AGENDA

INFORMATION TECHNOLOGY　　　　　　　Meeting Date:　<u>May 15, 2017</u>
COMMITTEE　　　　　　　　　　　　　　　Time:　　　　<u>10:00 AM</u>
　　　　　　　　　　　　　　　　　　　　　Location: <u>125 Worth Street, Room 532</u>

BOARD OF DIRECTORS

CALL TO ORDER　　　　　　　　　　　　　　　　　**MS. YOUSSOUF**

ADOPTION OF MINUTES
　　March 16, 2017

CHIEF INFORMATION OFFICER REPORT　　　　　　　**MR. GUIDO**

ACTION ITEMS:

Authorizing the New York City Health and Hospitals Corporation ("NYC Health +　　　**MR. GUIDO**
Hospitals' or the "System") to take the necessary steps to implement a platform that will　　**MS. SAECHOW**
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.

OLD BUSINESS

NEW BUSINESS

ADJOURNMENT

NEW YORK CITY HEALTH + HOSPITALS

MINUTES

Meeting Date: March 16, 2017

INFORMATION TECHNOLOGY COMMITTEE

ATTENDEES

COMMITTEE MEMBERS
Emily Youssouf, Chair
Stanley Brezenoff, Interim President & CEO
Josephine Bolus, RN
Gordon Campbell
Jennifer Yeaw (representing Steven Banks in a voting capacity)

NYC HEALTH + HOSPITALS CENTRAL OFFICE STAFF:
Dr. Machelle Allen, Senior Vice President and Chief Medical Officer, Office of HealthCare Improvement
PV Anantharam, Senior Vice President and Chief Financial Officer
Kaushal Challa, Senior Assistant Vice President, Office of the President
Kenra Ford, Assistant Vice President, Clinical Laboratory Operations, Office of HealthCare Improvement
Dr. Alfred Garofalo, Senior Assistant Vice President, Enterprise Information Technology Services
Marisa Salamone Greason, 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
Dr. Rajeeb Khatua, Chief Medical Information Officer, GO EMR
Barbara Lederman, Senior Director, Enterprise Information Technology Services
Fred Leich, Senior Director, Presidents Office
Patricia Lockhart, Secretary to the Corporation
Jeffrey Lutz, Senior Director, Enterprise Information Technology Services
Glenn Manjorin, Director, Business Continuity, Enterprise Information Technology Services
Ana Marengo, Senior Vice President, Communications and Marketing
Antonio Martin, Executive Vice President and Chief Operating Officer
Eric Orner, Director, External Communications
Anthony Rajkumar, Chief Executive Officer, NYC Health + Hospitals/Coney Island
Salvatore Russo, Senior Vice President & General Counsel, Legal Affairs
Pamela Saechow, Senior Assistant Vice President, EMR Build and Implementation
Julio Santos, Senior Director of Clinical Applications, Enterprise Information Technology Services
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
Larry Garvey, Cerner
Travis Rochon, Duccura
Chris Sharp, Cerner

INFORMATION TECHNOLOGY COMMITTEE
Thursday, March 16, 2017

Emily Youssouf called the meeting to order at 10:10 AM. The minutes of the November 3, 2016 and February 10, 2017 meetings were adopted.

CHIEF INFORMATION OFFICER REPORT

Sal Guido presented the Chief Information Officer Report. He said today EITS will be presenting two (2) action items for the Committee's consideration: the purchase of hardware, software and services for the OneCity Health Patient Engagement and Contact Center. The second will be a contract amendment to a current McKesson Technologies agreement regarding radiology consolidation. He said there will be an information item on Business Continuity that was requested at last month's IT Committee meeting. He then gave the committee the following brief updates:

<u>EMR GO PROGRAM UPDATE</u>

Mr. Guido said on Saturday morning, February 25, the GO EMR program went live at Coney Island Hospital and its four community health centers. He said there were no real issues. He said he wanted to thank Ed Marx, CIO and Senior Vice President of the Advisory Board, as well as Pamela Saechow and Dr. Rajeeb Khatua of the GO team, for their work. He said he wanted to thank Tony Rajkumar and his team at NYC Health + Hospitals/Coney Island for coordinating everything. Mr. Guido then thanked Kenra Ford, who coordinated the lab services and was instrumental in getting the go-live done. He said finally he would like to thank the GO team and the entire Enterprise IT Services staff for doing such a great job that there were no technical issues with the go-live. All the teams have done phenomenal work together.

Emily Youssouf asked for a breakdown of the process: when did it start and how long did it take? And what do you think should be altered?

Anthony Rajkumar compared the process to a really good arranged marriage where everyone got along well. He said it took about six months of preparation. He said he got a call from Antonio Martin asking if he would like to be the next facility to go-live. He said yes and they immediately broke the news to the people at Coney Island. He said he told staff that, for years previously, there was a lot of bad media about Coney Island. He said this was an opportunity to turn things around when it comes to patient safety. He said staff bought into this idea. Mr. Rajkumar said the preparations were rigorous and training was tough since everyone had to go to the basecamp at NYC Health + Hospitals/Metropolitan. But, he said, the collaboration and communication were tremendous. Three weeks in, and we have not had a single patient safety issue due to the implementation. He said we talk to the staff 24/7. He said EITS and Coney Island became one. He said it was our top priority and we were committed to it. We did it for the patients and the communities that we serve. He said it is a process. Mr. Martin and Dr. Machelle Allen walked around the hospital during the implementation and they saw the enthusiasm and confidence of the staff. He said even today you can see how they feel that they have been doing it for a long time.

Ms. Youssouf asked if there were still GO team members there.

Mr. Rajkumar said we scaled down the number from the 180+ that were there during go-live. We continue to evaluate on a daily basis. Some people feel very comfortable with the GO "green vests" and do not want them to go. But at some point we will have to separate them.

Ms. Youssouf asked how this added to patient safety.

Mr. Rajkumar said the old system QuadraMed was a hybrid system that allowed users to bypass it in a way that could affect patient safety. For example, when Joint Commission came to visit, they might ask a nurse

to review a doctor's orders. He said some nurses might be challenged with this because there are many steps and they might not have read the instructions. Now, the workflow has changed. Everything is focused on the patients.

Ms. Youssouf asked if you would call the Epic system as patient-centric.

Mr. Guido said yes.

Ms. Youssouf said this is great news and congratulations.

RADIOLOGY INTEGRATION PROGRAM UPDATE

Mr. Guido said the Radiology Integration program was presented to the committee members at the November 3, 2016 meeting. The program uses McKesson Technologies software. As of today, he said, the software is being used at NYC Health + Hospitals/Coney Island, NYC Health + Hospitals/Harlem, NYC Health + Hospitals/Lincoln, and NYC Health + Hospitals/Metropolitan. He says the software allows us to move radiology images from facility to facility.

Mr. Guido said we are now in the second phase that will include NYC Health + Hospitals/Jacobi, NYC Health + Hospitals/Woodhull, and two other facilities. He said we are on-time and on-budget.

Mr. Guido said we are expanding the use of Concierge service for all radiologists. This makes sure the images are done in a timely manner and routed to the all of our locations. He said our plan is to have this implemented at all of our facilities by the end of this year. He said this has been a tremendous undertaking with Dr. Machelle Allen, Revenue Cycle, EITS, and all our radiologists, and we are making good progress.

Ms. Youssouf asked to explain what was meant by Revenue Cycle.

Mr. Guido said within Radiology there are different billing codes and we need the proper analytics in place. You need this to link images with the proper billing. The only way to understand the complexity level of an image is to have the proper billing codes.

ENTERPRISE RESOURCE PLANNING (PROJECT EVOLVE) UPDATE

Mr. Guido spoke about Enterprise Resource Planning (ERP) (Project Evolve). The project continues to be on budget and on time with go-live for July 1, 2017. He said we have successfully completed round one of System and Integration testing. He said when we test ERP, it is not just ERP we are testing. You have to get Revenue Cycle and others worked into it as well. He said to date, we have integrated around 30 different interfaces into 30 different systems. Mr. Guido stated to the committee that we are completing round two of system and integration testing.

Ms. Youssouf asked if Mr. Guido could briefly explain what this system is and does.

Mr. Guido said ERP brings five different systems into the single ERP system. These include back-end accounting, payroll, supply chain, purchasing, and back office accounting such as accounts payable and receivable, as well as budgeting. Later, there will be cost accounting, which gives us a detailed view of profit/loss statements, something that has been lacking. It is something we are working on very diligently right now.

Ms. Youssouf asked about our current system.

Mr. Guido said we have very old systems (15- and 22-years old). They are very dated.

Ms. Youssouf asked about next steps.

Mr. Guido said the next steps are to go live with the back office accounting areas, such as accounts payable and accounts receivable. We are working with PV Anantharam to see if we can accelerate our work, cutting

it down from our current three year deployment schedule. He stated that we are working very diligently on this.

Ms. Youssouf asked, from your vantage point, how will this work with some facilities on the new system and some not.

Mr. Anantharam said this is moving forward and the amount of work involved is a lot since all the different facilities have different ways of doing things. He said Paul Albertson is working on this currently. We want to avoid having a "garbage in, garbage out" system.

Mr. Guido said this will put Human Resources and the ERP into one enterprise-wide system.

Mr. Anantharam said this will help us on a micro level make better decisions about spending and resources. He said we might have it all next year, but definitely by the end of next year.

Mr. Guido said this will help in the business aspects of the organization. He said we are working with many back office departments on this and Epic is for the front lines.

Ms. Youssouf said there were 180 people helping to train for the new EMR system. What about for this one?

Mr. Guido said there is an entire program in place for this. We have a third party training organization coming in to help with this and they will be doing "train the trainer." We will have 50-60 from our staff for go live, along with people from Mr. Anantharam and Mr. Albertson's areas. It is a massive undertaking but we are getting better at this.

Ms. Youssouf asked who the third party is.

Mr. Guido said that was not yet chosen but we will go through the 100-5 bidding process. We will keep you informed once that is decided.

Jennifer Yeaw asked about change management, specifically how you will get all the hospitals to use the same processes.

Mr. Guido said we contracted with Deloitte to put the ERP in place. They have a rigorous process for us, and that includes change management. It will be similar to EMR in that each facility has a way of doing things. This will be more centralized. It might be a little painful at first, but once in place and with support, we will be in much better shape.

Mr. Anantharam said the process of consolidating these systems is moving forward and people will appreciate it.

Ms. Youssouf said you chose to go forward with supply chain management go-live on July 1. You chose institutions that are not live with EMR. Why? And Correctional Health is here. I understand the expenses come from the City. Will reimbursement for these amounts come from the City?

Mr. Guido said yes, but we manage the monies.

Ms. Youssouf said it should be covered by the City.

Mr. Anantharam agreed and said he would follow up on that.

Mr. Guido said he would answer the first question. We did not want EMR and ERP going live at the same time because there would be too much disruption.

Ms. Youssouf said it seemed logical to deploy ERP to those that already have EMR.

Mr. Guido said that is a great question. We thought about it but the preparation work for the two systems takes a huge amount of work. For example, for ERP, we are working on barcoding and inventorying all of

our supplies, putting in a master record system. This started months ago and it is a long process that needs to be done correctly. We did not want work for the two systems to be done at the same time.

Ms. Yousseff said she understand that this and everything you do must be done correctly.

PEOPLESOFT HUMAN CAPITAL MANAGEMENT (HCM) AND ENTERPRISE LEARNING MANAGEMENT (ELM) UPGRADE

Mr. Guido continued with the successful upgrade of the PeopleSoft Human Capital Management (HCM) and Enterprise Learning Management (ELM) system tools was completed on March 6, 2017. This was done over a couple of weekends and will make it compatible with the ERP. Now there is a seamless integration between HR and ERP, which will help us get away from paper reporting. This was a major milestone for us.

Mr. Guido ended his presentation by thanking Antonio Martin. He told the committee that Tony has been a great mentor and helped him in many ways since he took over this position two years ago. Tony will be sorely missed.

That ends the CIO Report.

ACTION ITEM 1:

ONECITY HEALTH PATIENT ENGAGEMENT AND CONTACT CENTER

Mr. Guido read the following resolution: Authorizing the New York City Health and Hospitals Corporation ("NYC Health + Hospitals") to execute contracts for the purchase of hardware, software, and services from various vendors on an on-going basis via Third Party Contract(s) in an amount not to exceed $10,000,000 for a one year period.

Kaushal Challa and Jeffrey Lutz introduced themselves.

Mr. Challa said the Contact Center will be a "one-stop shopping" experience for a wide range of medical services with a focus on outpatient and primary care, including scheduling appointments, follow-ups, and access to a nurse hotline. It will be staffed 24/7. He said we currently have a fragmented system of call centers, with 5-20 people. They operated only during business hours and with little language support for the communities we serve. He said with the new system, we will group people by borough and we will use the same staff and same IT systems. This will provide 24/7 support, multi-site scheduling in the borough, and generally streamlining the system. This will upgrade the patient experience and help call center agents.

Gordon Campbell asked will there be other call centers once we consolidate beyond the five boroughs?

Mr. Challa said they will be consolidated by borough.

Mr. Campbell asked will there be any besides those five?

Mr. Challa said no, not for appointments.

Mr. Guido said these centers are patient-centric. We also operate an IT call center that gets about 50,000 calls per month. These are different business models. It is much more effective to stay different.

Mr. Campbell asked if there are any other outward facing call centers and what is the timing.

Mr. Challa said the borough-based centers already exist.

Mr. Guido said we used to have 11 different call centers and now they are consolidated. This is different. He said this is for our 220 DSRIP partners with 2 million potential patients.

Mr. Campbell asked if I call for NYC Health + Hospitals/Elmhurst and there is nothing available, will the system identify other appointments throughout the system.

Mr. Guido said yes but this was not true six months ago. We are letting people know about this. He said we are working with Ana Marengo to get the word out. We wanted to make sure it was working correctly before we made a big push.

Mr. Campbell said that makes sense. He said we want people to think of us as NYC Health + Hospitals and not just their local clinic.

Mr. Challa said yes, there is a single number that takes you to our call centers.

Ms. Youssouf asked is there one physical center where the call center is located. To manage this, do we have someone with call center management experience?

Mr. Challa said there is a call center in each borough, with four in total (Staten Island is covered by Brooklyn). We have decades of experience in all sides of running a call center. You need people with redesign capabilities and deep understanding of outpatient and ambulatory care, and we have that.

Ms. Youssouf asked is there one person managing each call center? Are they 24/7?

Mr. Guido said they are 24/7 and each has their own director. They all report up to Mr. Challa. He said we have a lot of experience in these call centers.

Ms. Youssouf asked if there are assistant directors to run 24/7.

Mr. Challa said yes we do.

Mr. Campbell said we would like to see metrics in the future.

Ms. Youssouf said we would like to get a presentation on the call centers for the next meeting. She said she would like to know about the checks and how we run the operation.

Mr. Guido said we will do that on all aspects of running the call centers.

Ms. Youssouf said that this would be great and in the future, you should have a presentation ready to show us when asking for funding so we have a better understanding of what we are talking about.

Mr. Guido said that is a good idea and we will plan on that for the future.

Josephine Bolus asked how many languages we offer.

Mr. Challa said there is always the option of having an interpreter. Our goal is to have a call center agent who speaks that language. In Brooklyn, we offer five languages, based on the number of requests. In Manhattan, it is four. In the Bronx and Queens, it is two each. He said the technology makes it easier for patients who request help with languages. For example, if a Spanish speaker calls, it will go to the most fluent person in the center, even if that makes a 10 minute wait. Now, the technology will get the patient to a person who is less fluent but can still speak Spanish.

Mr. Guido said the technology is very sophisticated and routes you to the correct person. We are working on the Epic side to make sure we have a record of all calls and requests.

Ms. Yeaw asked, since there is a platform already, are you asking for $10 million from DSRIP in order to enhance it.

Mr. Guido said yes. He explained that these are not the DSRIP dollars allocated by the State. He said these are additional grants from the state. They are not our dollars. This is for technology that does not exist right now in our call centers.

Mr. Lutz said this system allows us to consolidate information and makes it easier for our call center representatives to help patients. He said this allows us to create standard practices.

Mr. Challa said we have very good training for our agents.

Ms. Yeaw asked about instant messaging.

Mr. Guido said this is for agents among themselves and with the patients. It is part of the record of what we have done for the patient so that the next operator will be aware of our previous efforts.

Ms. Youssouf asked what happens when someone calls with a language not listed here. Will the system recognize a language not listed?

Mr. Guido said not if there is no match and it will be transferred to a human who will try to help. The system will only know that there is no positive match. He said right now there are something like 150 different languages in our community. So there is no way to have that many. That is why we keep interpreters standing by.

Ms. Youssouf asked what will happen when we move from older systems into one system.

Mr. Lutz said the old system will diminish as time goes on. He said there will be a single interface for agents and they will see only one set of information.

Ms. Youssouf asked how many calls can be handled monthly.

Mr. Challa said for the month of February, we answered 130,000 calls.

Ms. Youssouf said when you come back next month, can you show those statistics as well as things like hold time.

Mr. Guido said we will.

Ms. Youssouf asked where this money is coming from again.

Mr. Guido said these are DSRIP dollars coming from a capital grant.

Ms. Bolus asked about a recent incident in Texas with phone systems being overwhelmed with calls. She asked what would happen if the system is hit with phony phone calls.

Mr. Guido said it will have the same sort of technology that differentiates spam emails from real emails and they will be rejected.

Approved for consideration by the full Board.

ACTION ITEM 2:

RADIOLOGY INTEGRATION AND PRACTICE MANAGEMENT CONTRACT WITH MCKESSON TECHNOLOGIES INCORPORATED

Mr. Guido read the following resolution: Authorizing the New York City Health and Hospitals Corporation ("NYC Health + Hospitals") to negotiate and execute a contract amendment with McKesson Technologies Inc. ("McKesson") to obtain the licenses, services, training and maintenance required to implement a consolidated diagnostic viewer in conjunction with the Radiology Integration and Practice Management Services Agreement made with McKesson in February 2016 (the "Agreement") for a period two years (the remaining Initial Term of the Agreement) with two, one-year options to renew, exercisable solely by NYC Health + Hospitals, in an additional amount of $6,668,270.94 (includes a 10% contingency of $606,206.45) for a total increased contract amount not to exceed $23,353,125.94.

Dr. Machelle Allen and Julio Santos introduced themselves.

Dr. Alfred Garofalo said Step One of the Radiology Transformation project positioned NYC Health + Hospitals with the ability to seamlessly share radiographic studies, in real-time, across all our facilities. He said that for the first time, both radiologists and care-givers are now capable of sharing a study instantaneous throughout care of the patient at any of our facilities. He said NYC Health + Hospitals also

introduced a streamlined communication platform for radiologist and providers to be linked together quickly when discussions of emergent nature are crucial in regards to the patient studies and care. The contract that enabled this transformation was signed in February, 2016 in an amount not to exceed $16,684,855, inclusive of all costs and expenses

Dr. Garofalo said Step Two of the Radiology transformation brings together all of the legacy radiographic modalities and associated vendors (Agfa and Sectra) into one single McKesson diagnostic viewing platform. He stated the McKesson platform will enable the radiologist to utilize a single viewer instead of accessing the McKesson system for the current images and either Agfa or Sectra for the archived images. He said an option to install this technology was part of the original February 2016 contract in regards to enterprise diagnostic viewers.

Dr. Garofalo said this new technology will broaden our capabilities to extend into three dimensional viewing. He said surgical planning especially in trauma allow what-if scenarios and 3D printing to reveal outcomes before procedures are even performed. With Breast Tomosynthesis, specialized breast radiologists would be able to see through layers of tissue and examine areas of concern from all angles.

Dr. Garofalo said that if one radiologist specializes in a particular thing, the image can be sent straight to that person. He said at this time, we are seeking approval of that amendment to exercise this option and to increase the spending authority of the Agreement in an amount not to exceed $6,668,270.94 (includes 10% contingency) for the remainder of the term, including optional renewal periods exercisable solely by NYC Health + Hospitals for additional expanded services. The new contract total will be increased from $16,684,855 to $23,353,125.94.

Mr. Guido asked Dr. Allen to give an overview of the program and what she has seen so far, as well as her impressions.

Dr. Allen said the work with McKesson is two parts. The first part is technology, to be able to use their viewing platform, etc. There is a workflow portion as well that is changing the way radiologists do their jobs. She said we have been working with McKesson and Doctor's Council, since they had brought an arbitration to PAGNY (Physicians Affiliate Group of New York). She said we are looking for total transformation of radiology. She said the upsides are many. The Concierge service will send images within minutes and to actually find the doctor who requested it so radiologists do not have to. It also allows us on the business side to follow metrics, turnaround time, performance, etc. She says this has potential to enhance radiologists' work, help the doctors get their films, and increase our efficiency and productivity.

Ms. Youssouf asked if this will be available in all hospitals.

Mr. Guido said yes, by the end of the year.

Ms. Youssouf said all radiologists and physicians will be trained.

Dr. Allen said we have been working with radiologists in a true collaboration. She said we are working with the Radiologists Council, which is made up of chiefs of radiology, and Doctors Council, every step of the way. All physicians will be trained, whether they are at Sinai, NYU, PAGNY or NYC Health + Hospitals.

Mr. Guido said this is a business model change for us. We are now an enterprise group with new workflows, processes and procedures. Dr. Allen is working with the Doctors Council very closely on this. He said in Phase 1, we installed at Harlem, Lincoln, Metropolitan, and Coney Island, and learned a lot.

Dr. Garofalo continued by looking at Financial Analysis. He pointed to the Current Spend – McKesson, Agfa, and Sectra; as well as Future Spend – McKesson, Agfa, and Sectra. Support and Maintenance Total Spend for Current Spend will be $27,820,070. Future Spend will be $18,070,070. These numbers Includes cost to upgrade legacy vendor platforms + recurring maintenance. He said the estimated cost savings over three years to be almost $10 million.

Mr. Guido said this is saving money while upgrading to cutting edge technology. He said Dr. Allen's team has done a phenomenal job with this.

Dr. Garofalo said that as a physician, it is amazing to see the intelligent workflow in action. For instance, if there is a pediatric case, that will get priority. That saves time in emergency situation and prevents having to send them back for more unnecessary scans.

Dr. Allen said so we are working with frontline doctors. When you are changing daily behaviors, there will be complaints but so far, there have been none.

Ms. Bolus asked if we will get this for MRI.

Mr. Guido said that is probably a different committee. He said from a capital and facilities standpoint, CT and MRI monitors will have some updates in the future and we will keep you updated.

Ms. Yeaw asked how the $10 million number was derived.

Mr. Guido said this is a hard dollar save. It is part of the maintenance agreement we have with McKesson. He said this is just the maintenance costs for the existing platform versus the future platform.

Dr. Allen said the Executive Governance Committee is made up of Legal, Labor, Finance, IT, and clinicians.

Approved for consideration by the full Board.

INFORMATION ITEM 1:

BUSINESS CONTINUITY

Mr. Guido said this item was in response to a request from the last meeting where there was a presentation about Business Continuity (BC). The Committee asked that we present the information as relates to the Blood Bank. Glenn Manjorin will go through the IT process of Disaster Recovery (DR) for the Blood Bank. Kenra Ford will talk about the business and clinical standpoint, so it is not just an IT perspective.

Glenn Manjorin introduced himself and thanked the committee. He said he was back at the request of the committee from last month to go through one of the applications. He defined BC as an ongoing process supported by senior management and resources that identifies risk, threats and vulnerabilities that could impact an entity's continued operations. He said it is a process to minimize the impact of a major disruption on operations and to enable restoration of critical assets and normalcy as soon as possible after a crisis.

Mr. Manjorin pointed to Business Continuity Management, saying it has four (4) parts: Incident Management, Disaster Recovery, Business Recovery, and Occupant Emergency Plan (employee safety).

Mr. Manjorin then spoke to How Do We Plan? (Blood Bank). He pointed to five (5) steps of the BC Program Management: Identify, Analyze, Design, Execute, and Measure. He said this slide is customized to both Blood Bank and what we did at Coney Island. He said for Identify, EITS collaborated with the hospital and made site visits to get to know them and how we can help them. Working with Ms. Ford's team at Lab Services, we visited and walked in their shoes. He said we wanted to help them since they and the patients are our customers. For Analyze, we said we had a committee of 20-22 people with whom we met or spoke to on the phone weekly to learn all their downtime procedures. He said it was laborious but necessary. We then met with the analyst team to understand back office operations. We also had to learn about Epic versus QuadraMed. For Design, we designed appropriate levels of recovery strategies that provide practical, cost-effective solutions to continue operations; and implemented software to hold knowledge base. He said we implemented Sustainable Planner software and inputted all of Coney Island's Downtime Forms and Procedures. He said we installed this in August and we are going to do the same for Queens and Elmhurst.

Ms. Youssuf asked if Coney Island is the only facility with this program.

Mr. Manjorin said right now, yes.

Mr. Guido said Coney Island currently has Sustainable Planner repository. He said we have BC throughout the organization. He said all downtime procedures and BC are there. He said Coney Island is the first to get this particular system.

Ms. Youssuf asked if this is only Blood Bank or all of Coney Island.

Mr. Manjorin said all of Coney Island. He said for Execute, we for Coney Island as well as Queens and Elmhurst, so we have an Integrated Downtime Procedures Guide as part of the GO-TO book.

Mr. Manjorin spoke to Sustainable Planner. He said this is the customized program used by the COOP (Continuity of Operations) program for New York City. He said it has an easy to use standardized format, compliant with NYC standards, automated real time creation of Go-To books, an auditable repository of processes and forms, flexible configuration for forms and downtime procedures, and provides input to the enterprise vision of standard procedures. He said following industry best practices for information technology, EITS has both business continuity documentation and operating documentation. He said NYC Health + Hospitals has standardized leading platforms from Sustainable Planner and BMC.

Kenra Ford introduced herself. She spoke to Blood Bank Downtime Procedures. She spoke four (4) scenarios when procedures include BC. She showed how workflows would work in each to make sure that the Blood Bank could continue to do its job. The scenarios included cases where HCLL (blood bank software), EMR (electronic medical record), and Cerner (revenue) would be working or not working. She said there is a laborious process to get everything onto paper if everything goes down, but it is necessary. She spoke to the details in the procedures that exist. Once the system is back up, we reconcile everything by inputting the information back into the system. She said this level of detail exists in all these scenarios and our staff is trained in all of them. She said we prepare for planned and unplanned downtimes so that we can continue to safely do blood transfusions.

Mr. Guido spoke to Business Continuity Status. He said all these applications have BC for every facility we have. He said Glenn and Kenra and their teams have done a great job, but they had to work with every facet of the organization to get this. We wanted to give you an appreciation of one system out of 1700 that we manage.

Ms. Youssuf asked when they will all be centralized in Sustainable Planner.

Mr. Manjorin said we are working on this for all Tier 1 and Tier 0. There is a new Sustainable Planner coming out in the fall so we will work with that.

Mr. Guido said Tier 0 means they cannot be down at all because they are so vital. They have backups in case something goes down. He said Tier 1 means it must be up within 20 minutes. He said for instance that Epic is not just one system. There are many systems connected to it. He said Tier 2 and Tier 3 are critical but do not have to do with patient safety.

Ms. Youssuf said this was very helpful. She said she would like to have additional updates.

Mr. Guido said yes, we will. He said there are critical applications such as email, which cannot be down or else we have no way to communicate. He said we architected the system so that it will never go down. He said tiers go from 0-4. He said active directory and other supporting systems are Tier 0. They are not visible to users but without them, things would not work.

Ms. Bolus said she was concerned after watching a program about the Dallas 911 system going down.

Mr. Guido said he was somewhat shocked and appalled that it went down. 911 systems should have redundancy that stops calls from taking it down. He said I cannot speak to Dallas, but our systems have safeguards. We test them on a regular basis.

Ms. Bolus said T-Mobile knew for some time but did nothing about it.

Mr. Guido stated he could not comment on that but only speak to what we have accomplished.

There being no further business, the meeting was adjourned 11:35 AM.

CHIEF INFORMATION OFFICER REPORT

Information Technology Committee of the NYC Health + Hospitals Board of Directors – May 15, 2017 @10:00AM

Thank you and good morning.

For today's meeting, Enterprise IT Services will be presenting one (1) action item for the Committee's consideration: A resolution to implement a platform to integrate Epic revenue cycle modules with existing Epic clinical modules.

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

EMR GO Program Update:

This month, the GO team began the planning effort for the implementation of our GO Enterprise platform. This now includes Epic's revenue cycle product, pending board approval. The scope includes standardizing and improving patient scheduling, registration, revenue capture, billing, reimbursement, as well as other financial processes. We will have a single, unified platform for all medical and financial data, for each patient encounter, across the entire health system. We will pause any future clinical-only implementations as the project will take approximately 18 months to validate and test the integrated system. The anticipated implementation schedule will be starting in Q4 2018 and finishing in Q4 2020. The new system will be implemented at the three hospitals already live on Epic's clinical platform first: Queens, Elmhurst, and Coney Island. The rollout order for the other facilities in our system will be determined through our discussions and planning sessions with facility leadership in the coming months.

We also kicked off the project to upgrade to Epic version 2017 earlier this month. This is considered a prerequisite for the GO Enterprise rollout. The upgrade date is December 10, 2017.

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. To date, we have successfully completed multiple system tests and are in the middle of User Acceptance Testing. In addition, we have started cutover dress rehearsals and deployment activities. Training materials have been written and training sessions are being coordinated by the Change Management and Communication teams.

On 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

I will continue to provide the committee with additional updates as we get closer to the July 1 go-live date.

Dentrix Consolidation

The Dentrix (Patient documentation EMR for dentistry) Consolidation project completed the Enterprise-standardized database across all NYC Health + Hospitals facilities. Prior to the implementation of this standardized Database, there were twenty three different

variations at multiple facilities. Coney Island Hospital went live this week with the Enterprise Dentrix Software. Henry J. Coler, Jacobi, and North Central Bronx will be fully implemented during Q2'17. The remainder of the facilities on the Enterprise platform will get it thereafter, approximately every three weeks, allotting for training and support coordination.

Integrated Lab Workforce

The Lab system is the joint venture between Health and Hospitals and Northwell health using Cerner's lab system allowing H+H to consolidate 11 independent Lab systems into one.

EITS Clinical Information Systems (CIS) has assembled a Clinical Information Lab Team in order to integrate the lab system into both Epic and QuadraMed. It is collaborating with Kenra Ford, the AVP for Clinical Laboratory Operations; and the Office of HealthCare Improvement, on both short- and long-term Corporate Lab initiatives. Some projects in progress include Enterprise Roche, Point of Care, and Sysmex Hematology. The team is not only focusing on the Applications necessary to support the lab equipment. They are also working on the necessary Infrastructure and Interface technology. This triad of support allows the Office of HealthCare Improvement, under Kenra, to concentrate on the primary importance of implementing the lab projects in accordance with their timelines. The CIS team is also working closely with Epic GO, coordinating builds in both Epic and QuadraMed as requests or changes are submitted in regards to the Cerner Lab. I will continue to update everyone in the upcoming months as to future accomplishments.

Meaningful Use and Quadramed 6.2 Upgrade.

Meaningful use (commonly referred to as MU) outlines specific objectives for both Hospitals and Providers. It is divided into three stages, each with specific objectives. Stage I - the Data Capture and sharing phase, Stage II – the advance clinical phase and Stage III – improved outcome phase.

The term, MU-Eligible Hospital (EH) refers to those objectives specific to an Acute Care setting while MU-Eligible Professional (EP) refers to those objective specific to an Outpatient setting. The core difference in the objective measurements is that MU-Eligible Hospital (EH) measures the providers in an Acute care as an entity while MU-Eligible Professional measures the providers individually in their ability to successfully achieve the objectives. Each EH or EP provider (either as a whole or individually) must meet the objective benchmarks to qualify for Centers for Medicare & Medicaid Services (CMS) Incentive Programs dollars. Our current incentive is for $23M annually for eligible professional over the next five years.

To achieve the incentive dollars meaningful use MUST be demonstrated using certified electronic health record (EHR) capable of meeting objectives in areas of;

      A. Quality, safety, efficiency for patient care

      B. Improve care coordination, population and public health

      C. Maintain privacy and security of patient health information

      D. Work to improve clinical outcomes and population health outcomes

      E. Increased transparency and relationships between patient and care provider

QuadraMed has released a major upgrade to their current software. This will enable NYC Health + Hospitals to continue meeting the CMS requirements under The American Recovery and Reinvestment Act of 2009 for both Eligible Hospitals as well as Professionals. These 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 began more than six weeks ago with a very robust roll-out starting the second and 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. Training has already begun with the Patient Portal Liaisons. The anticipation roll-out of this new feature ahead of the 6.2 upgrade.

Radiology McKesson Project

The proposed McKesson 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. The program will also support operational expansion via an open platform that would allow NYC Health + Hospitals' facilities to read the scans of providers outside the system.

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. The overall feedback has been positive. Implementation activities at Phase II hospitals (Kings County, Jacobi and North Central Bronx) are in progress. Go-lives are starting May 15. Phase III (Queens and Elmhurst) is expected to initiate in June and Phase IV (Bellevue and Woodhull) is scheduled to initiate in August. The Physician Concierge service is at 100% implementation. It is widely accepted by Radiologists as well as ordering physicians. The Concierge service team continues to successfully provide 24/5 coverage (Monday - Friday) to the four Phase I hospitals expanding to 24/7 coverage in the coming months. Historical data migration is in progress for Coney Island, Woodhull, Queens, and Elmhurst hospitals. Preparations to begin migration at Jacobi and North Central Bronx are in progress. The McKesson Single Diagnostic Viewers received board approval on March 23, 2017 and the team is already in the project design phase on a single diagnostic viewer. Radiologists from across all of our facilities took part in a demonstration of this new functionality at Bellevue from May 9-11. Anticipated completion is expect to work in parallel with the remaining phased consolidations. This will bring the facilities live in the final Phases, with both the

consolidated Worklist, as well as a single Viewer. This will eliminate NYC Health +

Hospitals dependencies on multiple radiology storage and viewing systems.

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 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.

WHEREAS, NYC Health + Hospitals has already acquired rights to use the Epic suite of modules including its revenue cycle modules and its clinical modules; and

WHEREAS, NYC Health + Hospitals has made significant strides in implementing the Epic clinical modules to achieve a unified and uniform electronic medical record system that can be used throughout the System but has not worked to implement the revenue cycle modules; and

WHEREAS, implementing a revenue cycle module will establish a financial management system through medical billing software to enable the System to track every patient care episode, all charges for medical services and the payment of such charges; and

WHEREAS, having a revenue cycle platform in place will allow the System to manage patient care to better establish and ensure uniform provision of best practice care and to optimize revenue from health care services; and

WHEREAS, using the Epic revenue cycle modules will leverage the investment NYC Health + Hospitals has already made in the Epic suite of modules and permit seamless integration with the clinical modules that would be difficult to achieve were another revenue cycle module to be used; and

WHEREAS, EITS will work with the Office of Supply Chain Services to procure contracts under Operating Procedure 100-5 with vendors that supply staff augmentation services, hardware, training and implementation services and will report to the Board of Directors the award of such contracts at regular periodic intervals; and

WHEREAS, the head of the GO Enterprise unit of EITS will be responsible for the supervision, management and reporting of this project.

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 platform that will integrate Epic revenue cycle modules with existing Epic clinical modules at a cost not to exceed $138,710,297in 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 Enterprise Information Technology Services division of NYC Health + Hospitals 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.

EXECUTIVE SUMMARY

Background: Revenue cycle management is a payment practice within the United States health system. The process involves a healthcare provider submitting, and following up on, claims with health insurance companies in order to receive payment for services rendered; such as treatments and investigations. Revenue cycle management speeds up payments and frees up staff time with paperless billing, online bill-pay, payment plans, estimates, and more. It consolidates all of a patient's outstanding balances - inpatient and clinic bills - into a single statement to make paying bills simple and easy to do. It automates coding and charge dropping to reduce administrative overhead, avoid missing charges, shorten A/R days and increase total revenue. It encourages the most clinically effective and cost efficient treatments with integrated clinical and financial decision support.

Need: The original plan to achieve an integrated Epic clinical and revenue cycle system was to roll out revenue cycle after completion of the clinical implementation. However, the benefits gained through an integrated system warrant the acceleration of the revenue cycle timeline. The System currently is not able to collect enough of the revenue available to compensate for care provided to patients with insurance. This is due to flaws in coding, billing, collection and management of denials of claims by third party payors. It is essential that the System enhance its revenue, within regulatory bounds, to finance its operations. We anticipate to capture up to $142 million in annual additional revenue (based on FY 2016 patient volume), once the new revenue cycle product is in place. This expected increase is based on the experience of other national and local health systems that have already implemented the technology.

Patient Care Benefits: Patients will benefit from the implementation of a revenue cycle platform because it will yield information about care being delivered that can be used to teach and enforce standard best practices across the System. Patients will also benefit because care givers will be able to focus more attention on their care than on completing forms and logging data.

Financing: $150 Million in capital funds is allocated in the City's Capital Budget for the revenue cycle project. NYC Health + Hospitals shall invest approximately $139 million from its operating budget to cover the non-capital portion of the costs of the initiative, separate from the Epic clinical program budget. The investment is projected to pay for itself in 2-1/2 years post implementation.

Budget: The anticipated schedule for expenditure of the authorized funds and the application of such funds are set forth in the attached budget projection.

Procurement: The goods and services required for the proposed implementation will come from many vendors. Among such vendors would necessarily be Epic which would be called upon for additional services and software maintenance. Contracts for such goods and services will greatly range in value from hundreds of thousands of dollars to millions of dollars. All vendors will be procured in accordance with the procurement rules of NYC Health + Hospitals conducted in the normal course by the Office of Supply Chain Services. All contract will be reported to the IT Committee of the Board at regular periodic intervals with such detail and in such format as the Committee requests.

Board Briefing
GO Enterprise Strategy

GO Team

May 2017

Executive Summary

- 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

- Benefits gained through an integrated revenue cycle warrant the acceleration of the revenue cycle implementation timeline

- Revenue cycle project funding, separate from the Epic clinical implementation, will be $289 million over the next five years:
    - City of New York has allocated $150 million in capital funds
    - NYC Health + Hospitals will invest $139 million out of it's operating costs

- The investment is projected to pay for itself in 2-1/2 years post implementation

Why GO Enterprise
Drivers Behind Decision

Quality of Care
- Increase quality of care while reducing patient safety risks.
- Helps us meet national standards.

Patient Experience
- Helps us become provider of choice for our patients by improving access.
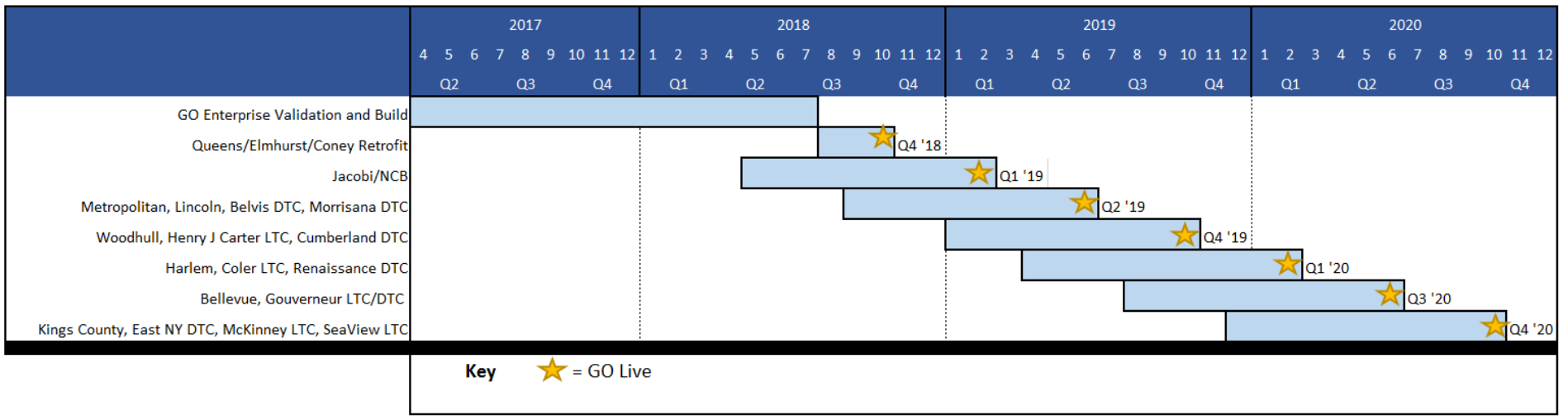- Helps us ensure patient experience meets national standards.

Transformation
- Establish infrastructure to support Transformation initiatives.
- Sets foundation to allow fully integrated expanded care management services.

Return on Investment
- Potential 5% return on investment and increased operational efficiencies ($142M annual benefit).
- Helps us maximize revenue.

Timeline

GO Enterprise Sequencing: Version 1.2 as of 4/20/17
This may change as we further engage stakeholders.

Budget

Costs	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Capital					
Infrastructure (non Labor)		$ 9,000,000			
Implementation Labor	3,044,000	50,201,873	49,165,980	32,228,843	6,766,997
Total Capital Investment	**$ 3,044,000**	**$ 59,201,873**	**$ 49,165,980**	**$ 32,228,843**	**$ 6,766,997**
Operating					
Training facilities, non-capital cost, Maintenance (non Labor) including Quadramed	$ 9,900,000	$ 8,200,000	$ 13,450,000	$ 14,450,000	$ 6,000,000
Labor	1,425,315	2,873,865	31,713,668	43,369,546	7,327,903
Total Operating Expenses	**$ 11,325,315**	**$ 11,073,865**	**$ 45,163,668[1]**	**$ 57,819,546**	**$ 13,327,903**
Total Investment	**$ 14,369,315**	**$ 70,275,738**	**$ 94,329,648**	**$ 90,048,389**	**$ 20,094,900**

[1]GO implementations begin rollouts in the 3rd quarter of Fiscal Year 2019 which triggers increases in Operating expenses providing support to LIVE sites

Total Project Cost	
Capital	$ 150,407,693
Operating	$ 138,710,297
Total Project Cost	**$ 289,117,990**