exchange. Establishing information exchange with the NYS DOH to bring Medicaid data to the providers at the point of care.
New York City Department of Health and Mental Hygiene (NYC DOHMH)	<ul style="list-style-type: none"> Extending interoperable EHRs to an additional 540 Medicaid providers in small office practices in NYC and providing them with the support they need for successful implementation and adoption of EHRs, as well as quality improvement using the EHRs. Enabling seamless health information exchange between EHR-enabled ambulatory care providers and multiple RHIOs using a service-oriented architecture with late-binding, open protocols.
Southern Tier Health Link (STHL)	<ul style="list-style-type: none"> Supporting clinical decision making and improving care coordination. Converting a majority of federally qualified health centers and private practices to interoperable EHRs, allowing providers serving Medicaid patients in the seven county care zone to be linked to the regional exchange. Leveraging data through the pharmacy benefit managers combined with formulary and other clinical knowledge bases to create enhanced medication lists for Medicaid patients. Utilizing drug-allergy checking, drug-drug interaction checking, therapeutic duplication, and access to up-to-date information about medications.
Sunset Park Health Council	<ul style="list-style-type: none"> Facilitating interfaces to BHIX with the CHCs' installed EHR product. Sponsoring a primary care home pilot leveraging RHIO-enabled information exchange and care coordination processes with Maimonides Medical Center (BHIX member) and one of the CHCs, resulting in a tool-kit for both CHCs and hospitals for extended roll-out.
Taconic Health Information Network and Community Regional Health Information Organization (THINC RHIO)	<ul style="list-style-type: none"> Enhancing the availability of information via the HVHIE by number, variation, and size of data providers in the network. Integrating data providers with the EHRs, enabling critical inpatient data to move closer to the point of care by incorporation into the EHR itself. Incorporating data sources to allow greater coverage of patients in the region. Providing medication and visit history data for Medicaid patients to clinicians to further comprehensive care management capability. Providing clinically relevant information not previously available to permit providers to take into account a greater spectrum of patient need, including medication reconciliation and continuity of care.
Western New York Clinical Information Exchange (WNYCIE)	<ul style="list-style-type: none"> Creating interoperable EHR and HIE capabilities to serve all WNY Medicaid Eligibles. Building connectivity to prescribe medicines for Medicaid beneficiaries. Building connectivity to exchange clinical data between practitioners.

2.1.2 Clinical Requirements

2.1.2.1 Clinical Scenario and Workflow

The clinical scenario describes the high-level clinical process from both the patient and clinician perspectives while addressing the clinical priorities of the HEAL 5 projects. The workflow defines the detailed clinical steps and data flow based on the scenario.

The Medicaid Medication Management Subgroup developed the following high-level scenario to guide their development of requirements:

An 80 year-old female with history of stroke, atrial fibrillation, and congestive heart failure is referred to an ortho consult in a different Regional Health Information Organization. She is then admitted for total knee replacement and discharged to rehab at a nursing home. Next, she is discharged back home with follow up physical therapy. The patient is on Coumadin therapy, and there is a need for lab monitoring and medication management throughout the process.

The Subgroup members identified over two hundred steps across the following care settings:

- PCP Office
- Orthopedics Office
- Outpatient Laboratory
- Cardiology Office
- Retail Pharmacy
- Neurology Office
- Hospital
- Rehab Center at Nursing Home
- Home Health
- Ambulatory Physical Therapy

2.1.2.2 Summary of Requirements

While there were over 200 workflow steps, many of the workflow steps required similar interactions with technology. The Medicaid Medication Management Subgroup was able to condense the requirements into 35 unique requirements to support the workflow.

The key areas covered in the requirements include:

- Patient Consent
- Authorization
- Benefit Eligibility (including formulary coverage)
- Medication History
- Medication Reconciliation
- Interoperability
- E-Prescribing
- Computerized Provider Order Entry
- Medication Alerts
- Decision Support

2.1.2.3 Topics that Took Time to Resolve or Required Significant Discussion

The Subgroup carefully reviewed and discussed the details and wording of each requirement and used an iterative process to develop requirements that were inclusive of feedback from the

HEAL 5 projects and Subgroup co-chairs. There were no particular topics that required extra time or significant discussion in order to reach agreement.

2.1.2.4 Prioritization Results

Exhibit 5 represents the number of requirements broken down by dimension response and number of projects. For example, 34 of the 35 requirements applied to at least one of the projects, 10 requirements applied to at least five of the projects, and only one applied to all.

Exhibit 5: Advancing Medication Management: Interoperable EHRs for Medicaid Summary Statistics Based on Prioritization Results

Columns = Number of Projects (Total Responses = 10); Cells = Number of Requirements (Total Req = 35)

Dimension Response	≥ 1 Project	≥ 2 Projects	≥ 3 Projects	≥ 4 Projects	≥ 5 Projects	≥ 6 Projects	≥ 7 Projects	≥ 8 Projects	≥ 9 Projects	= 10 Projects
Requirement applies to project	34	32	30	22	10	9	8	5	4	1
The EHR functional requirement is mandatory for the success of project	32	27	23	21	21	20	17	16	8	1
It is <u>mandatory</u> for a provider workflow to change	28	23	20	19	19	18	17	13	9	2
A common approach is <u>mandatory</u> across the SHIN-NY	10	7	6	5	5	5	5	3	2	0
Requires early implementation	26	22	21	19	19	19	16	6	1	0
Does not require early implementation	20	12	10	10	9	9	7	5	1	1
Is currently being implemented	25	17	15	14	14	14	14	10	5	0
Is not currently being implemented and does not require early implementation	34	23	8	5	5	5	5	3	2	1

For complete requirement-level prioritization results compiled across the Medicaid Medication Management Subgroup, see the document “MMM Requirement Prioritization Exercise_20080831_Compiledv8.xls” found on the SCP General Access Workspace on Central Desktop (<https://nyec.centraldesktop.com/scpgeneralaccess/Medicaid>).

2.1.2.5 Overview of Requirements and Disposition for Version 1.0 of the SHIN-NY

Of the 35 unique requirements the Medicaid Medication Management Subgroup developed, 26 will be advanced as part of Version 1.0. Of these 26 requirements, 21 will be advanced as part of HIE functional requirements, and 16 as part of EHR functional requirements included in Version 1.0.

Exhibit 12 in the Appendix lists the 35 clinical requirements and indicates whether the associated HIE and EHR functional requirements will be included in Version 1.0.

2.2 Quality Reporting for Outcomes Use Case

2.2.1 Projects Implementing Use Case

Exhibit 6: Quality Reporting for Outcomes Use Case HEAL 5 Grantees and Project Priorities³

HEAL 5 Grantee	Summary of Project Priorities
Bronx RHIO	<ul style="list-style-type: none"> • Expanding the critical data available to clinicians to improve the coordination of care by the addition of the medical document data domain and feeds of discharge summaries, radiology reports, EKG strips, and/or microbiology test results. • Adding an exchange capability through the NYCDOI-IMH CHITA with Federally Qualified Health Centers (FQHCs) and community-based physicians. • Expanding the number of clinicians who have access to the HIE, improving the clinical views and user interface, and improving the tile RHIO infrastructure to support expansion of the HIE. • Developing a Consent Status Service to provide a method for Bronx RHIO and partner systems to pass consent status updates to each other. • Improving efficiency of effectiveness of care by providing the most complete information available to the treating provider at the point of care. • Improving quality of care by supporting patient-centered care, care coordination, disease management, and quality-based reimbursement reform initiatives. • Reducing costs of care by reducing duplicative tests, therapies, and avoidable admissions. • Improving outcomes of care by monitoring quality outcomes and evaluating the effectiveness of care.
Taconic Health Information Network and Community Regional Health Information Organization (THINC RHIO)	<ul style="list-style-type: none"> • Facilitating automated reporting on clinical data for quality improvement programs. • Expanding the set of quality measures reported to include, at a minimum, all 34 of the measures specified by the Commissioner's Pay-for-Performance Workgroup in the Quality Reporting for Outcomes Use Case. • Incorporating the National Committee for Quality Assurance (NCQA) structural practice measures of Physician Practice Connections-Patient Centered Medical Home (PPC-MH) into the Quality Reporting Service, and working with EHR vendors to enable reporting on these practice measures out of EHR systems. • Supporting automated quality reporting from physician practices' EHRs and hospital information systems to a Quality Reporting Service and enabling provider performance comparisons to relevant peers and groups across a range of quality measures, and enabling reporting to Pay-for-Performance programs.
Western New York Clinical Information Exchange (WNYCIE)	<ul style="list-style-type: none"> • Using EHR system software to support community reporting of quality outcomes such as the P2 Collaborative (providing health status feedback to the community and promoting implementation of medical best practices) as well as the WNY Quality Measures Collaborative (WNY-QMC) P4P Demonstration Grant. • Responding to patient data requests from the P2 collaborative for community/public reporting of quality measures and performance. • Using the HealthLink HIE to support quality reporting to improve outcomes. • Developing a standardized method to produce data as a result of an authorized request. • Preparing documentation that defines the standards, processes, and protocols for quality reporting. • Aggregating data across multiple sources to support quality measurement,

³ All HEAL 5 Project Priorities were extracted from the HEAL 5 Technical Applications.

HEAL 5 Grantee	Summary of Project Priorities
	promoting accountability among providers, and aiding consumers in making informed choices.

2.2.2 Clinical Requirements

2.2.2.1 Clinical Scenario and Workflow

The clinical scenario describes the high-level clinical process from both the patient and clinician perspectives while addressing the clinical priorities of the HEAL 5 projects. The workflow defines the detailed clinical steps and data flow based on the scenario.

The Quality Reporting for Outcomes and Clinical Decision Support Subgroup developed the following clinical scenario. It focuses on the inter-/intra-organizational data exchange between various sites of care (e.g., Emergency Department (ED), Primary Care Physician (PCP) Office, Pharmacy, care management provider, and Smoking Cessation Program) needed to report quality measures. It details the episodes of care and accompanying treatment plan for a hypothetical patient named Bob.

Bob is a 52 year-old male who was first diagnosed with Type 2 Diabetes at the age of 41. Since that time he has had fairly stable care for his diabetes and sees his Primary Care Provider (PCP) on a regular basis. Bob takes a biguanide and a sulfonylurea to treat his diabetes. Bob also suffers from adult onset moderately severe recurrent asthma and has been prescribed Singulair, an inhaled corticosteroid, and a short-acting beta-2 agonist. In addition to his diabetes and asthma, Bob has been smoking cigarettes for seven years and currently smokes one pack per day.

The workflow accompanying this scenario further defines the clinical steps and processes involved in collecting and sharing the patient data and what data elements need to be extracted in order to report quality measures.

The Subgroup members identified over 100 workflow steps across the following care settings:

- Emergency Department
- Hospital
- Other Points of Service
- PCP Care Management Program
- PCP Smoking Cessation Program
- Primary Care Practice
- Retail Pharmacy
- Sub-acute Care Facilities

2.2.2.2 Summary of Requirements

The requirements developed by the Quality Reporting for Outcomes and Clinical Decision Support Subgroup were centered on advancing quality-based outcome reports based on clinical information from an interoperable EHR to improve the quality and efficiency of care.

While there were over 100 workflow steps, many of the workflow steps required similar interactions with technology. The Subgroup was able to condense the requirements into 67 unique requirements to support the workflow. Of these, 25 were specifically developed to address population reporting requirements.

The key areas covered in the requirements include:

- Clinical Decision Support
- Data Transfers within the EHR and HIE
- Disease/Case Management
- E-Prescribing
- Medication Compliance
- Medication History
- Patient demographic and financial information
- Patient Education and Incentive Programs
- Patient Eligibility and Registration
- Patient Examinations and Lab Orders
- Patient Treatment Plans
- Population Reporting
- Quality Measurement and Reporting
- Referrals
- Smoking Cessation and Health Promotion and Wellness

2.2.2.3 Topics that Took Time to Resolve or Required Significant Discussion

The Subgroup carefully reviewed and discussed the details and wording of each requirement and used an iterative process to develop requirements that was inclusive of feedback from the HEAL 5 projects and Subgroup co-chairs. The Subgroup co-chairs and HEAL 5 projects came to agreement to advance the requirements as part of Version 1.0. However, population management was a difficult process to map and may need further qualifications.

2.2.2.4 Prioritization Results

All 67 requirements developed by the Quality Reporting for Outcomes and Clinical Decision Support Subgroup were sent to the projects for prioritization. The Brooklyn Health Information Exchange (BHIX), a project in the Subgroup implementing the Clinical Decision Support Use Case, provided prioritization responses. However, responses have not been received from those projects implementing the Use Case due to timing and were not leveraged by the EHR Collaborative when completing their work.

2.2.2.5 Overview of Requirements and Disposition for Version 1.0 of the SHIN-NY

Of the 67 unique requirements the Quality Reporting for Outcomes and Clinical Decision Support Subgroup developed, 22 requirements relating to EHR functionality will be advanced as part of Version 1.0.

Exhibit 13 in the Appendix lists the 67 requirements for Quality Reporting for Outcomes Use Case and indicates which requirements are included in Version 1.0.

2.3 Connecting New Yorkers and Clinicians Use Case

2.3.1 Projects Implementing Use Case

Exhibit 7: Connecting New Yorkers and Clinicians Use Case HEAL 5 Grantees and Project Priorities⁴

HEAL 5 Grantee	Summary of Project Priorities; Sources: HEAL 5 Technical Applications
Southern Tier HealthLink (STHL)	<ul style="list-style-type: none"> • Providing an option for consumers to choose to limit the providers that may view the records within their PHRs. • Providing PHR functions that include appointment scheduling, viewing and maintaining a pre-populated PHR, viewing lab results, communicating with providers, managing access to their medical record, and monitoring or updating personal health plans. • Implementing a PHR system generating a CCD message which routes to the appropriate physician. • Providing interoperability with multiple PHRs through a PHR "hub" to allow patients to move their data between PHRs of their choice providing portability and lifetime access. • Providing reading-level appropriate guidance related to specific medical conditions. • Providing secure messaging between patients and providers. • Warning PHR account holders/providers of patterns of medication use that may indicate an emerging health problem. • Providing consumers access to an existing application with administrative reports showing who has viewed their data on request from the support team.
Brooklyn Health Information Exchange (BHIX)	<ul style="list-style-type: none"> • Providing a comprehensive PHR to New Yorkers with facilitated registration, identification, and authentication. • Enabling New Yorkers to manage and control provider access to information available within the PHR and BHIX. • Populating the PHR with clinical information, including, but not limited to, medications available through BHIX. • Allowing authorized and authenticated clinicians, via their EMRs or the BHIX clinician portal, to access PHR information entered by New Yorkers. • Encouraging and allowing patients to input additional information (.e.g., allergies and over the counter medications) and complete a comprehensive health record assessment. • Capturing emergency contact information in the BHIX PHR, which will be available to authorized and authenticated providers and patients in the event of an emergency. • Facilitating prevention, wellness, disease management, and other health education through a BHIX clinical decision support service, which monitors and evaluates consented BHIX and PHR clinical information including clinical data sources such as patient entered data, claims-based data. • Delivering clinical decision support alerts ("Care Considerations") to clinicians and New Yorkers via traditional messaging mechanisms, email, the PHR, the clinician portal, and interoperable EHRs. • Allowing patients to monitor, modify, and control access to data in PHR.
Health Information Xchange of New York (HIXNY)	<ul style="list-style-type: none"> • Allowing a consenting patient connected to the exchange to securely access his/her specified health information. • Allowing HIE data to be available to feed PHRs in an interoperable, secure manner with consumer choice between multiple PHRs unrestricted. • Offering an integrated means of combining HIE data with patient data to present a comprehensive clinical view. • Providing core functionality that includes configurable views of a patient's clinical history,

⁴ All HEAL 5 Project Priorities were extracted from the HEAL 5 Technical Applications.

HEAL 5 Grantee	Summary of Project Priorities; Sources: HEAL 5 Technical Applications
	<p>appointment notifications, prescription reminders, allergy and immunization alerts, health reference links, pre-visit questionnaires, demographic updates, and secure mail to involved clinicians.</p> <ul style="list-style-type: none"> • Creating a means for physicians to securely communicate with other providers for the benefit of the patient. • Improving the engagement of patients in their own care. • Promoting confidence and satisfaction in their care as personalized updates and notifications appear in their record.
<p>Long Island Patient Information Exchange (LIPIX)</p>	<ul style="list-style-type: none"> • Providing patients with tools to facilitate active engagement in their own care by entering information for their clinicians to view. • Integrating information to provide patients with the capability to view their own medication information reconciled from multiple sources. • Providing a PHR integrated with the RHIO that offers standards-based secure information via the Internet which is under control of the patient and able to interoperate to share information with other systems. • Providing patients with tools to interconnect them to their clinicians and health plans. • Providing clinicians with access to historical information to improve patient care while at the same time completing recommended tasks such as the JCAHO 2007 PSI for medication reconciliation. • Implementing a multi-regional process of exchange of CCD patient summary with PHRs and EHRs.
<p>Rochester Regional Health Information Organization (gRrhio)</p>	<ul style="list-style-type: none"> • Querying other organizations for data and match it to the consumer. • Implementing the NHIN approach for identifying subject and locating records between multiple HIEs. • Providing a patient portal where patients can be authenticated, set consent for access to their medical information by physician group, link to a PHR of their choice, and annotate their medication history data available through the HIE. • Authenticating consumers, designated caregivers, and providers using appropriate levels of authentication. • Allowing patients to receive information, such as med history, disease management information, prevention, and wellness reminders through their PHR. • Allowing patients to update health problems, medication allergies, and allergies through a PHR. • Allowing patients to identify their PHR of choice. • Allowing patients to upload their PHR information to the HIE. • Allowing providers to review patient provided information as submitted through a PHR. • Enabling Elder Services, Point of Entry (POE), Medical Orders for Life-Sustaining Treatment (MOLST), and Advanced Directives (AD) systems to exchange patient health information among disparate clinicians, other authorized entities, and patients in real time while ensuring security and privacy. • Preparing for health care emergencies by incorporating components of federal Medication Management, Emergency Responder, and Consumer Access Use Cases. • Implementing an emergency focus area that also includes HIE enabled access to STEP, an on-line directory of emergency medical services and deployment of electronic patient care record (EPCR) to three rural county EMS enabling access to HIE data. • Connecting New Yorkers to their clinicians and providers in a health information exchange environment sharing clinical results and emergency contact information. • Allowing access, viewing, and sharing of medication information – RHIO's current VHR portal to emergency responders, long-term care, and physicians. • Logging all activities and recording all interactions and transactions with access, viewing, tracking, and generation of system logs for all system activity identifying the user, the location, time/date, and the inquiry/transaction performed.

HEAL 5 Grantee	Summary of Project Priorities; Sources: HEAL 5 Technical Applications
	<ul style="list-style-type: none"> • Allowing patients to manage consent by provider. • Allowing patients to retrieve information about providers (list of authorized providers by practice). • Allowing consumers to request access logs from the HIE.

2.3.2 Clinical Requirements

2.3.2.1 Clinical Scenario and Workflow

The clinical scenario describes the high-level clinical process from both the patient and clinician perspectives while addressing the clinical priorities of the HEAL 5 projects. The workflow defines the detailed clinical steps and data flow based on the scenario.

The Connecting New Yorkers and Clinicians Use Case is illustrated in two distinct scenarios, with requirements captured in two distinct spreadsheets. The first scenario involves a couple who have set up PHRs for management of their day to day care. This scenario is called the Personal Health Records Scenario or “PHR Scenario 1.” The second scenario describes a patient requiring emergency care. The content of this scenario is only being implemented by the Greater Rochester Regional Health Information Organization (gRRhio), so this scenario and spreadsheet are called Rochester Emergency Medicine and Advanced Directives, often referred to as the “Rochester” scenario for short.

Personal Health Records Scenario (“PHR Scenario 1”)

Laura is a 31 year old woman with a family history of breast cancer. Laura sets up a PHR to manage her medical information and her interactions with the health system, including appointments and referrals. She also uses the PHR to stay informed about her increased risk for developing breast cancer.

Through the course of the scenario, Laura uses the PHR both for self care and through interactions with a variety of providers, including her PCP, an outpatient radiology center, and a surgeon (specialist to which she’s referred). Providers seen are both inside and outside her regional health information organization (RHIO). The PHR allows Laura to combine and share information with her providers and enter her own personal observations.

A few months later, Laura's husband, David, who also has a PHR, visits his PCP because he is complaining of migraines. His PCP prescribes a medication but receives an alert that it might have an adverse effect with another medication David is taking. The PCP chooses another medication and refers him to a neurologist who is not part of the RHIO. David sees the neurologist who changes his medications.

Rochester Emergency Medicine and Advanced Directives (“Rochester”)

Sandy is a 50 year old female with a history of repeated emergency department visits for epilepsy and multiple bruises due to blunt trauma. 911 receives a call from a concerned neighbor. Fearing violence, the neighbor gives the 911 operator basic personal information on Sandy.

While the ambulance is in route, the emergency team accesses Sandy's health information exchange record for her medical history. They check her HIE- based virtual health record (VHR) for the name of her PCP and check the EMS-based STEP directory to determine where her PCP has admitting privileges. They additionally can view a Medical Orders for Life-Sustaining Treatment (MOLST) for this patient that conditions treatment.

2.3.2.2 Summary of Requirements

While there were over 100 workflow steps between the two scenarios, many of the workflow steps required similar interactions with technology. The Connecting New Yorkers and Clinicians Subgroup was therefore able to narrow down the requirement set to 66 unique requirements.

The first 23 requirements of "PHR Scenario 1" involve the setting up of the PHR. This includes the patient establishing an account and beginning to populate it. Consumers/patients can populate the record manually and/or by requesting information from the RHIOs' Health Information Exchange (HIE). The patient can specify proxy information (enabling another designated individual to access his/her record), as well as set up alerts and reminders.

The next 31 requirements describe the interactions between the consumer/patient and PHR, as well as the patient's providers and the PHR.

The key areas covered in the requirements include:

- Alerts and reminders sent to the patient as requested during set-up
- Patient access to educational information
- Patient's ability to make appointments
- Provider's ability to make referrals
- Ability for the provider to access patient information through the HIE
- Patient's ability to view certain information entered by their provider, and
- Communication between patient and provider or between providers via secure messaging

The last 13 requirements in PHR Scenario 1 involve medication management via the PHR. Medication information can be downloaded from the HIE to the provider's EHR to be used in various rules engines that check for contraindications. A physician can record a new medication which can be viewed by other physicians, who can change or discontinue the medication as necessary. New medication information also passes from the HIE back to the PHR for the patient's viewing.

The remaining 12 requirements pertain to the Rochester scenario. They allow emergency medical services (EMS) to query the HIE for patient information, including medical history and Medical Orders for Life-Sustaining Treatment (MOLST) and Do Not Resuscitate (DNR) references. From the field, personnel can update the HIE and route information to the hospital ED. The ED can query the HIE for a patient summary which would include emergency contact information, MOLST, DNR orders, Care Assessment documents, and access to on-line radiology

images. Additional requirements exist around access to the HIE by discharge planners and the ability to update MOLST information.

2.3.2.3

The Subgroup carefully reviewed and discussed the details and wording of each requirement and used an iterative process to develop requirements that was inclusive of feedback from the HEAL 5 projects and Subgroup co-chairs. Though the Subgroup came to ultimate agreement on all requirements, the issue outlined below will require additional discussion.

Though the PHR should contain all pertinent clinical information for a comprehensive health record, it would not be appropriate to display information in the PHR prematurely or in language the patient cannot understand. Parameters will need to be established as to what information will transfer from a provider’s EHR through the HIE to the PHR, and after what length of time.

For example, in PHR Scenario 1, our patient, Laura, has a mammography result requiring further diagnostic testing to confirm or rule out disease. It would not be appropriate for her result to populate in her PHR as soon as it is available to her physician. As part of standard clinical practice, the physician’s office would either notify her by phone or speak to her in person about the result. Even later, it may not be appropriate to transmit the entire radiology report to the PHR, but instead present some condensed version in layman’s language.

These details will need to be worked out when data transmissions to the PHR are discussed in future releases.

2.3.2.4 *Prioritization Results*

All 66 unique Connecting New Yorkers and Clinicians requirements went through the prioritization process. All five HEAL 5 grantees implementing the Use Case provided input on prioritization.

Exhibit 8 and Exhibit 9 represent the number of requirements broken down by dimension response and number of projects. For example, 49 of the 54 requirements in PHR scenario 1 applied to at least one of the projects, 21 requirements applied to at least three of the projects, and 14 applied to all.

Exhibit 8: Connecting New Yorkers and Clinicians Use Case Scenario 1 Summary Statistics Based on Prioritization Results

Columns = Number of Projects (Total Responses = 5); Cells = Number of Requirements (Total Req = 54)

Dimension Response	≥ 1 Project	≥ 2 Projects	≥ 3 Projects	≥ 4 Projects	= 5 Projects
Requirement applies to project	49	32	21	19	14
The EHR functional requirement is <u>mandatory</u> for the success of project	35	23	13	4	1
It is <u>mandatory</u> for a provider workflow to change	17	8	4	1	0

Dimension Response	≥ 1 Project	≥ 2 Projects	≥ 3 Projects	≥ 4 Projects	= 5 Projects
A common approach is <u>mandatory</u> across the SHIN-NY	26	10	14	0	0
Requires early implementation	46	25	20	3	0
Does not require early implementation	53	37	25	6	0
Is currently being implemented	21	3	0	0	0
Is not currently being implemented and does not require early implementation	26	0	0	0	0
The PHR functional requirement is <u>mandatory</u> for the success of project	33	16	0	0	0
The HIE functional requirement is <u>mandatory</u> for the success of project	34	3	0	0	0

For the Rochester scenario, as only one project will be implementing this set of requirements, the respondent number on the dimension was one.

Exhibit 9: Connecting New Yorkers and Clinicians Use Case Rochester Scenario Summary Statistics Based on Prioritization Results

Columns = Number of Projects (Total Responses = 1); Cells = Number of Requirements (Total Req = 12)

Dimension Response	= 1 Project
Requirement applies to project	12
The EHR functional requirement is <u>mandatory</u> for the success of project	0
It is <u>mandatory</u> for a provider workflow to change	12
A common approach is <u>mandatory</u> across the SHIN-NY	8
Requires early implementation	10
Does not require early implementation	1
Is currently being implemented	1
Is not currently being implemented and does not require early implementation	0
The PHR functional requirement is <u>mandatory</u> for the success of project	0
The HIE functional requirement is <u>mandatory</u> for the success of project	0

For complete requirement-level prioritization results compiled across the Connecting New Yorkers and Clinicians Subgroup, see:
<https://nyec.centraldesktop.com/scpgeneralaccess/CNYers>.

2.3.2.5 Overview of Requirements and Disposition for Version 1.0 of the SHIN-NY

Of the 66 unique requirements the Connecting New Yorkers and Clinicians Subgroup (CNYers) developed, seven requirements relating to EHR functionality will be advanced as part of Version 1.0.

Exhibit 14 in the Appendix lists the 66 requirements as well as an indicator to show if the requirement will be included in the Version 1.0.

2.4 Immunization Reporting via EHRs Use Case

2.4.1 Projects Implementing Use Case

Exhibit 10 includes the HEAL 5 projects that are implementing the Immunization Reporting via EHRs Use Case:

Exhibit 10: Immunization Reporting via EHRs Use Case HEAL 5 Grantees and Project Priorities⁵

HEAL 5 Grantee	Summary of Project Priorities; Sources: HEAL 5 Technical Applications
Greater Rochester RHIO	<ul style="list-style-type: none"> Developing connectivity with NYSIIS and encouraging providers to complete a signed NYSIIS user agreement for patients under the age of 19. Supporting the implementation of interoperability between the University of Rochester Medical Center's (URMC's) implemented Allscripts/Touchworks EHR pediatric practices and the NYS Immunization registry, allowing additional support to establish connectivity to other EHR systems throughout the community. Allowing the EHR to record PHL 2168 data elements and send approved NYSIIS data exchange file specifications. Showing interconnectivity between the URMC PCPs using Allscripts/Touchworks as well as 4 additional EHRs to NYSIIS with a bidirectional interface between URMCs EHR and NYSIIS, enabling providers administering immunizations to document the immunizations in the individuals' health record and have this data flow to the NYS registry as well as have the NYSIIS immunization data flow into Allscripts. Allowing NYSIIS return of three possible outcomes: 1) record did not have enough info or incorrect info and was rejected with notification back to EHR which will then review info and check its validity before re-submitting 2) record does not have a match and NYSIIS adds a new person record and notify EHR that message was received 3) record has a match and information is submitted by EHR and used to update the matched record with new immunization information submitted by the EHR or corrected information is used to update matching record and in both cases NYSIIS responds back the EHR that the message was received and processed.
Health Information Alliance of Syracuse (HITAS)	<ul style="list-style-type: none"> Allowing, with NextGen EHR, the immunizations to be documented, extracted, and sent to NYSIIS via a data exchange format. Allowing, with the combination of this data exchange, the health maintenance alerts set up in NextGen and the reporting ability in NextGen to more efficiently identify and immunize our pediatric population.
New York City Department of Health and Mental Hygiene (NYC DOHMH)	<ul style="list-style-type: none"> Implementing the DOHMH interface between the eCW EHR system and the NYC Citywide Immunization Registry (See HEAL 5 RGA Section 7.1.6 Immunization Reporting via EHRs Use Case v1.0); Interface will initially allow providers to safely and securely convey to the registry all immunization that are administered. Allowing for, in early 2008, the DOHMH development of a bilateral interface that will allow providers to also obtain previous immunization history about their patients; Interface will use HL7 standards and will comply with the specifications outlined in the NYC/CIR Batch Reporting File.

2.4.2 Clinical Requirements

2.4.2.1 Clinical Scenario and Workflow

The clinical scenario describes the high-level clinical process from both the patient and clinician perspectives while addressing the clinical priorities of the HEAL 5 projects. The workflow defines the detailed clinical steps and data flow based on the scenario.

The Public Health and Prevention Subgroup developed the following high-level scenario to guide their development of requirements. The scenario focuses on a 15 year old female (Sue).

⁵ All HEAL 5 Project Priorities were extracted from the HEAL 5 Technical Applications.

Sue has a history of asthma. She is being seen in the local family planning center for birth control and a pelvic exam. Sue is concerned that she may have a sexually transmitted disease (STD) as she has experienced a few symptoms over the last few weeks that she believes may be a sign of STD. The following week, Sue is contacted by the clinic and learns that she needs to return for another appointment because her Chlamydia screen has come back positive. Sue is encouraged to consider the HPV vaccine as she has not received this vaccine and is in the appropriate age range for catch-up immunization, and to return to the clinic in three months for follow up. Sue spends the next several weeks at camp and comes home from camp at the end of the summer. Sue experiences a low grade fever, stiff neck, and headaches. Sue is taken to the nearest emergency department where she is diagnosed for meningitis.

The Subgroup members identified approximately 50 workflow steps across the following care settings:

- Family Planning Clinic
- Retail Pharmacy
- Primary Care Practice
- Emergency Department

2.4.2.2 Summary of Requirements

While there were over 40 workflow steps, many of the workflow steps required similar interactions with technology. The Subgroup was able to condense the requirements into 26 unique requirements to support the workflow.

The clinical requirements developed are centered on interactions between relevant stakeholders including patients, providers, and local and state health departments. The clinical requirements developed are related to many dimensions of immunization reporting including:

- Automatic Reminders and Alerts within EHRs
- Screening Results Viewable within EHRs
- EHR Interface with Local and State Health Departments
- Bi-Directional Interface Between Provider EHRs and Electronic Clinical Laboratory Reporting System (ECLRS) and New York State Immunization Information System (NYSIIS)

2.4.2.3 Topics that Took Time to Resolve or Required Significant Discussion

The Subgroup carefully reviewed and discussed the details and wording of each requirement and focused on making the requirements development process iterative that included feedback from the HEAL 5 projects and Subgroup co-chairs. The Subgroup sessions included healthy discussions on the process of immunization reporting and the differences across provider communities. Throughout these discussions, the group members gained insight on current state capabilities of various EHR systems across different provider communities. At the conclusion of the requirements development process, the group defined requirements that accounted for variations across the provider community, as well as captured future state clinical requirements.

2.4.2.4 Prioritization Results

All 26 unique requirements developed by the Public Health and Prevention Subgroup went through the prioritization process. Of the three projects implementing the Immunization Reporting Use Case, Health Information Technology Alliance of Syracuse (HITAS) was the only project to respond to the prioritization request. Two projects in the Subgroup not implementing the Use Case, Western New York Clinical Information Exchange (WNYCIE) and Hudson River Healthcare, also responded.

Exhibit 11 represents the number of requirements broken down by dimension response and number of projects. As stated above, the only project implementing the Use Case that responded to the prioritization request was HITAS, therefore the respondent number in the exhibit is equal to one.

Exhibit 11: Immunization Reporting via EHRs Use Case Summary Statistics Based on Prioritization Results

Columns = Number of Projects (Total Responses = 1); Cells = Number of Requirements (Total Req = 26)

Dimension Response	= 1 Project
Requirement applies to project	26
The EHR functional requirement is <u>mandatory</u> for the success of project	26
It is <u>mandatory</u> for a provider workflow to change	19
A common approach is <u>mandatory</u> across the SHIN-NY	26
Requires early implementation	26
Does not require early implementation	0
Is currently being implemented	13
Is not currently being implemented and does not require early implementation	0
The PHR functional requirement is <u>mandatory</u> for the success of project	16
The HIE functional requirement is <u>mandatory</u> for the success of project	26

For complete requirement-level prioritization results compiled across the Public Health and Prevention Subgroup, see <https://nyec.centraldesktop.com/scpgeneralaccess/PublicHealth>.

2.4.2.5 Overview of Requirements and Disposition for Version 1.0 of the SHIN-NY

It was determined by the Clinical Priorities, EHR, and Technical Protocol and Services Work Groups that the Immunization Reporting via EHRs Use Case requirements will not be included as part of Version 1.0 of the SHIN-NY. However, the requirement statements that were

advanced are included in the Appendix. Please note that additional input was received from the NYC DOHMH and will be included in the future release.

Exhibit 15 in the Appendix lists the 26 requirements for the Immunization Reporting via EHRs Use Case.

3.0 APPENDIX

3.1 Advancing Medication Management: Interoperable EHRs for Medicaid Use Case: Requirements with Version 1.0 Designations

Exhibit 12: Advancing Medication Management: Interoperable EHRs for Medicaid Use Case Requirements

No.	Clinical Req. # ⁶	Requirement	HIE V1.0	EHR V1.0 ⁷	EHR Req. # ⁸
1	1	Patient consent to allow access to a provider (as defined by the White Paper) to PHI. Consent shall occur before patient data is accessed. Need to incorporate patient consent forms for the transfer and sharing of all data into the clinical workflow process. [Assumption - patient consent with regards to workflow will occur at the local level]	Yes	No	NA
2	2	Provide comprehensive benefit eligibility (health plan, Medicaid, Medicare, etc.) information to include managed care information.	Yes	Yes	1.1
3	5	Clinical staff can document patient medication history electronically from patient.	No	Yes	2.1
4	6	There shall be a process for identifying patients across different databases so that when a provider goes to pull in information from different sources they do not have to query multiple patients' records and then determine if the right patient's data was accessed.	Yes	No	NA
5	8.1	Medication history shall be incorporated directly into the EHR (automatically loaded) and/or staged through a RHIO. If the information is staged, then the providers shall have the option to select which information can be downloaded directly into their EHR or review it through a separate process outside the EHR.	No	No	4.10
6	8.2	The provider shall receive medication history in a usable format at registration and/or before a patient goes back into the exam room.	Yes	No	NA
7	8.3	If a provider receives patient data from a PHR, it should be handled through a staging area. The system shall log what happens at each stage.	No	No	NA
8	8.4	The system shall provide a log file of patient data.	Yes	No	NA
9	8.5	When the provider queries the system for a patient's medication history, the system should identify the patient in real-time.	Yes	No	NA

⁶ This requirement number corresponds to the clinical requirement number in the document "MMM Requirement Prioritization Exercise_20080831_Compiledv8.xls" found on the SCP General Access Workspace on Central Desktop (<https://nyec.centraldesktop.com/scpgeneralaccess/Medicaid>).

⁷ Some clinical requirements include more than one functional requirement. Clinical requirements have been noted with a "partial" notation when only some of the functional requirements will advance to Version 1.0.

⁸ This requirement number corresponds to the EHR functional requirement developed by the EHR Collaborative Work Group. When the EHR Collaborative Work Group did not develop a functional requirement, the label "NA" has been assigned.

No.	Clinical Req. # ⁶	Requirement	HIE V1.0	EHR V1.0 ⁷	EHR Req. # ⁸
10	8.6	<p>The provider shall receive through their IT system a complete and accurate medication history from multiple data sources (including Medicaid) in a single-view. The medical history shall include the following in a clinically usable format: differences between acute/chronic medication, sample history, different drug programs, medication reconciliation, and medication renewal history/compliance. Medication Compliance to include:</p> <ul style="list-style-type: none"> ▪ What was prescribed? (Drug name, dose, route, duration) ▪ Who was the prescriber? ▪ Where was the prescription written? ▪ When was it ordered? ▪ Was the prescription actually filled? ▪ Were chronic medications refilled? ▪ Are there medication compliance trends by condition and medication type? ▪ Is there a history of medication samples that were dispensed? ▪ Is there evidence of prescriptions that were distributed through federal programs or for free from pharmaceutical companies? Is there a source for this data? ▪ Is there a way to capture OTC medications and treatments stored at home? <p>Report on what actions were associated with PRODUR or other editing sources [Assumption: display of information will be customized at the local level]</p>	Yes (partial)	No	3.1
11	14	The system shall allow the physician to put their notes in a format that can be shared with other physicians.	No	No	3.4
12	15	The system shall allow the PCP from RHIO A to send a referral with clinical information (CCD) (including CCD but not limited to) on the patient to the ortho in RHIO B (PCP to send information to Ortho).	Yes (partial)	No	3.3
13	59	The system shall allow the clinician to update the management plan.	No	Yes	2.2
14	72	The system shall allow the physician to put their notes in a format that can be shared with other physicians (same as requirement 14) and the system shall allow the relevant clinical information to be sent to other clinicians.	No	No	3.3
15	79	Clinical staff can document patient medication history electronically with information provided by patient or from other sources such as HIE, PHR.	Yes	No	4.10
16	80A	Clinician shall identify the most complete and accurate list of medications a patient is taking, using EHR, paper records, HIE, and any other source of medication history, along with verbal information from the patient and visual verification of pill bottles and pill counts. Any discrepancies should be brought the treating physicians attention including duplication, omissions, interactions, name/dose/route confusion. Once treating physician has updated orders, updated list along with instructions should be printable in primary language of the patient.	No	No	NA
17	83	Technology allows cardiologist to determine if prescription drug is on formulary of patient's insurance plan. Formulary information provided through EHR or RHIO. Decision support within EHR should alert cardiologist of potential drug interactions. Cardiologist records new prescription in EHR.	Yes	Yes	6.2, 6.5

No.	Clinical Req. # ⁶	Requirement	HIE V1.0	EHR V1.0 ⁷	EHR Req. # ⁸
18	86	System allows cardiologist to send prescription to pharmacy electronically or to print for patient.	Yes	Yes	6.4
19	87	System allows pharmacy to receive prescription electronically.	Yes	No	NA
20	88	Pharmacy shall run Drug Utilization Review (DUR) and document relevant data.	No	No	NA
21	89	Pharmacy shall document electronically that med was dispensed so the message can be returned to the ordering clinician.	Yes	No	NA
22	96	Clinical staff can document CC, VS, new history, MD visits, problem list, and med list electronically from patient. Clinician shall have the opportunity to perform a verbal and visual (by counting the pills). Medication reconciliation with the patient and shall be able to annotate the list so the information is ready for when the physicians visits the patient. A drop down menu of reasons could be available for example that would include the option to annotate whether the clinician was able to count the medications.	No	Yes (partial)	V1.0: 2.4; V2.0: 4.10
23	101	Neurologist can document consult note, recommendations, and clearance. New medications or changes are ordered.	No	Yes	2.3
24	109	Orthopedist can access all relevant consults, test results, and medication lists.	Yes (partial)	No	3.3, 3.4
25	122	Provide authorization information.	Yes	No	NA
26	123	Rehab center clinical staff can access all relevant clinical information from the hospital discharge summary and paperwork. Also see requirement 80A (medication reconciliation).	Yes (partial)	No	NA
27	126	See requirement 80A (medication reconciliation).	No	No	3.1
28	127	Rehab nurse can review orders, problem lists, medication list, and lab results.	Yes (partial)	No	NA
29	140	PCP is able to view progress notes, medications, lab results	Yes (partial)	No	NA
30	149	Orthopedist is able to view progress notes, medications, lab results	Yes (partial)	No	NA
31	155	Discharge Planner can provide meds list, treatment plan to home health nurse electronically. Also see requirement 80A (medication reconciliation).	No	No	NA
32	178	Clinician shall confirm previous medications and prescribe any potential new medications or make dose changes. Clinician shall come up with treatment plan and creates any new orders. Clinician shall have the ability to electronically submit orders such as labs, radiology, physical therapy, and other supportive services.	Yes (partial)	Yes (partial)	V1.0: 2.1, 2.2, 7.2, 7.3; V2.0: 7.4
33	203	PCP can review inpatient MR, NH Rehab record, home care notes, problem list, meds hist and recent labs from all sources. Clinician shall have the opportunity to perform a verbal and visual (by counting the pills). Medication reconciliation with the patient and shall be able to annotate the list so the information is ready for when the physicians visits the patient. A drop down menu of reasons could be available for example that would include the option to annotate whether the clinician was able to count the medications. Also see requirement 80A (medication reconciliation).	Yes (partial)	No	NA

No.	Clinical Req. # ⁶	Requirement	HIE V1.0	EHR V1.0 ⁷	EHR Req. # ⁸
34	203a.1	The system shall have decision support capabilities.	No	Yes	5.7, 6.1, 6.2, 6.3
35	203a.2	The system has the capability to accept edits, alerts, or messages from an external decision support system and the clinician shall be able to respond through system.	No	No	NA

3.2 Quality Reporting for Outcomes Use Case for Quality: Requirements with Version 1.0 Designations

Exhibit 13: Quality Reporting for Outcomes Requirements

No.	Clinical Req. # ⁹	Requirement	EHR V1.0 ¹⁰	EHR Req. # ¹¹
1	A.1.1	The system shall have the capability to receive and store measure information-includes general measure information, numerator/denominator/exclusion statements for each measure, including term definitions (which include identifying codes that define inclusions and exclusions)	Yes (partial)	V1.0: 8.2, 8.3; V2.0: 3.11
2	A.1.1a	The system shall have the capability to inform providers of the quality measures that are being collected for each practice. This functionality should be optional.	No	NA
3	A.1.2	The system shall allow for frequent updates to the list of required data elements and numerator/denominator/exclusion statements for each measure.	Yes	5.1
4	A.1.2a	Updates to reflect changing measure definitions should be provided as part of ongoing support agreements.	No	NA
5	A.1.3	The system shall have the capability to automatically identify patients who meet denominator requirements of each quality measure.	No	8.1
6	A.1.4	The system shall have the capability for the clinician to manually select/deselect a patient as part of a panel of patients who are relevant/not relevant and qualified/not qualified for specific quality measures; and will include an audit trail of all changes that are made to patient records.	Yes	8.2, 8.3
7	A.1.4a	The system shall have the capability to document rationale for exclusion of patients from numerator compliance or denominator inclusion.	No	NA
8	A.1.5	The system shall have the capability to notify the provider that a patient may qualify for a measure population and present options for care to meet measure requirements. This notification should include the measure numerator, denominator, and exclusion statements.	No	5.9
9	A.1.6	The system shall have field (entry) level edits to minimize erroneous data for all required data elements for selected quality measures.	No	NA
10	A.1.6a	The system shall include the ability to designate required or "must enter" fields.	No	NA
11	A.1.7	As appropriate, pseudonymize or deidentify the patient-level data which are being readied for transmission. Pseudonymization allows for data to be re-linked if requested by an authorized entity.	Yes	3.12

⁹ This requirement number corresponds to the clinical requirement number in the documents “Quality Requirement Prioritization Exercise_20080929_Compiledv2_GWS.xls” and “PHPSG and QRSG Population Reporting Prioritization Exercise 20081009_Compiledv3_GWS.xls” found on the SCP General Access Workspace on Central Desktop (<https://nyc.centraldesktop.com/scpgeneralaccess/QualityReporting>).

¹⁰ Some clinical requirements include more than one functional requirement. Clinical requirements have been noted with a “partial” notation when only some of the functional requirements will advance to Version 1.0.

¹¹ This requirement number corresponds to the EHR functional requirement developed by the EHR Collaborative Work Group. When the EHR Collaborative Work Group did not develop a functional requirement, the label “NA” has been assigned.

No.	Clinical Req. # ⁹	Requirement	EHR V1.0 ¹⁰	EHR Req. # ¹¹
12	A.1.8	The system shall allow export of standardized patient level data to support third party calculation of quality measures (e.g., quality and public health).	No	3.11
13	A.1.8a	The system should provide the ability at each level-local, regional, and state-to group results by provider, practice site, team, geographic region, payor class, ethnicity, etc using a simple and straightforward process.	No	NA
14	A.1.9	The system allows export of numerator counts and denominator counts, and number of cases to support third party display of quality measure results.	No	3.13
15	A.1.10	The system and process shall facilitate validation and correction of data elements required for quality measurement. This may be done by producing edit-able patient level lists that can easily be checked against internal records.	No	NA
16	A.1.11	The system shall calculate quality measures according to measure-developer supplied algorithms, reflecting all updates to measure definitions that are provided as part of ongoing support agreements.	No	NA
17	A.1.11a	The system shall have the capability to generate patient-level lists of patients who did and did not meet numerator requirements.	No	NA
18	A.1.12	The system shall allow export of quality measure results in the format required by the third party collecting quality measure data (e.g. public and private payors, public health agencies).	No	3.13
19	A.1.13	The system shall allow import of quality measure results (e.g., benchmarking, import from immunization registry).	No	4.5
20	A.1.13a	The system will have the capability to send quality reports to all practices on a regular TBD basis.	No	NA
21	A.1.13b	The system shall identify, alert providers and generate ad hoc reports to eligibility for publicly funded programs and provide periodic updates to the eligibility criteria.	No	NA
22	A.1.14	The system shall automatically create the information needed to access publicly funded prevention programs such as mammography and colonoscopy.	No	NA
23	A.1.15	The system shall improve access to public benefit programs such as enrollment into Medicaid, CHP, EPIC, and PCAP; referral to cancer screening and follow-up programs for uninsured; access to State DOH programs-NYS Smoker's Quitline, diabetes programs, early Intervention Programs .	No	NA
24	A.1.16	The system shall enable reporting to local public health agencies and streamline receipt of reports and feedback on nursing and other public health interventions such as home care referral management, TB follow up and treatment and follow-up of STD contacts.	No	NA
25	A.1.17	The system shall include flexibility to include the functionality to incorporate standardized and customized alerts based on requirements provided by the state health department.	No	NA
26	1.1	Appropriate clinical staff should document and/or update patient identifying and financial information, and verify insurance eligibility, taking advantage of SHIN services via the EHR (PIX/PDQ, X12N 270/271). Commercial health insurance patients need to provide complete personal identifying information only once, upon initial contact with the health system (public insurance patients known to system already). Can verify and document patient eligibility (e.g., insurance information) and patient demographic information in EHR.	Yes	1.1, 1.2

No.	Clinical Req. # ⁹	Requirement	EHR V1.0 ¹⁰	EHR Req. # ¹¹
27	1.1a	Patient registration triggers a report that is sent to the payor or other applicable parties.	No	NA
28	1.2	Appropriate clinical staff are able to document, review, and update patient problems, medications, medication reconciliation, and allergies/ADRs in the EHR, which provides the ability to manage each of these list-types. List items come from a HITSP-identified coded vocabulary that enables computable uses of the patient information, such as for CDS. Vital signs data including T, P, R, BP, Ht, Wt, BMI, (head circ-peds) is available for review including longitudinal trending. VS data entry occurs via device interfaces or in structured fields so captured data is suitable for computable uses such as CDS.	Yes	2.4, 2.6.1
29	1.3	Appropriate clinical staff is able to document CC/RFV and initial HPI in EHR. Clinical staff is able to perform medication reconciliation and update medication list and allergies/ADRs from available sources (patient, family, medication bottles, CCD-medical summary document, or IHE encounter document via SHIN, med Hx from SHIN sources, etc.; including appropriate validation).	Yes (partial)	V1.0: 2.4, 6.2; V2.0: 3.1, 3.2
30	2.1	The system shall accommodate physician lab orders. Clinical staff are able to document detailed HPI/ROS/FH/Medical Hx/Surgical Hx/Social Hx and physical exam findings as required. The system shall accommodate data entry for laboratory orders with electronic transmission of orders and return delivery of results over electronic system interfaces.	Yes	2.5, 7.3
31	2.2	The system shall provide a prompt to alert staff to diagnosis of a chronic disease such as diabetes, standardized lab order set is displayed, order set advises required lab work per quality indicators (A1c, Lipid panel).	Yes	5.4, 5.14
32	2.3	Appropriate clinical staff shall confirm previous medications and prescribe any potential new medications or make dose changes. Clinician shall come up with treatment plan and creates any new orders. Clinician shall have the ability to submit electronic or written orders such as labs, radiology and imaging, physical therapy, and other supportive services. Electronic submission includes full electronic communication of orders and submission of orders.	Yes	2.2, 6.4, 7.3
33	3	The system shall facilitate communication between ED physician and PCP.	No	4.8
34	4	The system shall know that with a dx of a chronic disease such as diabetes the QI sets the limit at 140/80, so this BP is normal and no action is required. However, if the BP was greater then 140/80 the system shall alert to further actions to be taken.	Yes	5.6
35	5	System <i>may have the capacity</i> of incorporating and transmitting patient assessment tool to EHR and patient's other providers and will assist with clinical decision support.	Yes	4.2
36	6.1	EHR shall support eRx capability according to standard protocols, formulary, and drug-allergy and drug interaction checking, with real-time feedback to ordering clinician.	Yes	6.2
37	6.2	Appropriate clinical staff can document (reconcile) patient medication history electronically with information provided by patient or from other sources such as HIE, PHR.	No	3.1
38	6.3	Appropriate clinical staff can print out medication and diagnosis list and other applicable information for patient.	Yes	1.3
39	6.4	The system shall be capable of allowing ED physician to verify known patient allergies prior to completion of ED prescription.	Yes	6.3

No.	Clinical Req. # ⁹	Requirement	EHR V1.0 ¹⁰	EHR Req. # ¹¹
40	7.1	The system shall populate the EHR so that when a patient history of smoking is documented, the indicator to advise the patient to stop smoking is automatic and there is a standard field with structured nomenclature for the documentation of advice.	Yes	5.2
41	7.2	The system shall populate the EHR so that when a patient history of applicable life habit (nutrition, obesity, alcohol consumption, etc.) is documented, the indicator to advise the patient to stop behavior is automatic and there is a standard field with structured nomenclature for the documentation of advice.	Yes	5.2
42	7.3	The system shall confirm, using SureScripts RxHub and Medicaid data, that patient is filling his applicable prescribed medication. (See tab "Requirements Table_MMM" for Medication MGMT Use Case requirements)	Yes	6.4
43	8	The system shall allow the electronic notification to the PCP of pts admission to the ED via a clinical summary document, including electronic copies of recent lab work, medication history including new rx, lab tests, problem lists, and radiology or imaging procedures.	No	4.3
44	9.1	System allows pharmacy to receive prescription electronically.	Yes	6.4
45	10	Pharmacy shall participate in Drug Utilization Review (DUR) and document relevant data.	No	NA
46	11.1	Pharmacists provide drug administration information, provides medication use and interaction counseling, etc.	No	NA
47	11.2	Pharmacy shall document electronically that med was dispensed so the message can be returned to the ordering clinician and PCP in a useful fashion.	Yes (partial)	3,1, 6.4
48	11.3	Pharmacy shall be able to link vouchers to drug company and/or payer supported programs.	No	NA
49	12.2	Appropriate clinical staff can document CC, VS, new history, MD visits, problem list, and med list electronically from patient. Clinician shall have the opportunity to perform a verbal and visual (by counting the pills) medication reconciliation with the patient and shall be able to annotate the list so the information is ready for when the physicians visits the patient. A drop down menu of standard annotations could be available for example that would include the option to annotate whether the clinician was able to count the medications. (See tab "Requirements Table_MMM" for Medication MGMT Use Case requirements)	Yes (partial)	2.4, 3.1
50	13	The providers shall have the option to select which information can be downloaded directly into their EHR or review it through a separate process outside the EHR. The medication record, problem list, notes from recent ED visit, and medication list shall be incorporated directly into the EHR (with the option of automatically loading the data).	No	4.3, 4.9
51	14.1	The system shall allow the complete physical assessment, including all necessary examinations based on the current standards of care for the applicable condition (specifically for this scenario, diabetes and asthma), to be documented in a standardized manner with consistent nomenclature.	Yes	2.9
52	14.2	The system shall capture in a discrete field that is easily retrievable or based on text mining that the appropriate exams were conducted.	No	5.12

No.	Clinical Req. # ⁹	Requirement	EHR V1.0 ¹⁰	EHR Req. # ¹¹
53	14.3	The system shall support sending and receiving all necessary referrals and consultation requests (e.g., eye exams, smoking cessation counseling) electronically according to the emerging interoperability specifications for specific quality indicators/measures. This information shall be captured in a discrete field that is easily retrievable or based on text mining that the pertinent examinations were conducted.	No	3.4, 5.12
54	14.4	The system shall be able to collect non-compliance / refusal / lack of completion data, where available.	No	5.10
55	14.5	The system must capture and track the referral and track that the appointment was kept, results reviewed and sent to PCP, and that the PCP has communicated with the patient, and where available include reasons for lack of completion.	No	7.1
56	14.6	The system shall be linked to a PDS based reminder system for follow up in one year (or appropriate time frame for condition/exam) (such as colonoscopies, eye exams, etc).	No	NA
57	14.7	The system facilitates the review of which patients are compliant with follow up examinations.	No	5.17
58	15	The system shall allow the education of the patient and referral to other patient educators (e.g., dietitian, diabetes educator, nutritionist, counselor, etc.) based on the current standards of care for the applicable condition (specifically for this scenario, diabetes and asthma), to be documented in a standardized manner with consistent nomenclature. Includes similar requirements as 14.2-14.7.	Yes (partial)	V1.0: 2.7, 5.21; V2.0: 5.18
59	16.1	The system shall prompt the staff to a diagnosis of a chronic disease such as diabetes, standardized lab order set is displayed, and order set advises required lab work per quality indicators (A1c, Lipid panel).	Yes	5.3, 5.8, 5.14
60	16.2	The system shall send the lab request electronically. Lab results are populated electronically into the EHR with flags for abnormal results, reminder is set in EHR for recommended time frame for next lab test All lab venders must provide compendium with mapping to LOINC, and must send LOINC mappings in HL7 result messages.	Yes	9.1, 9.2, 9.3, 9.5
61	16.3	The system shall have a CDS that informs provider of best practices in chronic disease [diabetes] care.	Yes	5.3, 5.16
62	16.4	The system shall have a CDS that informs the provider of best practices in smoking cessation and highlights relevant measures.	Yes	5.15, 5.16
63	20.1	The system shall allow for a reminder to be set based on the provider initiating discussion on life habits to provide advice every six months or as determined applicable by provider and the life habit.	Yes	5.19
64	22	The system shall link the system with the appointment scheduling feature that has a reminder and tracking function to call/follow-up with patient. -Staff have ability to check scheduling with PCP	No	5.20
65	24	The system shall capture in a discrete field that is easily retrievable based on text mining that smoking cessation medication therapy was discussed with the pt. This event must be captured that it happened at least once (not ongoing) at the PCP - pt combination.	No	5.13
66	31.2	The system shall identify pt as having a history of a chronic disease such as diabetes with multiple ED visits, the recent ED visit generates a "flag" that pt may benefit from participating in a disease management program offered by provider or payer.	No	5.11

No.	Clinical Req. # ⁹	Requirement	EHR V1.0 ¹⁰	EHR Req. # ¹¹
67	31.3	The system shall allow for ED information to be exchanged real-time with the PCP's office and an "alert" is sent to care management program or to internal care manager (would apply to other systems besides ED as well).	No	4.3, 5.5

3.3 Connecting New Yorkers and Clinicians Use Case: Requirements with Version 1.0 Designations

Exhibit 14: Connecting New Yorkers and Clinicians Requirements

No.	Clinical Req. # ¹²	Requirement	EHR V1.0	EHR Req. # ¹³
1	PHR1	The patient shall have the option to choose a PHR from a health plan, Regional Health Information Organization (RHIO), provider, or through the individual market.	No	NA
2	PHR3	The patient shall be able to register with the PHR sponsor by logging into a portal via the HIE or health plan, provider, or through the individual market.	No	NA
3	PHR4	The patient shall receive a communication from the PHR sponsor which could be a RHIO or other vendor alerting the patient that she has been approved and provides her with her log-in information.	No	NA
4	PHR5	The system shall provide login information	No	NA
5	PHR6	The system shall provide a mechanism for authenticating patient after the patient logs into the PHR.	No	NA
6	PHR8.1	The system shall give a patient the ability to authorize RHIO members to view aggregated data in the HIE or view the PHR.	No	NA
7	PHR8.2	The system shall give the patient via the PHR the ability to send patient-entered data to the HIE.	No	NA
8	PHR8.3	The HIE or other systems shall give patient ability to authorize RHIOs, RHIO members, PHR sponsors to populate the PHR with clinical information.	No	NA
9	PHR9.1	The system shall allow patients to permit others access, view, request appointments, renew prescriptions, fill out questionnaires to PHR.	No	NA
10	PHR9.2	The system shall allow patients to designate themselves as a family caregiver within the PHR and update information about the family member such as medications, allergies, etc.	No	NA
11	PHR9.3	The system shall allow the patient to request a family caregiver role for a family member.	No	NA
12	PHR9.4	The system shall allow the patient to upload a scanned copy of the healthcare proxy document or other documents as needed to the HIE.	No	NA
13	PHR10.1	The PHR shall allow the patient to tailor the patient-education material received in the PHR based on individual needs such as primary language.	No	NA
14	PHR10.2	The PHR shall include a translation service so that information is translated to patients in consumer friendly language.	No	NA
15	PHR11	The PHR shall allow the patient to import and view clinical data from the HIE.	No	NA

¹² This requirement number corresponds to the clinical requirement number in the documents “CNYers Sc 1 Requirements Prioritization Exercise_20080919_Compiledv2_GWS.xls” and “CNYers Rochester Requirements Prioritization Exercise_20080916_Compiledv1_GWS.xls” found on the SCP General Access Workspace on Central Desktop (<https://nyec.centraldesktop.com/scpgeneralaccess/ConnectingNyersAmpClinicians>).

¹³ This requirement number corresponds to the EHR functional requirement developed by the EHR Collaborative Work Group. When the EHR Collaborative Work Group did not develop a functional requirement, the label “NA” has been assigned.

No.	Clinical Req. # ¹²	Requirement	EHR V1.0	EHR Req. # ¹³
16	PHR13	The system shall allow the patient to suggest a modification.	No	3.5, 4.4
17	PHR13a	The system shall have the capability to notify the patient when the information has been updated.	No	NA
18	PHR14	Providers with consent to view a patients' PHR shall automatically receive updated clinical information reflecting the modification.	No	NA
19	PHR15	The system shall allow patients to set up reminders about annual exams, appointments specific to the patients medical history in their PHR.	No	NA
20	PHR16.1	The patient shall be able to populate the PHR with own personal information.	No	NA
21	PHR16.2	The PHR shall also offer the patient an online Health Risk Assessment that can be populated with patient-specific information (ex. prior mammogram date) and will be included in the patient-entered health information viewable by authorized individuals.	No	NA
22	PHR16.3	The PHR shall include a function that marks patient-entered data as "patient-entered data" (language "patient-entered data" may vary).	No	NA
23	PHR17	The system shall have the ability to move the patient-entered data from PHR 1 to PHR 2 (e.g., if change employers).	No	NA
24	PHR19	The system shall send the patient condition-specific information via the PHR.	No	NA
25	PHR20.2	The PHR may provide video capabilities for disease specific information such as breast exams.	No	NA
26	PHR22	The patient shall be able to research disease-specific information using the PHR and research such things as lifestyle risk based on health assessment and other personal information in the PHR.	No	NA
27	PHR23	The patient shall be able to request an appointment with a physician through the PHR.	No	4.7
28	PHR25	The system shall have the ability to confirm the appointment and/or send the pre-visit questionnaire.	No	3.6, 3.7, 3.8
29	PHR28	The system shall alert the patient via the PHR, email, portal note, and/or cell phone text message of appointments.	No	NA
30	PHR30.1	The EHR is able to retrieve (manual or automatic) aggregate clinical data to review.	Yes	4.2
31	PHR30.2	The clinician has the option to import the clinical information from HIE or view only.	No	4.3, 4.9
32	PHR32	The HIE shall accept updates from the EHR and may route them to the PHR.	No	3.10
33	PHR34	The EHR shall send information to the HIE which may in turn send certain information to patients PHR.	No	NA
34	PHR35.1	The EHR shall (if required under certification) include alerts and reminders about routine processes of care for the clinician.	Yes	5.6
35	PHR35.2	The PHR shall include alerts and reminders about routine processes of care for the patient.	No	NA
36	PHR39	When the visit is closed, set to automatically trigger to update the HIE (if participating and patient consent in place). If creating a referral, the clinician may create a Continuity Care Record/Document CCR/D record.	No	NA
37	PHR40	The EHR shall allow for electronic referrals and be accessible through the RHIOs. Vendor would maintain referring physician table with phone numbers.	No	3.4, 7.1, 7.4, 8.1

No.	Clinical Req. # ¹²	Requirement	EHR V1.0	EHR Req. # ¹³
38	PHR45	The outpatient radiology clinic obtains consent if needed and retrieves the information from the HIE.	No	NA
39	PHR46	Provider shall be able to view patient medical history, medication history, radiology results, laboratory data, patient-entered information from the HIE.	No	NA
40	PHR51	The system shall allow transcribed radiology reports to be uploaded to the HIE and available to the PHR.	No	NA
41	PHR52	The ordering physician shall have the capability to receive the report so they can verbally notify the patient.	Yes	9.4
42	PHR53.1	The system shall allow the patient to view who has accessed his/her information through the HIE.	No	NA
43	PHR53.2	All activities will be logged recording all interactions and transactions – with access, viewing, tracking and generation of system logs for all system activity identifying the user, the location, time/date and the inquiry/transaction performed.	No	NA
44	PHR54	The EHR shall allow for electronic referrals to route through the HIE (transactional).	No	3.4
45	PHR56	The provider's office shall contact the patient to set up an appointment. The system shall allow the patient to request an appointment via the PHR.	No	NA
46	PHR58a	The system shall create a means for physicians to securely communicate with other providers for the benefit of the patient.	No	4.8
47	PHR59	The patient shall be able to request an appointment with a physician through the PHR.	No	NA
48	PHR61	The physician shall have access to complete medication history in an e-prescribing or EHR system that has alerts for contraindications.	Yes	2.1, 6.2
49	PHR63	The EHR shall allow for electronic referrals or routed through fax.	No	NA
50	PHR65	Provider shall be able to electronically submit prescription information from the EHR to the pharmacy, PHR, HIE, and other authorized physicians.	Yes	6.4
51	PHR67	The system shall generate a "Care Consideration" ("CC") about potentially life-threatening conditions. The CC shall include information explaining how the CC was derived and the academic basis upon which it is based. The CC shall be added to the relevant section of patient's health record on the BHIX portal (for provider organizations with consent to see). A patient-friendly version of the CC shall also be added in the relevant section of the patient's BHIX PHR.	No	2.8
52	PHR68	The physician shall receive email alerts/messages directing her/him to a CC regarding one of her/his patients.	No	3.3, 4.1
53	PHR69	The system shall facilitate prevention, wellness, disease management and other health education through a clinical decision support service, which monitors and evaluates consented RHIO, EHR, and PHR clinical information including clinical data sources such as patient entered data, claims based data.	Yes	5.3, 5.4,
54	PHR70	The system shall have the capability for clinical decision alerts/messages.	Yes	5.8
55	ED22	Allow Emergency Medical Services (EMS) to query HIE through interconnected patient care record (PCR) system. Allow HIE to send patient summary CCD to interconnected electronic patient care record (EPCR). Allow HIE to send Medical Orders for Life-	No	NA

No.	Clinical Req. # ¹²	Requirement	EHR V1.0	EHR Req. # ¹³
		Sustaining Treatment (MOLST) and Do Not Resuscitate (DNR) orders referenced in CCD to EPCR. Allow HIE to send Intake summary from elder care programs to EPCR		
56	ED24.2	EPCR systems to send National EMS Information System (NEMSIS) data feed necessary to create PCR to HIE service	No	NA
57	ED24.3	HIE service formats NEMSIS data stream into PCR. Updates HIE and routes to Hospital Emergency Department (ED)	No	NA
58	ED25.1	ED to query HIE for correct patient and request patient PCR	No	NA
59	ED25.2	ED to query HIE for emergency contact info on patient summary CCD document. ED to also access MOLST, DNR and Care Assessment documents as referenced on HIE	No	NA
60	ED30	Allow ED to access on-line radiology images linked to radiology reports through PACs independent thin client radiology viewer	No	NA
61	ED33	Fax completed MOLST form to HIE service which scans and allow staff to link MOLST to correct patient and post on HIE	No	NA
62	ED34.1	Allow discharge planners to query HIE for existing community care plans and view appropriate care agencies service profiles through Point of Entry (POE) system to assist in discharge planning	No	NA
63	ED34.2	Access county based POE system to support referrals	No	NA
64	ED34.3	Allow HIE enabled discharge planning depts. to send electronic referrals	No	NA
65	ED35	Allow intake coordinator to query HIE, for patient summary, MOLST and Advanced Directives	No	NA
66	ED36	Transition of care should invoke MOLST review per New York law. New facility should update MOLST as needed and refax to HIE MOLST service. Additionally updated printed MOLST form should be available bedside	No	NA

3.4 Immunization Reporting via EHRs Use Case: Requirements

Exhibit 15: Immunization Reporting via EHRs Requirements

No.	Clinical Req. # ¹⁴	Requirement
1	5.1	The system shall generate automatic reminders for screenings, actionable alerts and reminders within an EHR; actions to include ordering test from any laboratory provider including necessary billing and coding information; system needs to log test and create tracking system
2	5.2	Systems and exchanges need to allow for the ability to control reminders at the practice, regional or state levels
3	5.3	Systems and exchanges need to allow the ability for modifications based on required action including age, disease, lab results, demographics and additional range of factors
4	6	Systems and exchanges need to allow for modifications based on drug interactions, allergies, and risk factors
5	7	The system shall generate automatic reminders based upon age and clinical screening. A notice of available services may be printed and given to the patient.
6	13.1	Screening results need to be available within the EHR for provider review; abnormals need to be flagged; follow-up log for abnormals needs to be triggered
7	13.2	Screening results need to be available within the EHR for provider to review; receipt of results changes status of test in tracking system automatically from ordered to received
8	14.1	EHR is flagged to remind provider to report to LHD or EHR electronically sends notification to LHD
9	14.2	A bi-directional, information exchange capability exists between EHR and LHD
10	14.3	The LHD will provide an electronic acknowledgement of receipt to the EHR once a report is received
11	14.4	The LHD will electronically provide a case number to the EHR if a case is created based on the report received
12	14.5	Capability exists to generate automatic reports from LHD to NYS DOH and from ECLRS to NYS DOH
13	15	Positive results reported electronically to NYS DOH ECLRS for review.
14	17.1	Educational materials are available for review within the system
15	17.2	A consent to share information with NYSIIS is available for patients greater than 18 years of age
16	25	Full patient immunization history is available in NYSIIS

¹⁴ This requirement number corresponds to the clinical requirement number in the documents “PHPSG Scenario 1 Prioritization Exercise 20080929_Compiledv3_GWS.xls” and “PHPSG and QRSG Population Reporting Prioritization Exercise 20081009_Compiledv3_GWS.xls” found on the SCP General Access Workspace on Central Desktop (<https://nyec.centraldesktop.com/scpgeneralaccess/PublicHealth>).

No.	Clinical Req. # ¹⁴	Requirement
17	26.1	"NYSIIS accessed from within EHR; bi-directional exchange available for medications required, generate order based on missing information based on EHR; orders transmitted from EHR to NYSIIS
18	26.2	EHR contains immunization data uploaded from a prior data exchange with NYSIIS. This information obtained through bi-directional data exchange allows the EHR to prompt provider that a vaccine is indicated/due/overdue. Provider generates an order in the EHR. Once vaccine is administered, this is documented by administering provider in the EHR. This data will be transferred to NYSIIS, upon subsequent bi-directional data exchange.
19	27.1	Patient education immunization information available in NYSIIS to use with parents for education related to vaccines
20	27.2	Availability of vaccines, medical contraindications and patient refusals are captured via structured data elements in NYSIIS
21	28.1	The EHR will allow a provider to document VFC eligibility; system interface with NYSIIS will be used to identify insurance (VFC) eligibility for every child under the age of 19 and under to determine eligibility of publicly funded vaccines
22	28.2	Insurance information (generic) in NYSIIS used to determine which stock to take the vaccine from based upon VFC categories
23	28.3	EHR shall have the ability to capture the following information when vaccine is administered - name of vaccine, lot number, number of vaccines or doses, expiration dates, manufacturers, patient name, DOB, mother's maiden name, responsible person's name and VIS publication date
24	28.4	EHR will have the capability to capture all necessary billing information; interface exists between EHR and NYSIIS
25	28.5	Provider orders HPV vaccine; system accesses insurance information and determines proper billing codes; VFC status automatically determined and stored for reporting purposes
26	28.6	Reporting capabilities exist in EHR and NYSIIS