AGENDA

INFORMATION TECHNOLOGY
COMMITTEE

Meeting Date: <u>June 13, 2017</u>
Time: <u>12:00 PM</u>
Location: <u>125 Worth Street, Room 532</u>

BOARD OF DIRECTORS

CALL TO ORDER   **MS. YOUSSOUF**

ADOPTION OF MINUTES
May 15, 2017

CHIEF INFORMATION OFFICER REPORT   **MR. GUIDO**

ACTION ITEM #1:
Authorizing the New York City Health and Hospitals Corporation ("NYC Health +
Hospitals" or the "System") to take the necessary steps to implement a Digital Healthcare
Network technology infrastructure platform, for a cost not to exceed $109.1 million of New
York State ("NYS") Delivery System Reform Incentive Program ("DSRIP") capital
reimbursable grant funds, over the next five years, including procuring the necessary
contracts for: hardware; software; and staff augmentation to implement, configure and
install hardware and software; all of such procurements to be effected in conformity with
NYC Health + Hospitals' Operating Procedure 100-5 but without further Board
authorization; provided that the Enterprise Information Technology Services division of
NYC Health + Hospitals ("EITS") shall make regular, periodic reports to the Board of
Directors to detail such procurements and to report on the progress of the implementation
program and track the same to the budget hereby established.

MR. GUIDO
DR. JENKINS
MR. LUTZ

ACTION ITEM #2:
Authorizing the New York City Health and Hospitals Corporation ("NYC Health +
Hospitals" or the "System") to take the necessary steps to create a Population Health
technology infrastructure platform, for a cost not to exceed $81.3 million of New York
State ("NYS") Delivery System Reform Incentive Program ("DSRIP") capital reimbursable
grant funds over the next five years, including procuring the necessary contracts for:
hardware; software; and staff augmentation to implement, configure and install hardware
and software; all of such procurements to be effected in conformity with NYC Health +
Hospitals' Operating Procedure 100-5 but without further Board authorization; provided

MR. GUIDO
DR. JENKINS
MR. SARADHI

NEW YORK CITY HEALTH + HOSPITALS

that the Enterprise Information Technology Services division of NYC Health + Hospitals ("EITS") shall make regular, periodic reports to the Board of Directors to detail such procurements and to report on the progress of the implementation program and track the same to the budget hereby established.

OLD BUSINESS

NEW BUSINESS

ADJOURNMENT

NEW YORK CITY HEALTH + HOSPITALS

INFORMATION TECHNOLOGY COMMITTEE

ATTENDEES

COMMITTEE MEMBERS
Emily Youssouf, Chair
Josephine Bolus, RN
Stanley Brezenoff, Interim President & CEO
Gordon Campbell
Barbara Lowe

NYC HEALTH + HOSPITALS CENTRAL OFFICE STAFF:
Paul Albertson, Senior Assistant Vice President, Supply Chain
PV Anantharam, Senior Vice President and Chief Financial Officer
Olga Deshchenko, Director, Communications and Marketing
Dr. Alfred Garofalo, Senior Assistant Vice President, Enterprise Information Technology Services
Sal Guido, Senior Vice President and Chief Information Officer, Enterprise Information Technology Services
Colicia Hercules, Chief of Staff, Office of the Chairperson
Michael Keil, Assistant Vice President, Enterprise Information Technology Services
Barbara Keller, Deputy Counsel, Legal Affairs
Dr. Rajeeb Khatua, Chief Medical Information Officer, GO EMR
Barbara Lederman, Senior Director, Enterprise Information Technology Services
Patricia Lockhart, Secretary to the Corporation
Ana Marengo, Senior Vice President, Communications and Marketing
Pamela Saechow, Senior Assistant Vice President, EMR Build and Implementation
Barry Schechter, Assistant Director, Enterprise Information Technology Services
Brenda Schultz, Senior Assistant Vice President, Finance
Devon Wilson, Senior Director, Internal Audits

OTHERS PRESENT:
Osmund de Souza, Account Executive, Juniper Networks
Shaylee Wheeler, Office of Management and Budget

INFORMATION TECHNOLOGY COMMITTEE
Thursday, May 15, 2017

Emily Youssouf called the meeting to order at 10:05 AM. The minutes of the March 16, 2017 meeting were adopted.

Before presenting his Chief Information Officer Report, Sal Guido spoke about the Ransomware attacks that have hit around the world in recent days. He said these attacks were global, starting in London, taking down the hospital system there, and it is still down. He said it was premeditated and coordinated from what we were told from agencies we spoke with. He said 150 countries were affected and over 200,000 pieces of equipment have been locked. He said Ransomware is a virus that affects a computer environment by locking them out. You can only get them back by paying a ransom. He said Asia has been hit as of this morning.

From our standpoint, Mr. Guido said, we have invested over the past three years in security, thanks to this committee and the Board of Directors. We have been patching our system and increased our security posture to protect our environment. We are more dynamic than in the past and we are working on this every day. He said that it is not a question of if, but when, we will be affected. We have companies on retainer so that in case we are attacked, they will come in to help us do forensics. We monitor every piece of equipment in our organization and anything that comes in from the outside, 24/7. He said we also have an early response team. He said we have these preventive measures in place so that when we are hit, we are ready to respond. He said we are concerned about the variance of these attacks and we will continue to give you updates as this goes on.

Josephine Bolus asked why they asked for such a small amount, $300.

Mr. Guido said there are about 500,000 pieces of equipment affected, times $300 each. He said that is a lot of money.

Ms. Bolus said she did not realize it was per piece of equipment.

Emily Youssouf said the ransom was to be paid in Bitcoin.

Mr. Guido said we keep an eye on that market. Each Bitcoin is worth around $105 on the open market right now.

Gordon Campbell asked if we sent anything to employees.

Mr. Guido said that starting on Friday, we started sending out emails to employees along with education. We also put alerts on our intranet. He said we have been speaking with management at each of the facilities as well.

Mr. Campbell asked if we can assume that we have done all the necessary patching.

Mr. Guido said yes, as of this minute. But things change so rapidly, what might be good now, might not be good 10 minutes from now. So we keep an eye on things.

Ms. Youssouf said unfortunately we might some day be hacked and held ransom.

Mr. Guido said we look at it as a matter of when we will be hacked and what we will do about it.

Ms. Bolus asked if you are asking for ideas or permission to do something.

Mr. Guido said we have our procedures in place, but we would like to hear any and all advice.

Stanley Brezenoff said the question that London is grappling with is how they continue to function. Is that what we need to do as well?

Mr. Guido said yes, we have Business Continuity planning in place and we can go to paper, if necessary. We go to downtime procedures and we have backups in place, so we can recover pretty rapidly. Talking about the size and complexity of our system, it will not happen in hours.

Barbara Lowe said we have experience in this and our memory is pretty solid. Unfortunately, there is no way to stop these folks, I imagine.

Mr. Guido said these people are highly motivated. We have been combatting it for some time and we try to keep ahead of them. We meet regularly with the FBI and Homeland Security to understand the threats, whether they are state-sponsored or for-profit criminals.

Ms. Lowe said the latter sounds about right.

Ms. Bolus said so many things are hooked up to digital networks. Are they all protected?

Mr. Guido said yes, we protect everything with a digital signature and we have teams ready to go.

CHIEF INFORMATION OFFICER REPORT

Mr. Guido presented the Chief Information Officer Report.

EMR GO PROGRAM UPDATE

Mr. Guido said this month, the GO team, headed by Ed Marx and Pamela Saechow, began the planning effort for the implementation of our GO Enterprise platform, including Epic's revenue cycle product. The new system will be implemented at the three hospitals already live on Epic's clinical platform first: Queens, Elmhurst, and Coney Island. Once it is ready, we will upgrade these three and then go on to the rest of the facilities.

ENTERPRISE RESOURCE PLANNING (PROJECT EVOLVE) UPDATE

Mr. Guido said we are on schedule for go-live for Wave I sites targeted for July 1, 2017. On that day, the following modules will go live for all NYC Health + Hospitals facilities: General Ledger, Treasury – Cash Management, Asset Management, Project Costing – Grants, and Budget. The following modules will be rolled out in five (5) Waves across NYC Health + Hospitals, with Wave 1 going live July 1 at Queens, Lincoln, Central Office, and Correctional Health: Purchasing, Procurement, Materials Management, Accounts Payable, Project Costing – Capital Projects, and Tagging of Assets for Asset Management.

Mr. Guido said he wanted to thank our partners PV Anantharam and Paul Albertson. It is a testament to them, their staffs, and EITS that we were able to get this done so quickly.

DENTRIX CONSOLIDATION

Mr. Guido spoke about the Dentrix (Patient documentation EMR for dentistry) Consolidation project. This will consolidate 23 different systems into one. Coney Island went live over the weekend with the Enterprise Dentrix Software and it went well. He said we will be updating all the rest of the facilities every three weeks and hope to have all done by either end of the year or first quarter of next year.

Ms. Youssuf said you mentioned 23. Does that include Coney Island?

Mr. Guido said it is 23 total. After Coney Island, there are now 22 left. He said I would like to thank Dr. Machelle Allen and her team for their help with making this a success at Coney Island.

INTEGRATED LAB WORKFORCE

Mr. Guido said the Lab system is a joint venture between NYC Health + Hospitals and Northwell using Cerner's lab system. It allows us to consolidate 11 independent lab systems into one. He said we

consolidated those facilities that went live with Epic. It will accelerate now by using QuadraMed, our current EMR, into this system. In the coming months, Bellevue and four other facilities will be going live.

Ms. Yousuff asked what this will do for us.

Mr. Guido said the joint venture will help us standardize testing. There are financial advantages that Mr. Anantharam can discuss better than I can. But from a technical point of view, we will be reducing maintenance costs on our 11 labs currently and streamlining how we produce labwork and get results.

Ms. Youssuf said it should accelerate lab results.

Mr. Guido said yes. He said there are many partners who helped us with this, including Dr. Allen, Mr. Albertson, and Mr. Anantharam. I could name more. It was complex but very doable and it has been very successful.

MEANINGFUL USE AND QUADRAMED 6.2 UPGRADE.

Mr. Guido said meaningful use (commonly referred to as MU) outlines specific objectives for both hospitals and providers. First, it is to get on an EMR. Several other benefits include quality, safety, efficiency for patient care; improved care coordination and population and public health; maintained privacy and security of patient health information; work to improve clinical outcomes and population health outcomes; and increased transparency and relationships between patient and care provider.

Mr. Guido said over the past few years, we have succeeded in getting our benefits from Centers for Medicare & Medicaid Services (CMS). We have received approximately $150 million over the past three years by meeting our goals with our current EMR. We are now going to Stage II, called Eligible Hospitals and Eligible Professional. Our current incentive for this is for $23 million annually for eligible professional over the next five years.

Ms. Youssuf said we are doing this because we wanted to receive those funds. It will not deter us from moving forward with Epic.

Mr. Guido said no, it will not. MU has a carrot and a stick. He said the carrot is the improvements in our system and the stick is that we get penalized 3% per year, per physician, on our Medicaid payments if we do not adhere to the rules. He said this is a significant stick. We're really trying to avoid the penalties.

RADIOLOGY MCKESSON PROJECT

Mr. Guido said the Radiology program will drive patient outcome, quality, and efficiency improvements by establishing radiology network connectivity across the entire NYC Health + Hospitals system, enabling a cross-facility radiology imaging sharing protocol, optimizing radiology practice management, and generating transparent performance metrics in such a way that services, quality and productivity are improved. He said we will be able to read images across facilities. We have started pilots and they are going well. We have deployed in all Phase I hospitals (Harlem, Metropolitan, Lincoln, and Coney Island). We have an adoption rate of 98%, which is astounding. We did not think we would get to this point for months. It shows that the radiologists are embracing this technology.

Mr. Guido said that the Phase II hospitals (Kings County, Jacobi and North Central Bronx) are in progress and that go-lives are starting today, May 15. He said we plan to complete this program by the end of the year for all facilities. He said we got lots of help from Dr. Allen and the radiologists and radiologist councils.

ACTION ITEM 1:

RESOLUTION ON USING EPIC REVENUE CYCLE

Mr. Guido read the following resolution: Authorizing the New York City Health and Hospitals Corporation ("NYC Health + Hospitals' or the "System") to take the necessary steps to implement a platform that will integrate Epic revenue cycle modules with existing Epic clinical modules at a cost not to exceed $138,710,297 in operating funds and $150,407,693 in capital funds, which is allocated in the City Capital Budget, over the next five years including procuring the necessary contracts for: staff augmentation to implement, configure and install the modules; the necessary hardware; software maintenance and subscriptions; hardware maintenance; and training services and facilities all of such procurement to be effected in conformity with NYC Health + Hospitals' Operating Procedure 100-5 but without further Board authorization provided that the GO Enterprise unit of the Enterprise Information Technology Services division of NYC Health + Hospitals (EITS") shall make regular periodic reports to the Board of Directors to detail such procurement and to report on the progress of the implementation program and track the same to the budget hereby established.

Pamela Saechow thanked the Board members for their time in allowing her and Dr. Rajeeb Khatua, GO Chief Medical Information Officer, to address them. She then spoke to the presentation "Board Briefing GO Enterprise Strategy."

Ms. Saechow talked about Why GO Enterprise and Drivers Behind Decision. She said there are four major benefits, starting with Quality of Care, including increases quality of care while reducing patient safety risks and helps us meet national standards (such as the Leapfrog survey on patient safety; this has improved significantly). Second is Patient Experience, which helps us become provider of choice for our patients by improving access and helps us ensure patient experience meets national standards. She said this is critical to meet national standards. Third is Transformation, which establishes infrastructure to support Transformation initiatives and sets foundation to allow fully integrated expanded care management services. She said Dr. Ross Wilson has spoken about this and patient access is key. Fourth is Return on Investment, which has potential 5% return on investment and increased operational efficiencies ($142M annual benefit) and helps us maximize revenue. She said we will have many opportunities to automate, which will lead to quicker trouble shooting and faster revenue flows than we have today.

Ms. Saechow spoke to the Timeline. For the first 18 months, starting with May of this year, we are working on the enterprise build, which is bringing together a single integrated platform for patient care. She said this means starting at the patient's first contact with us through their care, all the way to discharge and follow-up. She said this is called GO E, or GO Enterprise, since it encompasses everything we do for the patient. She said every 3-5 months, we will be going live with waves of new sites.

Mr. Campbell said at the bottom of the slide, it says, "This may change as we further engage stakeholders." He said he agreed that this might be necessary. But does this mean it might go even longer than the timeline?

Ms. Saechow said no, this has to do with the fact that our industry is constantly changing and we have to be nimble to keep up. It has more to do with the grouping of facilities. We have to be adaptable.

Ms. Lowe asked who can see this?

Ms. Saechow said anyone on the system can see this. One of the benefits of EMR is one patient, one record. She said whether you are providing care or support, you can see the same information. As a patient (like herself), she said they ask for information and identification. When she gets to the next department, they ask if anything has changed and can I have that information again? We want them to only be asked once for their information. This is the evolution of the patient experience – making it seamless.

Ms. Lowe said our partners in OneCity Health might have some limitations.

Ms. Saechow said that might depend on user provisioning and security access. It depends on their role.

Ms. Saechow continued with the Budget. She pointed out that under Total Project Cost, the Capital budget is $150,407,693 the Operating budget is $138,710,297, and the Total Project Cost is $289,117.990.

Ms. Saechow then pointed to the Executive Summary. She said the original plan to achieve an integrated EMR with both Epic clinical and revenue cycle was to roll out revenue cycle after completion of the clinical Epic implementation. She said benefits gained through an integrated revenue cycle warrant the acceleration of the revenue cycle implementation timeline. She said revenue cycle project funding, separate from the Epic clinical implementation, will be $289 million over the next five years, including the City of New York allocating $150 million in capital funds and NYC Health + Hospitals investing $139 million out of its operating costs. She said the investment is projected to pay for itself in 2-1/2 years post implementation.

Ms. Saechow said that she emphasized "post" because you will not see the benefits until it is implemented. She said after the first go-lives in 4Q 2018, at Coney Island, Elmhurst, and Queens, that is when we will see benefits.

Ms. Youssef said we on the Board have spent a lot of time discussing this issue. We want to point out that this is separate from the $647 million already allocated for clinical. You can see that the City is giving us money for this.

Mr. Guido said this is for additional functionality, allows us to move forward and allows us to build in efficiencies with the new system.

Ms. Bolus asked if this money is solid and can it be pulled away by the City?

Mr. Brezenoff said it is in the capital plan.

Mr. Guido agreed.

Mr. Campbell asked about saving $142 million annually. He asked if we will not see these full savings until fiscal year 2021.

Ms. Saechow said in 2019 is when we will see the first ROI (return on investment). She said the first go live is in 2018, but the fiscal year is 2019. That is when we will start to see it.

Mr. Campbell said we will not see the full $142 million annual savings until fiscal year 2021.

Ms. Saechow said yes, that is correct.

Ms. Youssuf said that we will be seeing savings in pieces each year before 2021 and then we will see the $142 million annual savings.

Mr. Guido said yes, this is correct.

Ms. Lowe asked about values-based payments.

Mr. Guido said values-based payments will enhance our capabilities. We will take advantage of what we have right now.

Mr. Anantharam said we will invest in the operating expenditure.

Mr. Campbell said we are investing $70 million in 2018. Are we going to be far enough along to see savings in that year?

Mr. Anantharam said the projections we have are $64 million in 2019, $122 million in 2020, and $142 million in 2021. Some of the investments are necessary for the completion and deployment of the product in 2018. We will start to see benefits in 2019.

Mr. Brezenoff said we asked for this so this is a "put your money where your mouth is" moment. We were asking for $150 million in capital so we had to do this.

Ms. Lowe said in the long term, will we see benefits after this?

Ms. Youssuf said the savings are starting in 2019 and it will be $142 million annually in savings.

Mr. Campbell said we are looking at $142 million in savings annually in 2021 and our only investment will be $20 million. That is where the savings really kick in.

Ms. Bolus said we talk about savings but how much of this stays with us to spend on other programs?

Mr. Anantharam said it has to be spent or it will go out the door. This is essentially capturing information that we can use for billing.

Ms. Youssuf said that the transformation of the patient experience will be improved and as Ms. Saechow said, it will save us $142 million annually starting in 2021. This means that our costs will see savings in this category and we can use that money for things we need.

Mr. Guido said this is also reputational. He said if we put something in place that improves our patient experience, it is not quantifiable yet but it will be a tremendous benefit to us.

Ms. Lowe said that NYC Health + Hospitals is doing phenomenal things in our facilities and we want to keep these this up going forward.

Mr. Guido says this system enhances this and builds operational efficiencies.

Motion to approve the resolution for consideration by the Board of Directors was passed.

There being no further business, the meeting was adjourned 10:55 AM.

CHIEF INFORMATION OFFICER REPORT

Information Technology Committee of the NYC Health + Hospitals Board of Directors – June 13, 2017 @ 12:00 PM

Thank you and good morning.

For today's meeting, Enterprise IT Services will be presenting two (2) action items associated with DSRIP for the Committee's consideration: Digital Health and Population Health.

However, before we begin, I would also like to provide the committee members with the following brief updates:

Enterprise Resource Planning (Project Evolve) Update:

This project continues to be on budget and on time, with go-live for Wave I sites targeted for July 1, 2017. We have successfully completed User Acceptance Testing. In addition, we have started cutover dress rehearsals and deployment activities. Training sessions have begun for end users. Finance held a "Demo Day" where end users and management were invited to mini-demonstrations of the new system and processes. This was very well received and got many people excited about the project. The 30-day "Go/No-Go" meeting was held and we are progressing as expected. Plans are currently being made to support the end users during go-live and having extra support available the first couple of weeks after go-live.

As a reminder, July 1, the following modules will go live for all NYC Health + Hospitals facilities:

- General Ledger
- Treasury – Cash Management
- Asset Management
- Project Costing – Grants
- Budget

The following modules will be rolled out in five (5) Waves across NYC Health + Hospitals, with Wave 1 going live July 1 at Queens, Lincoln, Central Office, and Correctional Health:

- Purchasing
- Procurement
- Materials Management
- Accounts Payable
- Project Costing – Capital Projects
- Tagging of Assets for Asset Management

At this time we expect to be on plan and on budget with this project.

Dentrix Consolidation

The Dentrix (Patient documentation EMR for dentistry) Consolidation project continues its enterprise-wide, standardized roll-out, across all our hospitals. Throughout the next two quarters it is expected that the Dentrix team will have completed the majority of the consolidation process, which involves twenty three different variations of Dentrix.

Coney Island is now live with the Dentrix Enterprise Software and we have revisited the facility offering additional training sessions. Coler, Jacobi, and North Central Bronx are next in line, during the next 8-12 weeks, with the remainder of the facilities thereafter, approximately every three weeks, allotting for training and support coordination.

Meaningful Use and QuadraMed 6.2 Upgrade.

The QuadraMed major upgrades are necessary to meet Phase 2 and Phase 3 Meaningful Use (MU) standards. This will make NYC Health + Hospitals' QuadraMed-based facilities eligible for continued financial incentives. Testing and configuration enhancements are almost complete, as we work with QuadraMed to resolve any new concerns during the testing phase. The roll-out is expected to start the second or third week of June (at Jacobi and North Central Bronx). The expected completion for all the

facilities is the third through fourth week of July. This upgrade brings enhanced functionality, including a consolidated Medication Reconciliation solution, Secure Messaging for Physician-Patient communication, and a newly-designed patient portal.

Radiology McKesson Project

All Phase I hospitals (Harlem, Metropolitan, Lincoln, and Coney Island) are now employing the Conserus Worklist, Peer Review, and the Physician Concierge Service. The Business Intelligence platform is available, collecting site-level information from all four hospitals and generating valuable insights. A most recent review of the data demonstrates the success of the project to date, with noticeable increases in access, availability, utilization of advanced radiological modalities (MRI and CT Scans), as well as revenue reclamation. The overall feedback continues to be positive and widely accepted by Radiologists. A pilot is also underway for cross facility readings.

Security / WannaCry Ransomware Update:

With the latest ransomware variant of WannaCry halting BAU activities in major health organizations and companies around the world, NYC Health + Hospitals remains on high alert. However, through constant vigilance and active monitoring, we remain unaffected due to the following measures taken specifically for WannaCry ransomware:

- Updated Antivirus signatures released to all endpoints for latest variants
    - Updated signatures released to all intrusion detection and prevention devices and WannaCry activity being blocked on perimeter devices for latest variants

- Effective monthly patching efforts for all endpoints, including servers, have been applied across the organization with remaining machines being actively remediated on a daily basis

- Asset network scans are currently being conducted to scan for threats and actively remediated

- Communication sent to all employees on the importance of recognizing spam and phishing campaigns

- Activated real time security dashboard for Enterprise Operations Center to watch for potential WannaCry ransomware

This completes my report today. Thank you.

RESOLUTION

Authorizing the New York City Health and Hospitals Corporation ("NYC Health + Hospitals" or the "System") to take the necessary steps to implement a Digital Healthcare Network technology infrastructure platform, for a cost not to exceed $109.1 million of New York State ("NYS") Delivery System Reform Incentive Program ("DSRIP") capital reimbursable grant funds, over the next five years, including procuring the necessary contracts for: hardware; software; and staff augmentation to implement, configure and install hardware and software; all of such procurements to be effected in conformity with NYC Health + Hospitals' Operating Procedure 100-5 but without further Board authorization; provided that the Enterprise Information Technology Services division of NYC Health + Hospitals ("EITS") shall make regular, periodic reports to the Board of Directors to detail such procurements and to report on the progress of the implementation program and track the same to the budget hereby established.

WHEREAS, the System was awarded a New York State capital reimbursable grant through the DSRIP program, in the amount of $109.1 million to design, install and deploy the technology infrastructure required to support OneCity Digital Hospital; and

WHEREAS, a robust information technology infrastructure platform is a necessary foundational element to meet the DSRIP goal of building an integrated, value based health delivery system with improved care coordination and expanded access to care; and

WHEREAS, the Digital Healthcare Network will consist of four components: Unified Communications, PPS-wide Sharing of Imaging Results; Telehealth and Telemedicine and an Electronic Medical Record System for the PPS partners which together will support digital communication across the Participating Provider System ("PPS") in order to efficiently and effectively address the healthcare needs of patients and improve patient care; and

WHEREAS, EITS will procure hardware, software and services necessary to implement the following four program components; and

WHEREAS, the overall responsibility for managing and monitoring the four components of the Digital Healthcare Network technology infrastructure platform and the agreements that will be procured pursuant to this Resolution shall be the Senior Vice President/Corporate Chief Information Officer.

NOW THEREFOR, IT IS RESOLVED that New York City Health and Hospitals Corporation be and hereby is authorized to take the necessary steps to implement a Digital Healthcare Network technology infrastructure platform, for a cost not to exceed $109.1 million of New York State Delivery System Reform Incentive Program capital reimbursable grant funds, over the next five years, including procuring the necessary contracts for: hardware; software; and staff augmentation to implement, configure and install hardware and software; all of such procurements to be effected in conformity with NYC Health + Hospitals' Operating Procedure 100-5 but without further Board authorization; provided that the Enterprise Information Technology Services division of NYC Health + Hospitals shall make regular, periodic reports to the Board of Directors to detail such procurements and to report on the progress of the implementation program and track the same to the budget hereby established.

Executive Summary –
Purchases for OneCity Health Digital Hospital
Hardware, Software, and Services via Multiple Procurements

The accompanying resolution requests approval to purchase hardware, software and associated services from various vendors, through multiple procurements, in an amount not to exceed $109.1 million for the OneCity Health Digital Healthcare Network technology infrastructure platform. These purchases are included in the Delivery System Reform Incentive Program ("DSRIP") funding awarded to NYC Health + Hospitals by New York State for the Digital Healthcare Network technology infrastructure platform.

New York City Health + Hospitals was awarded a New York State capital reimbursable grant through DSRIP in the amount of $109.1 million for the development of the technology infrastructure required to support OneCity Digital Healthcare Network technology infrastructure platform. A robust information technology infrastructure platform is a necessary foundational element to meet the DSRIP goal of building an integrated, value based health delivery system with improved care coordination and expanded access to care. The technology infrastructure will support various types of digital communication across the PPS to efficiently and effectively address the healthcare needs of patients and improve patient care.

The Digital Healthcare Network consists of four components that will enable information to be shared across the PPS:

- Unified Communications: integration of real-time communication and coordination of care across facilities, systems, and PPS partners; establish multiple linkages and coordination points within and among primary and specialty care providers, community physicians, and community-based organizations.

- PPS-wide Sharing of Imaging Results: creation of a PPS Network-wide imaging program that enables cross-facility diagnostic reading and coverage.

- TeleHealth and Telemedicine: remote monitoring and care of patients by clinicians and/or care teams in a timely and comprehensive manner without the need to be confined to a specific facility or clinic.

- Electronic Medical Record System (Meaningful Use Certified): deployment of an EMR to provide a single patient record and enable NYC Health + Hospitals to engage our PPS partners in a consistent manner with a full view of patients' medical records

These technologies will remain Health + Hospitals' equipment but will enable our PPS partners to use remotely and will help streamline access to care, reduce wait time, enhance patient monitoring, provide remote access to experts to assist in clinical decisions, facilitate continuum of care among all PPS partners, reduce costs by reducing repeat visits, and meet all compliance and regulatory requirements.

Under this request, EITS will procure the necessary contracts for: hardware; software; and staff augmentation to implement, configure and install hardware and software; all of such procurements to be effected in conformity with NYC Health + Hospitals' Operating Procedure 100-5 but without further Board authorization provided that the Enterprise Information Technology Services division of NYC Health + Hospitals ("EITS") shall make regular periodic reports to the Board of Directors to detail such procurements and to report on the progress of the implementation program and track the same to the budget hereby established.
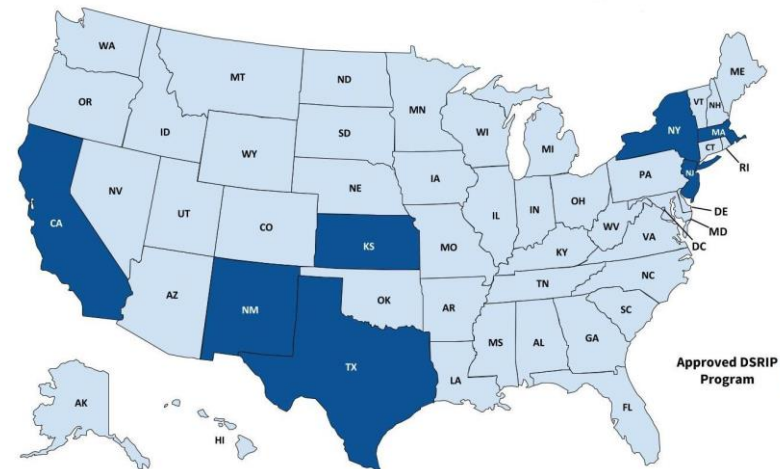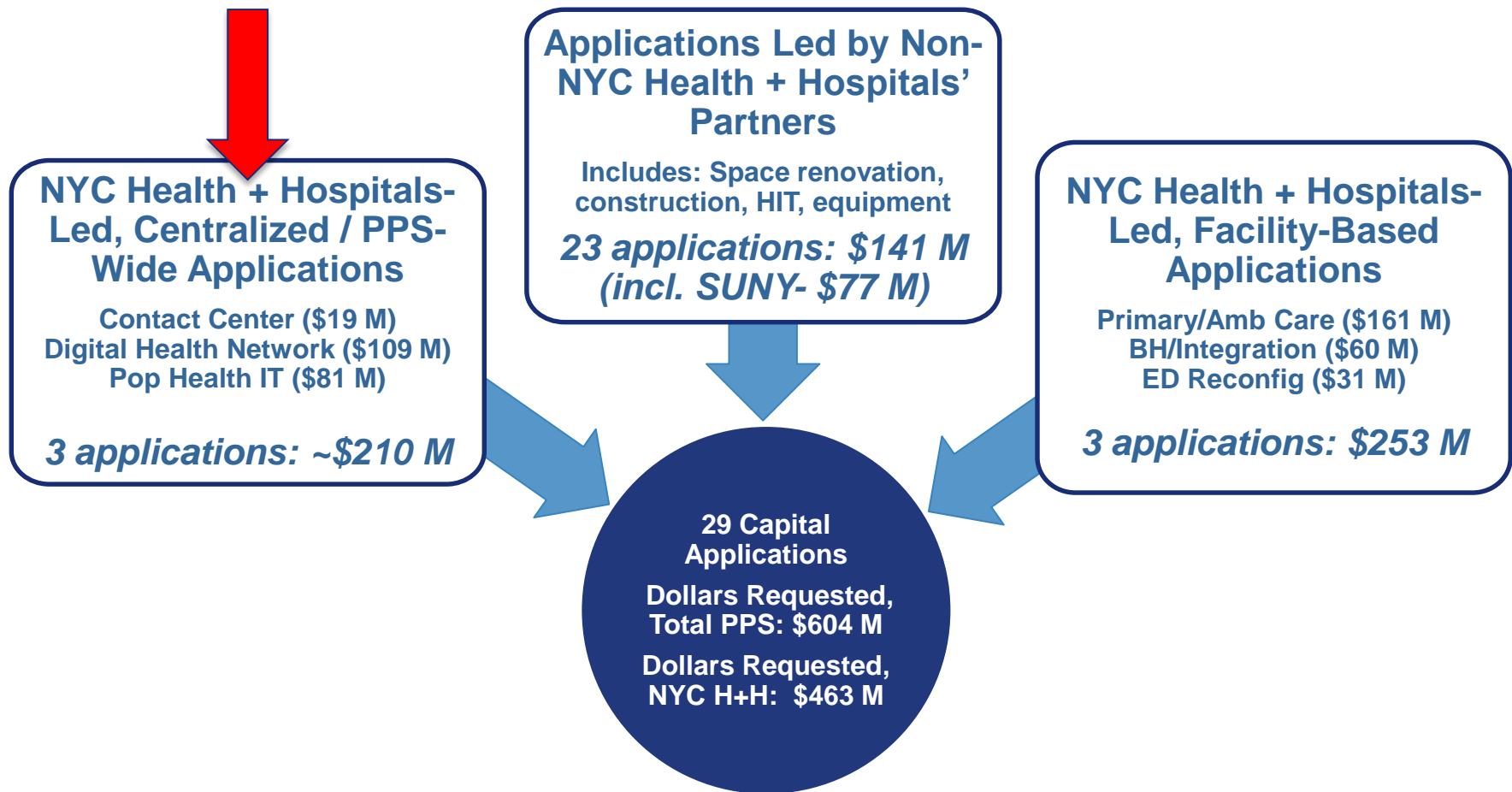
What is DSRIP?

- The **Delivery System Reform Incentive Payment (DSRIP)** program is an incentive payment model that rewards providers for performance on delivery system transformation projects that improve care for low-income patients

- Funded federally via Medicaid 1,115 waivers, DSRIP shifts hospital supplemental payments from paying for coverage to paying for improvement efforts

- **DSRIP´s** purpose is to fundamentally restructure the health care delivery system by reinvesting in the Medicaid program, with the primary goal of reducing avoidable hospital use by 25% over 5 years.

CMS Has Approved Seven DSRIP Programs

OneCity Health Capital Application Sources Final Submission, May 2015

NYC Health + Hospitals-Led, Centralized / PPS-Wide Applications

Contact Center ($19 M)
Digital Health Network ($109 M)
Pop Health IT ($81 M)

3 applications: ~$210 M

Applications Led by Non-NYC Health + Hospitals' Partners

Includes: Space renovation, construction, HIT, equipment

23 applications: $141 M (incl. SUNY- $77 M)

NYC Health + Hospitals-Led, Facility-Based Applications

Primary/Amb Care ($161 M)
BH/Integration ($60 M)
ED Reconfig ($31 M)

3 applications: $253 M

29 Capital Applications

Dollars Requested, Total PPS: $604 M

Dollars Requested, NYC H+H: $463 M
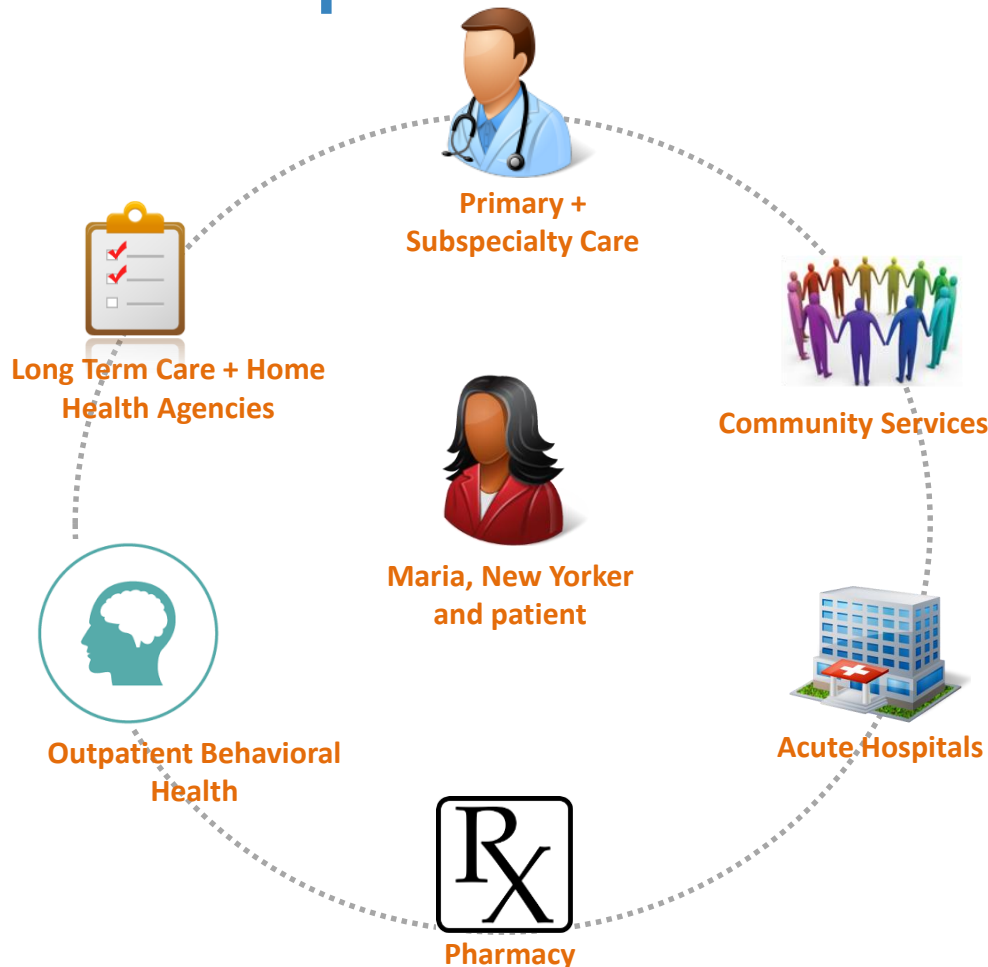
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CRFP Background

- November 2014: NYS DOH released request for applications for Capital Restructuring Financing Program (CRFP)
    - $1.2B fund available at total state level
    - Reimbursement program
    - Distinct from DSRIP funding pool
    - Intended to support DSRIP transformation: for capital projects that enhance the quality, financial viability and efficiency of healthcare delivery system

- May 2015: As required, in its role as fiduciary NYC Health + Hospitals submitted all capital requests on behalf of all DSRIP partners in the OneCity Health Performing Provider System (PPS)
    - NYC Health + Hospitals has no role in the awarding of funds or capital project implementation process for any partner organization but itself
    - NYS DOH will award and reimburse funds directly to partners

- March 2016: HHC was notified of award up to $300M for 5 of 6 capital applications
    - All 3 IT capital projects awarded at full ask
    - Each of the IT projects is in service to integrated delivery system build, which may include non-HHC organizations

- IT project planning since March 2016:
    - PPS Partner Inventory – IT Capability
    - Patient Consent Forms
    - Contracts with Payers

CRFP Projects Enable Technology Strategy for Health Improvement

Primary + Subspecialty Care

Long Term Care + Home Health Agencies

Community Services

Maria, New Yorker and patient

Outpatient Behavioral Health
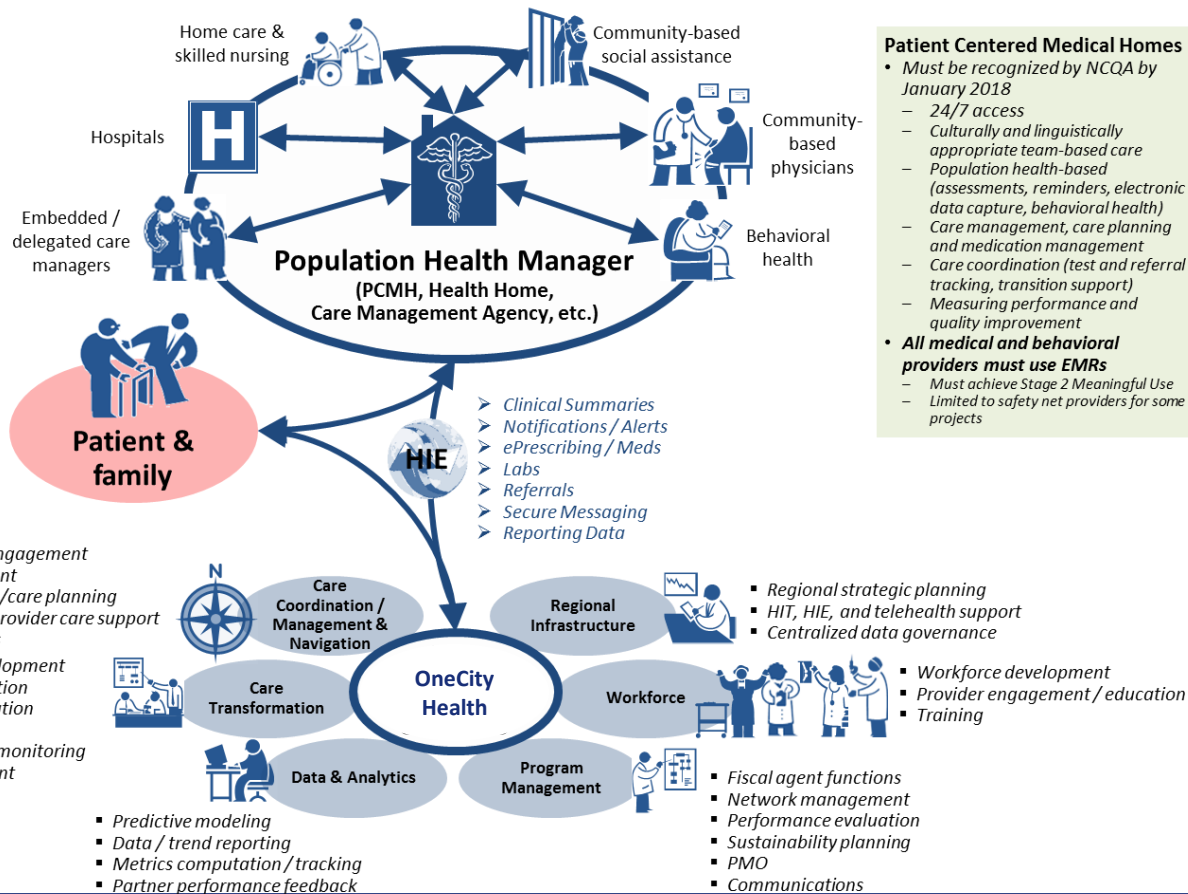
Acute Hospitals

Pharmacy

Examples:

- Health Information Exchange (HIE) / Regional Health Information Organizations (RHIOs) Connectivity
- Clinical Record Locator Service (CRLS)
- Telehealth
- Contact Center
- Electronic Medical Record (EMR)
- Social Services Referral Platform

DSRIP Program Requires Unprecedented Coordination Between Participating Providers

CRFP Awards For NYC Health + Hospitals IT Projects

- NYC Health + Hospitals, OneCity Health's lead partner, was awarded three IT capital project grants from New York State under the CRFP program, representing the largest total award by the state, and has been allocated as follows:

  - OneCity Health Patient Engagement and Contact Center – $19.4 million
    - ✓ Approved by Board – March 2017 Board Meeting ($10 million for IT)
  - Population Health IT – $81.3 million
  - Digital Healthcare Network – $109.1 million

- These IT projects will create a common access system across OneCity Health partners, enabling care coordination among multiple providers, organizations and CBOs
  - Provide the ability to track patients
  - Use of accurate data to inform care
  - Measure and improve care processes and outcomes over time

- NYC Health + Hospitals' Matching Funds Derive from the following IT projects:
  - Network Infrastructure
  - Radiology McKesson
  - Epic EMR
  - Business Intelligence

  *Note: these projects have been previously authorized

Population Health: Budget and Milestones

New York City Health + Hospitals was awarded a capital grant of $81.3 million to build a Population Health IT infrastructure that will enable:

- Exchange of patient and provider records
- Accurate patient identification
- Ability to aggregate data and leverage automated registries

Projected Project Durations

Performance, Management, and Analytics (Year 1 – 5)

Health Information Exchange (Year 1 – 5)

Clinical Record Locator Service (Year 1 – 5)

Population Health Projects	FY18	FY19	FY20	FY21	FY22	Total
Performance, Management, and Analytics Data Analytics and Registries	$10,509,573	$16,887,208	$4,706,815	$3,089,289	$1,359,664	*$36,552,549*
Health Information Exchange Sharing Information Among Providers	$6,642,649	$6,360,705	$5,613,073	$1,290,427	$769,094	*$20,675,948*
Clinical Record Locator Service Patient Identification	$6,785,306	$5,911,455	$5,807,013	$4,695,436	$896,293	*$24,095,503*
Total	*$23,937,528*	*$29,159,368*	*$16,126,901*	*$9,075,152*	*$3,025,051*	*$81,324,000*

Note: There were some initial expenditures in FY17 that have been included in the FY18 figures.

Digital Health Care: Budget and Milestones

New York City Health + Hospitals was awarded a capital grant of $109.1 million to build an United Communications IT infrastructure that will enable:

➢ Telehealth and Telemedicine
➢ Sharing Radiology/Imaging
➢ Communication with Electronic Health Record Systems (EHRs)

Projected Project Durations

| Unified Communication (Year 1 – 4) |
| Telehealth & Telemedicine (Year 1 – 4) |
| Imaging (Year 3 – 4) |
| EMR Partner Connect (Year 1 – 3) |

Project	FY18	FY19	FY20	FY21	Total
Unified Communications	$17,222,200	$14,316,205	$1,090,395	$133,200	*$32,762,000*
Telehealth & Telemedicine	$9,329,999	$9,614,894	$4,955,106	$0	*$23,899,999*
Imaging	$0	$797,336	$17,679,471	$8,071,000	*$26,547,807*
EMR Partner Connect	$11,035,000	$12,314,561	$2,525,439	$0	*$25,875,000*
Total	*$37,587,199*	*$37,042,996*	*$26,250,411*	*$8,204,200*	*$109,084,806*

Note: There were some initial expenditures in FY17 that have been included in the FY18 figures.

NYC HEALTH+ HOSPITALS

Questions?

RESOLUTION

Authorizing the New York City Health and Hospitals Corporation ("NYC Health + Hospitals" or the "System") to take the necessary steps to create a Population Health technology infrastructure platform, for a cost not to exceed $81.3 million of New York State ("NYS") Delivery System Reform Incentive Program ("DSRIP") capital reimbursable grant funds over the next five years, including procuring the necessary contracts for: hardware; software; and staff augmentation to implement, configure and install hardware and software; all of such procurements to be effected in conformity with NYC Health + Hospitals' Operating Procedure 100-5 but without further Board authorization; provided that the Enterprise Information Technology Services division of NYC Health + Hospitals ("EITS") shall make regular, periodic reports to the Board of Directors to detail such procurements and to report on the progress of the implementation program and track the same to the budget hereby established.

WHEREAS, the System was awarded a NYS capital reimbursable grant through the DSRIP program in the amount of $81.3 million to design, install and deploy the technology infrastructure required to support the OneCity Health Population Health project; and

WHEREAS, the Population Health information technology infrastructure platform will create a common system across the Participating Provider System ("PPS") to enable partners to define, understand, engage and track patient populations, as well as measure and improve care processes and outcomes over time; and

WHEREAS, the Population Health information technology project will consist of three components that will support the ability to share health information across a common system, track patients and to use accurate data to inform care; and

WHEREAS, Enterprise Information Technology Services ("EITS") will procure hardware, software and services necessary to implement the following programs: Clinical Record Locator Service, Health Information Exchange and Performance Management and Analytics; and

WHEREAS, the Senior Vice President/Corporate Chief Information Officer shall have the overall responsibility for managing and monitoring the creation of the Population Health program and the agreements made to build the components of the program.

NOW THEREFOR, IT IS RESOLVED that New York City Health and Hospitals Corporation be and hereby is authorized to take the necessary steps to implement a Population Health technology infrastructure platform, for a cost not to exceed $81.3 million of New York State Delivery System Reform Incentive Program capital reimbursable grant funds over the next five years, including procuring the necessary contracts for: hardware; software; and staff augmentation to implement, configure and install hardware and software; all of such procurements to be effected in conformity with NYC Health + Hospitals' Operating Procedure 100-5 but without further Board authorization; provided that the Enterprise Information Technology Services division of NYC Health + Hospitals shall make regular, periodic reports to the Board of Directors to detail such procurements and to report on the progress of the implementation program and track the same to the budget hereby established.

Executive Summary –
Purchases for OneCity Health Population Health
Hardware, Software, and Services via
Multiple Procurements

The accompanying resolution requests approval to purchase hardware, software and associated services from various vendors, through multiple procurements in an amount not to exceed $81.3 million for the creation of the OneCity Health Population Health technology infrastructure platform. Such purchases will be financed with the Delivery System Reform Incentive Program ("DSRIP") funding awarded to NYC Health + Hospitals by New York State for the Population Health technology infrastructure platform.

New York City Health + Hospitals was awarded a New York State capital reimbursable grant through DSRIP, in the amount of $81.3 million for the development of the technology infrastructure required to support OneCity Health Population Health which will create a common access system across OneCity Health partners to enable the PPS to define, understand, engage and track patient populations, as well as measure and improve care processes and outcomes over time.

The Population Health information technology project addresses the healthcare needs of the broader community and residents by encouraging and enabling care coordination among multiple organizations, providers, and community-based organizations. The common system, the ability to track patients, and the ability to use accurate data to inform care will all help to move PPS partners toward a value-based system.

There are three core components to the Population Health IT Project:

- <u>Clinical Record Locator Service (CRLS)</u>: ability to accurately identify and link patient and provider records across the PPS at all points of care to facilitate care coordination, transitions of care, operational monitoring and reporting.
- <u>Health Information Exchange</u>: enable the exchange of health information in real time across the PPS, including private practices, nursing homes, clinics, labs and hospitals and the centralization of data at NYC Health + Hospitals
- <u>Performance Management and Analytics</u>: ability to aggregate data across partners to better manage population health, leverage automated registry functionality, and meet DSRIP reporting requirements

These technologies will remain Health + Hospitals' equipment but will enable our PPS partners to use remotely and will help streamline access to care, reduce wait time, enhance patient monitoring, provide remote access to experts to assist in clinical decisions, facilitate continuum of care among all PPS partners, reduce costs by reducing repeat visits, and meet all compliance and regulatory requirements.

Under this request, EITS will procure the necessary contracts for: hardware; software; and staff augmentation to implement, configure and install hardware and software; all of such procurements to be effected in conformity with NYC Health + Hospitals' Operating Procedure 100-5 but without further Board authorization provided that the Enterprise Information Technology Services division of NYC Health + Hospitals ("EITS") shall make regular periodic reports to the Board of Directors to detail such procurements and to report on the progress of the implementation program and track the same to the budget hereby established.