AGENDA

INFORMATION TECHNOLOGY COMMITTEE

Meeting Date: February 10, 2017
Time: 12:00 PM
Location: 125 Worth Street, Room 532

BOARD OF DIRECTORS

CALL TO ORDER — **MS. YOUSSOUF**

ADOPTION OF MINUTES
November 3, 2016

CHIEF INFORMATION OFFICER REPORT — **MR. GUIDO**

INFORMATION ITEM:

EITS PROGRAM UPDATES

1) EMR/GO Program Update — **MS. SAECHOW**, **DR. KHATUA**

2) EITS Business Continuity Planning — **MR. MANJORIN**

OLD BUSINESS

NEW BUSINESS

ADJOURNMENT

MINUTES

Meeting Date: November 3, 2016

INFORMATION TECHNOLOGY COMMITTEE

ATTENDEES

COMMITTEE MEMBERS

Gordon Campbell, Chair
Josephine Bolus, RN
Ram Raju, MD, President
Jennifer Yeaw (representing Steven Banks in a voting capacity)

NYC HEALTH + HOSPITALS CENTRAL OFFICE STAFF:

PV Anantharam, Senior Vice President and Chief Financial Officer
Vikrant Arora, Assistant Vice President and Chief Information Security Officer, Enterprise Information Technology Services
Tammy Carlisle, Associate Executive Director, Corporate Planning
Robert De Luna, Senior Director, Press Secretary
Olga Deshchenko, Director, Presidents Office
Thomas J. Dicks, Senior Consultant, Enterprise Information Technology Services
Kenra Ford, Assistant Vice President, Clinical Laboratory Operations, Office of HealthCare Improvement
Dr. Alfred Garofalo, Senior Assistant Vice President, Enterprise Information Technology Services
Natalie German, Senior Director, Patient Safety Accreditation
Sal Guido, Senior Vice President and Chief Information Officer, Enterprise Information Technology Services
Colicia Hercules, Chief of Staff, Office of the Chairperson
Janet Karegozian, Assistant Vice President, Enterprise Information Technology Services
Michael Keil, Assistant Vice President, Enterprise Information Technology Services
Garfield King, PACS Administrator, Enterprise Information Technology Services
Patricia Lockhart, Secretary to the Corporation
Randall Mark, Chief of Staff, President's Office
Eric Orner, Director, External Communications
Antonio Martin, Executive Vice President and Chief Operating Officer
Jewel Roberson, Senior Business Analyst, Enterprise Information Technology Services
Chelsea-Lyn Rudder, Director of Marketing & Communications, Press Secretary
Salvatore Russo, Senior Vice President & General Counsel, Legal Affairs
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, Enterprise Information Technology Services

OTHERS PRESENT:

Osmund de Souza, Account Executive, Juniper Networks
Robert Olman, Duccura
Travis Rochon, Duccura
Shaylee Wheeler, Office of Management and Budget

INFORMATION TECHNOLOGY COMMITTEE
Thursday, November 3, 2016

Gordon Campbell, Chair of the Committee, called the meeting to order at 2:20 PM. The minutes of the June 9, 2016 Information Technology Committee meeting were adopted.

CHIEF INFORMATION OFFICER REPORT

Mr. Guido, Senior Vice President and Chief Information Officer, presented the Chief Information Officer Report. He said the Service Line Leaders would present on four of EITS' five major projects: Compass, Enterprise Resource Planning (Project Evolve), Meaningful Use, and the Radiology Integration Program. The GO (electronic medical record) team was not able to make it due to a previous engagement. He said we will get a full update from them next month.

Mr. Guido discussed the EITS staff survey. He said that when he began his role in 2015, we sent surveys to staff. Over the years, he said, we have made progress using the feedback from those surveys. But we found we had room for improvement.

He said we found the respondents (40% response rate) felt in general that they were contributing to the success of the organization and to Dr. Raju's Vision 20/20. Many were pulled into strategic meetings at all facilities to make sure they were engaged and understood our strategic direction.

Mr. Guido said what we learned from the last survey is there was room for improvement, specifically around women in the division and how women participated in the strategic decisions being made within EITS and NYC Health + Hospitals.

He said in response to this, a Women in IT committee was formed. He said focus groups were held and they yielded great recommendations so far. He said this committee will be responsible for making recommended changes and they will have the full authority and power to implement those changes within EITS. He said we will report back. He said it was a great step forward for us as we incorporate everybody into the decision-making process.

Mr. Russo said he agrees and that is why organizations like Girls Who Code have been created. He gave much credit to Mr. Guido and the organization for this.

Mr. Guido thanked Mr. Russo and said this concluded his presentation.

INFORMATION ITEM:

Mr. Guido introduced his Service Line Leads to give updates on the four major projects:

The following introduced themselves to the Committee: Vijay Saradhi, Assistant Vice President, Data Sciences for the Compass Platform; Janet Karageozian, Assistant Vice President, Business Applications, for Enterprise Resource Planning *(Project Evolve)*; and Alfred Garofalo, DPM, Sr. AVP, Clinical Information Systems for Meaningful Use and the Radiology Integration Program. They spoke to the presentation "Enterprise IT Services Program Updates."

COMPASS

Mr. Saradhi said when he took on his role about a year ago, the reporting and analytics were all over the place. He said we wanted to have a single place where all executives could go to look at all the data and analytics. He said we developed a data platform called Compass to provide direction for senior executives.

He said it is a single point to find information and it is designed to support Vision 20/20, specifically reducing costs and improving quality of care, leading to better patient outcomes.

Mr. Saradhi said Compass was made in-house entirely by Data Sciences staff and Mr. Martin helped launch it for us on September 29, 2016. He said users over the past month have been giving very positive feedback.

Mr. Guido mentioned that there are now over 250 users of Compass and the number is growing.

Mr. Saradhi gave a list of Compass' Data Domains, including Patients and Visits, Length of Stay, Readmissions, Healthcare Associated Infections, Emergency Department, Opioid Prescriptions, Patient Satisfaction, Payers/Insurance, Value Based Purchasing, and Real-time Analytics.

He said that presenting Real-time Analytics is very complex and we were able to achieve this.

Dr. Raju asked if he could look at data on length of stay and readmissions, to see if there is a correlation.

Mr. Saradhi said that is a great question and something we are working on. He said right now you can see them separately. He said we are working on producing the capability to merge different types of data for the future. It is an enhancement we are working on.

Mr. Saradhi said in the past hospitals could not see if a patient who was discharged from their site were re-admitted to other NYC Health + Hospitals sites. He said we solved this issue because now you can see this on Compass.

Dr. Raju said he would really like to see correlation between staffing information and patient experience or satisfaction. For instance, if I find that the patients on the eighth floor at NYC Health + Hospitals/Jacobi are not giving great satisfaction reviews, can I find out the nursing and other staffing taking place there?

Mr. Saradhi said absolutely. He said if a patient got a cold meal, you can find out who was on staff at that time.

Dr. Raju said he would like to know from a human resources point of view how much of this is related to overtime.

Mr. Campbell asked how the system is populated with data.

Mr. Anantharam said most of the data comes from our financial systems, like Soarian.

Mr. Guido said we get information from two places. The first is from Soarian and our revenue cycle systems. The second is from our electronic medical record (EMR). He said we correlate the two to see if there are any discrepancies.

Mr. Campbell asked about the Scorecard, regarding things like Patient Satisfaction, where do we get that data?

Mr. Saradhi said that for Patient Satisfaction, we get that from Press Ganey, and we get other data from the Center for Disease Control (CDC). The numbers shown here are our official numbers.

Dr. Raju said that the reason Mr. Guido and his team got on this is because we wanted one source of truth. We did not want one number from Soarian and another from the EMR. He said some people are sent from one clinic to another, so it will show as one visit in Soarian and three to the EMR because of how the doctors decided to do things. So we needed one source for numbers.

Mr. Campbell asked how you decide what to use?

Mr. Guido said we have a data governance group that meets on a regular basis and we prioritize what is moved to Compass. If, for example, we wanted to see a P&L (profit and loss) statement or patient safety information for each hospital, we would know which data to take. He said we did not want to take all the data because it is so time consuming and you get nothing out of it. This is voted on. He said Mr.

Anantharam, Mr. Martin, and people from around the organization who sit on that committee to make these decisions. He said we get information from internal and external sources.

Ms. Bolus asked how you decide which to use if they are different.

Mr. Guido said if this is the case, we know exactly who we need to speak to within NYC Health + Hospitals to discuss this discrepancy. He said only one source of data is not as good as two. He said we wanted to get multiple sources to make sure we were getting extremely accurate data. Mr. Guido said the same goes for claims data. He said Mr. Anantharam gets all the billing data in the Revenue Cycle system. But then we marry it up against the State's information to see if it is accurate and if we are getting paid for everything. He said it helps point us away from potential problems or to solve them.

Ms. Bolus asked if our findings would be acceptable to a group with different findings, especially if we come to them and say there was a problem that needs to be fixed.

Mr. Anantharam said we have to figure out which data is the best to use for a particular system to have truth in reporting. He said as we move from disparate systems to centralized systems like EMR and ERP, the data gets better.

Mr. Guido said we are developing a standard way of inputting the data into the systems so we have a standard way of looking at it from an individual hospital level.

Dr. Raju said in the past, there were inaccuracies but we had no way of finding them. He said this system allows us to look at it in a different and more accurate way. He said sometimes it was in our favor and sometimes it was in the government's favor. He said we can now be more comfortable with our data.

Ms. Yeaw said she understands culling through the portal to find the information as it exists right now so that you can see and make decisions on using it. She asked, at some point, does the portal evolve into its own system of record? Or does it stay a portal that we use to pull information from?

Mr. Saradhi said Compass will never be the system of record. Only the finance systems will be the system of record. Compass only provides a uniform way of looking at the data. He said people can opine on the system and there is a feedback mechanism built into the system.

Mr. Saradhi returned to the presentation to discuss Features and Capabilities, including Enterprise view of data, Real-time analytics, Previously unavailable capabilities, Self-service, View data in various formats and styles, Reference to provide visibility into definitions, and User feedback. He said the top line of this slide shows real-time data, such as number of deceased.

Mr. Saradhi added that his team is working on multiple Enhancements Under Development, such as Develop Dashboards for Three Service Line Leads, Dashboards for Business Areas, Subject Area Specific Dashboards, Strategic Program Dashboards, and Additional Data Domains.

Mr. Campbell asked if you have had any discussions with Maryann Strutsman and her team as they work on social service platforms?

Mr. Guido said yes, we have been speaking with City entities. We spoke with one for Population Data because there is a massive amount of data there that could benefit us in many ways. He said Mr. Saradhi and his team worked to be able to get external data into the system and we are using that now.

Mr. Campbell said he could see City data migrating over and vice versa.

Mr. Guido said we have to be careful with that because we have privacy laws we must obey when considering sharing data. He said we worked with Mr. Russo and his group on this.

Mr. Campbell said he knows this very well but for many years, City agencies did not share data. He said I encourage counsel to be mindful of HIPAA (Health Insurance Portability and Accountability Act), but sometimes sharing can be so helpful on so many fronts.

Ms. Yeaw said there is a lot of potential there. We understand the restrictions but we want to come to a view of sharing. She said NYC Health + Hospitals uses HHS Connect, which is also a portal, so maybe there is opportunity there.

Mr. Guido said we have looked into this preliminarily. We worked with Mr. Russo on ways of sharing data. He said among the City agencies, we came up with a model to protect ourselves as well as protect the data in a very effective manner. Action Health for uninsured patients was the first program we worked on with this. Now that we have the model, he stated we can move forward with more initiatives.

ENTERPRISE RESOURCE PLANNING (ERP)

Ms. Karegozian spoke to the slides titled Enterprise Resource Planning (ERP) Program – Project Evolve. She said after a very lengthy search for a new finance and supply chain system, we selected PeopleSoft and got approval from the Board in December 2015. She said that currently our systems are antiquated. Reporting is not integrated, making it difficult and cumbersome. She said our resources are hard to find and our processes are lengthy and time consuming. She said for example it takes 2.5 hours to process one week's worth of timesheets for Central Office only.

Ms. Karegozian showed the slide Current State of Our Business Infrastructure. She said that it is currently siloed and not efficient. She then addressed "What is an Enterprise Resource Planning (ERP) System?" She showed that it is an integrated suite of business applications that share a common process and data model, covering broad and deep operational end-to-end processes, such as those found in finance, human resources, distribution, manufacturing, service and the supply chain.

Ms. Karegozian spoke to the ERP "High-Level" Program Delivery Schedule that was developed with our implementation partners at Deloitte. She said Phase 1 will include Core Financials, Budget, Core Supply Chain, and Inventory Management. She said the first rollout will be in a phased approach starting July 1, 2017. Rollouts will be every three months and as we get better, possibly get more aggressive in our timelines.

She said Phase 2 will include Cost Accounting which goes live July 1, 2018, and Payroll Processing, which goes live January 1, 2019. Time Capture and Work Scheduling will roll out in a phased approach shortly thereafter.

Ms. Karegozian listed accomplishments to date under ERP Program Update. These include: Finalized Business Process Design, Completed Initial System Configuration, Completed Configuration Unit Testing, Completed initial Hyperion Budgeting System Test, Hyperion Budgeting System Test (Round 2) Scheduled for November 21st, Finance and Supply Chain System Test Scheduled to Begin on November 28th, as well as Development of Interfaces, Enhancements, and Data Conversion Programs.

Ms. Karegozian said she was happy to report that things are going well, that the program is on schedule and on budget. She said she is pleased that everyone is 100% committed to the project, including Deloitte, Elizabeth Guzman in Finance and Jun Amora in Supply Chain.

Dr. Raju thanked Ms. Karegozian for taking this on, saying it will change the way we operate as an organization. He said we want our leaders to have the information they need to manage better.

MEANINGFUL USE

Dr. Garofalo next presented on Meaningful Use – Eligible Professional (EP) and Eligible Hospital (EH). He spoke to Meaningful Use Eligible Professional Incentives. As background, he explained that this is a project

which sets specific goals are created by the Centers for Medicare and Medicare Services (CMS). The objectives are to improve quality, safety, and efficiency; Reduce health disparities, and engage patients and family; and Improve care coordination, and population and public health.

Dr. Garofalo explained that many people associate Meaningful Use with incentive dollars, but the objectives are themselves very important. He said getting money for the program is a two-step process: Step I focuses on registering eligible providers/professionals (EPs). Finance is responsible for registering these individuals. This is commonly known, he said, as the Adopt/Implement/Update (AIU) phase. He said that every EP who is eligible to participate in the program gets $21,500 from CMS. In 2014, NYC Health + Hospitals successfully completed AIU for 894 providers, which brought in $18,997,500. In 2015, we on-boarded an additional 1,291 providers to get $21,972,500. By the end of 2016 (the last year to attest these individuals), we will be $28,985,000 for 1,364 providers.

Dr. Garofalo said that Step II is really the core of the program. These individuals have to prove to CMS that they are meeting these core measures. He explained that there are two programs: Eligible Provider and Eligible Hospital (EH). He said we have received all monies for Eligible Hospital and now we are attesting to that phase.

He said Step II begins in July 2017. Each attesting EP is eligible for $8,500. Between 2017–2021 (a five year period), we will have approximately 3,547 Eligible Providers bringing in a total of $131,622,500. He said that many of the CMS requirements do not cover certain specialties, like Pediatrics. They are eligible to participate but they do not need to attest to it. Therefore, the numbers might fluctuate.

Dr. Garofalo said we can achieve six of the ten core measures without any issue: patient protected information, clinical business support, computerized order entry, electronic prescribing, and health information exchange (HIE). The other four are very important to the patient, starting with patient portal, which he defined as allowing 24-hour access by the patient to their personal health information from anywhere with an Internet connection. He said our current portal has been open for 18 months and it has 87,000 of NYC Health + Hospitals' patients have registered for its use. He said 80% - 85% of those patients have been accessing the portal two or more times over the past year. This means that after treatment they are looking at their information.

Dr. Garofalo said the portal also allows exchange of information between patient and providers in regards to the patient health care record. He gave a few examples of the information: Recent Clinical / Inpatient visits, Discharge summaries, Current/Past Medications, Immunization History, Allergies and Lab and Radiology Results.

He then gave a quote from Health IT magazine from November 2015: "The overarching goal of the portal is to enhance patient-provider communication, empower patients, support care between visits, and, most importantly, improve patient outcomes."

Dr. Garofalo showed a page from the portal in the presentation titled "Welcome to Your Personal Health Plan." He wanted to show how he easy it is to use.

Ms. Yeaw said it looks great. She asked if alerts are being sent.

Mr. Guido said you will see coming up that in addition to emails, we are doing secure texting.

Dr. Garofalo said this is another basis for other CMS requirements for Meaningful Use. He went to the slide Three Challenges: Medication Reconciliation, Secure Messaging, and Health Information Exchange.

He started with Medical Reconciliation. He said this is a "Major Component" of patient safety and covers the process of comparing the patient's medication order to all of the patient's medications to prevent errors, omissions, duplications, incorrect or over-dosing and interactions with medications the patient may already be taking.

Dr. Garofalo gave the example of a patient in the Emergency Department who is asked which drugs, if any, he is taking. That might change while they are in treatment. Or the patient is taking an over-the-counter medication, so the doctor needs to know what it is. He said it is important that the patient might need to go back to the original dosages after being discharged. He said this information passes through the portal and allows for interaction with the physician so the patient knows what to do.

Dr. Garofalo then spoke about Secure Messaging, which allows for the communication between Physician and Patient utilizing a secure method to exchange information or questions the patient may have, for instance, to medications they are currently taking or other issues relevant to the patient's health and even as a remote consultation with the patient regarding a new or a pre-existing condition. The communications become part of the EMR for recall and referencing by other members of the health care team. He said it allows for one-on-one, almost real time conversations.

Ms. Bolus asked if she saw the doctor yesterday, she contacted him today, and wanted an answer in 20 minutes, how would that work?

Dr. Garofalo said there is an application loaded on the patient's smart phone that would allow this to happen.

Mr. Guido said that if the patient said it is an emergency, the physician will be texted in real time so the answer will be immediate. He said these three items are where the patient feels the most impact.

Ms. Bolus said when she was discharged, she got a paper about this but no application was loaded for her.

Mr. Guido said there is a group of people whose job it is now to train people to use the portal. He asked which facility it was (Kings County) and said he would follow up.

Ms. Bolus asked whose responsibility it is.

Mr. Guido said we have around 30 people dedicated to this now, training the patients. He said we will increase this so that the patients will be able to take action for their care.

Ms. Yeaw asked, when the nurses are training patients to do this, are they saying in case of an emergency you should use the app or you should call?

Mr. Guido said the portal will be updated to have that real-time ability. He said we consolidated our help desk for patients and it is staffed 24/7. Patients can call and the representatives have access to all their medical information.

Ms. Yeaw said this is fantastic but there are some things a system can do and others only a human can do. So she would like to know what the capabilities are.

Mr. Guido said honestly right now we are learning. It is new and probably not the right time to move all the technology out to patients yet.

Ms. Yeaw said she understood.

Ms. Bolus said it is fantastic but senior citizens want to use the phone, not smart phones.

Mr. Guido said we will not take one away and we have to learn about our unique patients' needs.

RADIOLOGY INTEGRATION PROGRAM

Mr. Guido asked Dr. Garofalo to discuss the Radiology Integration Program, which has been a great success and will be rolling out to NYC Health + Hospitals/Harlem on Wednesday, November 9, 2016.

Dr. Garofalo showed the slide Radiology Integration Vision and Framework. He said the system is summed up in the quote below integrated Radiology Operation: "A system where any image can be read at any site

within the corporation using a single platform and generating transparent performance metrics in such a way that service, quality, and productivity are improved."

He said an image from NYC Health + Hospitals/Bellevue that needs a pediatric neurologist will be sent to NYC Health + Hospitals/Kings County where that physician is. The report will then be sent back to Bellevue for immediate use.

He said this took a lot of work from McKesson (the vendor) and the Medical & Professional Affairs (M&PA) Committee, including Dr. Machelle Allen, Dr. Ross Wilson, and David Shui, as well as his team. He asked to introduce his leadership: Julio Santos, Senior Director, Radiology Integration Program, who is leading the team; Jewel Roberson, Senior Business Analyst, Enterprise Information Technology Services; and Garfield King, PACS Administrator, Enterprise Information Technology Services. He said they did a monumental amount of work in a relatively short amount of time.

Dr. Garofalo spoke to the Workforce & Operation Optimization (including Prep, Go Live, and Continuous Improvement). He also discussed the Technology Foundation of the program.

Mr. Guido said the components representing Technology Foundation, such as Speech Recognition, are now enterprise-wide, rather than just for Radiology. They are also integrated into the Epic EMR. He said we are saving money by retiring the old systems.

Dr. Garofalo spoke to Timelines & Activities. He said there are four phases with go-lives and Harlem already had a soft go-live for this system. He said the Concierge Desk links the radiologist with the physician in a much quicker and efficient manner, to the benefit of the patient. He said it is working very nicely right now.

Dr. Garofalo said Data Migration Process is happening right now so that no matter where a clinician is, they can see images from any facility. He said the cross-reading is crucial in this process (the blue box on the slide). He said there will also be continuous improvements on the analytics. He said this will help make sure that the images are routed in the correct manner to the right people, no matter where they are.

Dr. Garofalo spoke to the Program Update – Technology. This includes Workflow Intelligence in place, Business Intelligence and Data Archive, Enterprise Imaging Archive, and Enterprise Radiology Speech Recognition systems.

Ms. Bolus asked if there are additional costs.

Mr. Guido said yes, there will be. But, he said, we will be retiring 11 systems into one and NYC Health + Hospitals will have new and better technologies. He said these will save us money. We might be paying some money up front but we will have significant savings on the back end. He said we have been working with Mr. Anantharam on the returns on investment (ROIs).

Ms. Bolus asked when do we outgrow it.

Mr. Guido said the idea is to not outgrow it by constantly updating it. This will be a smaller investment than having to replace it at some point.

Dr. Raju said he appreciates how difficult this all is. He thanked everyone for their presentations and for these projects. He said finally we are going to see one system. He said we cannot afford to have radiologists in every facility so having this project will help tremendously. Kudos to all of you.

There being no further business, the meeting was adjourned 3:45 PM.

CHIEF INFORMATION OFFICER REPORT

Information Technology Committee of the NYC Health+Hospitals Board of Directors – February 10, 2017 @12:00PM

Thank you and good morning.

Before we begin the meeting, I would like to take this opportunity to welcome President Brezenoff to our first Information Technology Committee of the New Year. Enterprise Information Technology Services (EITS) is committed to supporting and moving forward all of NYC Health + Hospitals critical objectives and initiatives over the coming year.

I would also like to welcome Emily Youssouf as our IT Committee Chairperson. I look forward to working with you and all the Committee members over the coming year on the matters we bring before you.

For today's meeting, IT Enterprise Services will be presenting information items to update the Committee members on two (2) critical NYC Health + Hospitals strategic programs.

The first will be a report on the EMR.GO program and the readiness plans underway for our next implementation at the end of February. Coney Island Hospital is less than 18 days away from go-live with Epic on February 25, 2017. Ed Marx, CIO and Senior Vice President of the Advisory Board will be providing the committee members with an update on the program's go live readiness status. In addition, EITS will present our annual report on Business Continuity Planning. Glen Manjorin, Director of Business Continuity Planning and Tony Williams, Senior Director of Mid-Range Computing will be providing the members with details of our progress over the past year.

Major IT Program Budget Update:

Each month I update the committee members on the project health status of five (5) key EITS initiatives which are in progress. Recently, at the November 3, 2016 Committee meeting, the IT Service Line leads for these programs presented their program updates. This month, the Committee Chairperson asked that I provide the members with a snapshot of the program budgets for each of these initiatives ending December 2016. The budget has been broken down to show the total cost of the project, what has been spent (to date) and the remaining dollars. All remain on track and on budget.

Program Budgets as of December 2016:

Project Name	Project Budget	Actual Spent To Date	Total Dollars Remaining
Electronic Medical Record (EMR GO)	$764,063,230	$305,607,301*	$458,455,929
Enterprise Resource Planning (ERP)	$72,000,000	$10,099,528	$61,900,472
Radiology Consolidation	$19,676,073	$7,492,719	$12,183,354
Meaningful Use (FY15 - FY17)	$14,218,383	$12,651,033	$1,567,350
Compass (Data Sciences)	$3,627,200	$3,627,200	$0

* EMR Actual Spent to Date represents amounts paid or in process of being paid thru November 2016. Refer to EMR Budget Slide included in the EMR/GO Program Update.

2016 EITS Accomplishments:

Over the past year, EITS has focused its efforts on driving transformation efforts for NYC Health + Hospitals in the projects that we have accomplished. We have targeted our efforts and resources to these projects which provide the most benefit to our patients. Our goal in completing this work concentrates on solidifying NYC Health + Hospital's transformation goals of preserving our mission, maintaining the viability of NYC Health + Hospitals long term and better meeting the health care needs of our patients.

I wanted to highlight to the committee some of the many projects which EITS teams have undertaken and completed this past year. These projects have been completed by EITS staff who also are integral in sustaining the daily operations of NYC Health + Hospitals Information Technology network.

Business Applications:

- Project Evolve (Enterprise Resource Planning (ERP) Program) Collaborative program among Finance, Supply Chain and IT. On target for a Phase I go-live in July 2017.
- PeopleSoft Upgrade Completed

Clinical Applications:

- MU- Hospital- Continued successful attestation to achieve CMS benchmarks
- MU- Eligible Professional (EP) - Clinical Information Systems working with QuadraMed to prepare the EMR for the 1st of 5 years attesting for EP to capture incentive dollars ($131.6M)
- Radiology Integration Program- roll out started at 4 sites (Harlem, Met, Coney and Lincoln)
- Application Rationalization-Phase I of clinical apps analysis completed. Focus on apps which would be retired, replaces or interfaced with Epic.
- Dentrix- Consolidation moving ahead. All 11 databases for 14 Dental Clinics upgrade.
- Maestro Communications- implemented for blood bank to interface Epic, QMed and blood instruments.

Data Sciences:

- BI Platform (Compass) rolled out
- Executive Dashboards developed and deployed

Enterprise Epic EMR Program (EMR GO):

- Elmhurst, Queens and Home Health deployed
- Coney Island deployment finalized and scheduled for February 25, 2017

Enterprise Infrastructure:

- Implementation of Identity IQ and User Provisioning
- Imprivata Single Sign-On and Tap N'Go access for Shared Services
- Upgrade of SQL cluster environment
- Migration of Webterm to Active Directory
- Mobile Phone contracts consolidation
- Secure Messaging using Imprivata CorText
- Established new Wan contract with LightTower

Security & Operational Risk Management:

- Data Loss Prevention (DLP) Program deployed
- Ransomware Attack Prevention
- On-going Security Monitoring

EITS staff successfully faced the challenges posed in 2016 and we are ready to tackle a new set of challenges this year. EITS will continue to engage and collaborate with our business units to align all initiatives in order to meet our unified goal of preserving our mission and building a competitive, sustainable organization in order to meet the health care needs of our patients.

This completes my report today. Thank you.

NYC HEALTH+ HOSPITALS | GO

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Board IT Committee

February 2017

GO Team

February 10, 2017

Agenda

- **Implementation**
  - Executive Summary
  - Top Risks
  - Budget
- **Optimization/Support**
  - Excellence!
- **Strategic**
  - Formulary Standardization

NYC HEALTH+ HOSPITALS | GO

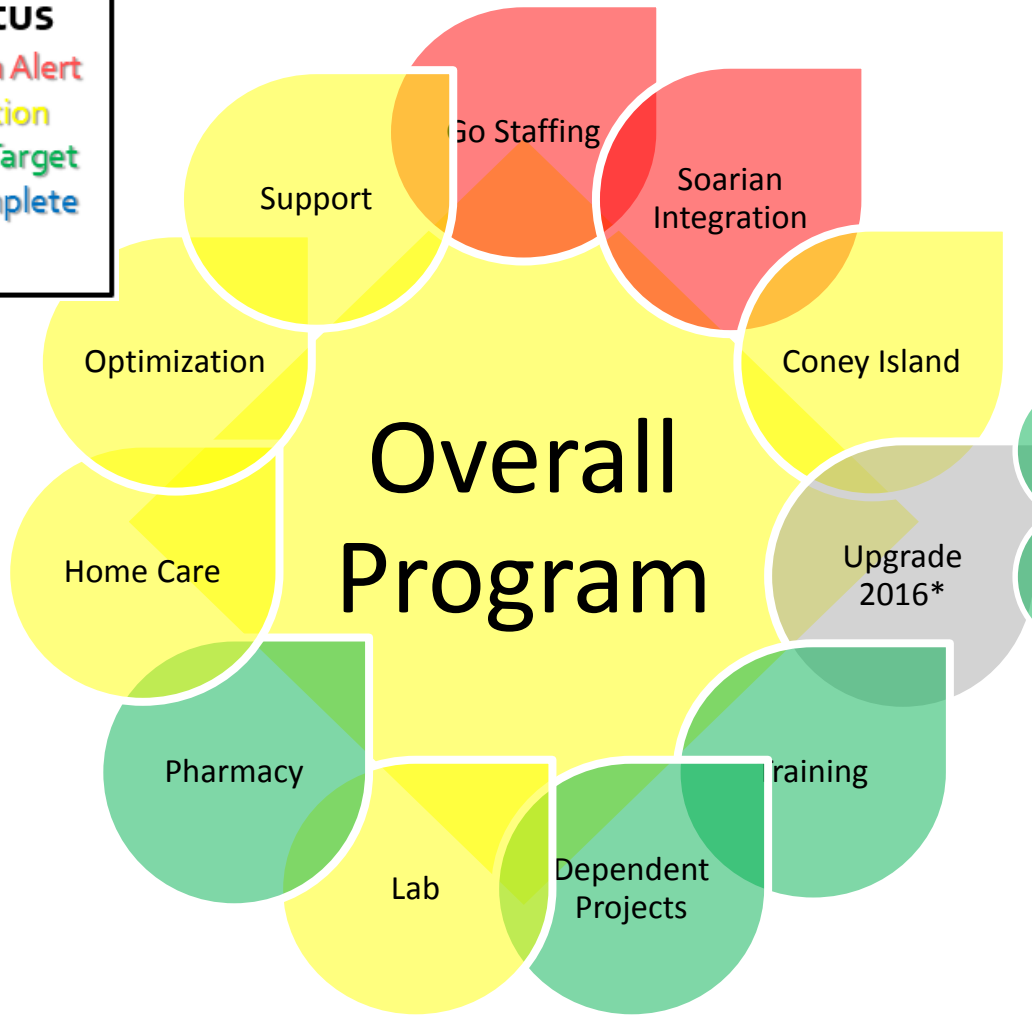
Board IT Committee

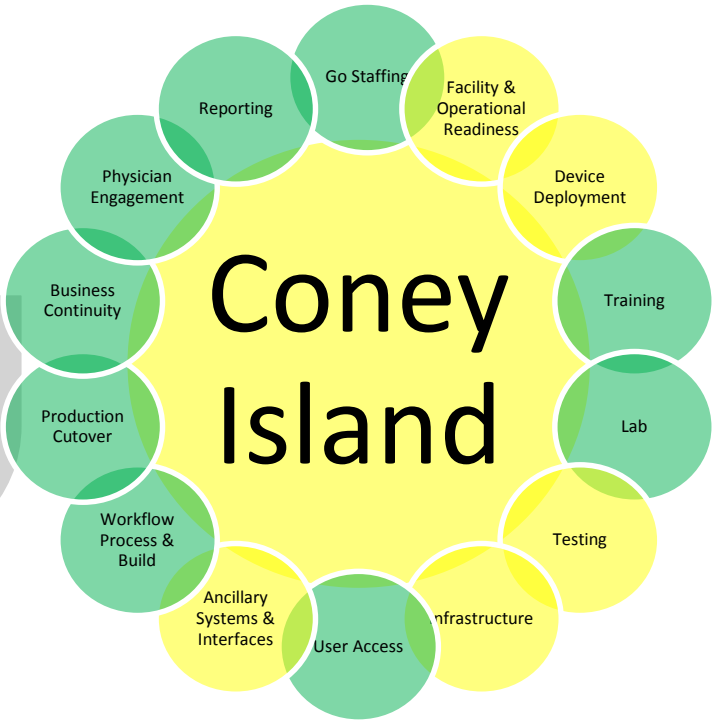
IMPLEMENTATION

NYC HEALTH+ HOSPITALS | GO

Executive Summary

Status
- High Alert
- Caution
- On Target
- Complete





NYC HEALTH+ HOSPITALS | GO

Top Risks

RISK TOPIC	RISK DESCRIPTION	RESPONSE PLAN	GO OWNER(S)	Business Owner(s)	RESPONSE TARGET DATE
Staffing: New Hires	Challenges with recruitment related to securing talent required for execution. Large dependency on consulting.	Reviewing workflow from recruitment through retention. Looking at salary surveys and levels of engagement.	Ed Marx	N/A	2/25/2017
Regulatory Site Visits	There are several operational or regulatory events planned for or expected to occur within the same time period in February; the Joint Commission is believed to be coming to Queens Hospital on February 6, CMS visit is expected in Elmhurst the second week of February, and go-live at Coney Island is the third week in February.	Although we are preparing and scheduling resources, this remains an operational and staffing challenge.	Pam Saechow	Elmhurst, Coney Island and Queens Operations	2/25/2017
Soarian Integration	Significant integration challenges exposed by having separate software packages to do billing and patient care.	Multi-disciplinary team has been formed to reduce the challenges. Co-led with Finance, challenges have been identified and prioritized and are being tracked and measured to ensure accountability to results.	Pam Saechow	Various	3/31/2017

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Budget Overview

EMR Project - Six Year Implementation Budget [Expenditures include Invoices Paid or In-Process]								
	Item		Total Implementation Dollars (in millions)					
			Project to Date			FY2017		
			Total Budget FY13 to FY19	Expenditures (Paid or in Process) as of 11/30/2016	Balance FY13 to FY19	Budget FY17	Expenditures FY17 (Paid or in Process) as of 11/30/2016	Balance FY17
1	**Epic Contract**	Includes Software and Implementation and Training Services.	$144	$88	$56	$20	$6	$14
2	**Third Party & Other Software**	Includes Endoscopy, Fetal Monitoring Systems, ePrescribing, Patient Education.	$30	$10	$20	$8	$1	$7
3	**Hardware**	Includes Servers, Storage, Server Licensing, Network Switches.	$83	$49	$34	$13	$2	$11
4	**Interfaces**	Includes Interface Software/Biomed Middleware.	$38	$5	$33	$12	$0.5	$11.5
5	**Implementation Support**	Third party vendor staff augmentation, go-live support and training (includes costs associated with backfilling non-IT staff and temps).	$356	$104	$252	$86	$24	$62
6	**Application Support Team**	New HHC FTE staff to be used through the implementation period including fringe benefits. These costs will become on-going after implementation period.	$113	$49	$64	$22	$7	$15
	Clinicals-Only Total	[Without QuadraMed Transition/Existing Application/Existing Staff Costs]	**$764**	**$306**	**$458**	**$161**	**$40**	**$121**

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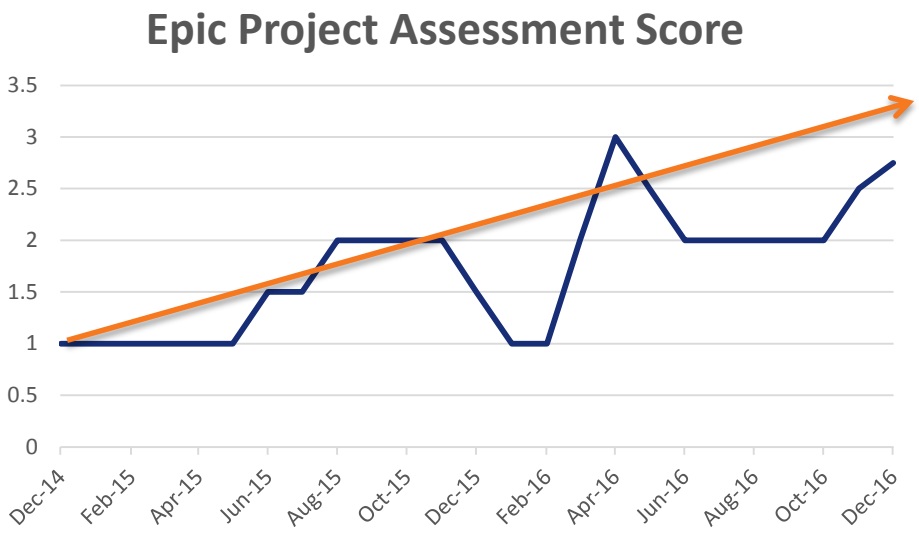
Board IT Committee

Optimization/Support Update

GO Excellence

Quality



Leapfrog – Patient Quality and Safety

- Queens Hospital, Improvement was seen in 8 categories and status quo for the other 4 categories. Perfect 100% score in 9 initiatives
- Elmhurst Hospital, Improvement was seen in 7 categories and status quo for the other 5 categories. Perfect 100% score in 8 initiatives

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GO Excellence
Patient Portal

Metrics Measured	Nov 2016	Dec 2016	Increase	% Increase
1. MyChart Activation #'s	6,270	7,473	1,203	19%
2. # medications refilled	1,444	1,936	492	34%
3. # patient messages received	867	1,121	254	29%
4. # Results reviewed in MyChart	12,725	18,639	5,914	46%
5. # of results released to MyChart	70,074	100,102	30,028	43%

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GO Excellence

Patient Experience

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Board IT Committee

Strategic

Pharmacy Standardization

- Potential annual savings once standardized formulary items are implemented: $4M
- Scope:
  - Formulary Standardization
  - Pharmacy policies & procedures standardization,
  - Order sets validation (Pharmacy): Medication regulations, formulary, and safety review;,
  - Pharmacy work-streams standardization
  - Standardize Pharmacy Epic build and roll-out
  - Epic code narrator build standardization
- Enterprise level drug class reviews with subject matter experts (SMEs) are being carried out for appropriate medical input for formulary standardization.
- Policies and procedures are being re-worked.

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EITS Business Continuity Planning

Tony Williams – Senior Director Mid Range Computing

Glenn Manjorin - Director of IT – Business Continuity Planning
Carole Robertson – Director of IT – Disaster Recovery Planning

February 10, 2017

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- Business Continuity Management (BCM) is a management process that identifies risk, threats and vulnerabilities that could impact an entity's continued operations and provides a framework for building organizational resilience and the capability for an effective response.

- The objective of Business Continuity Management is to make the entity more resilient to potential threats and allow the entity to resume or continue operations under adverse or abnormal conditions. This is accomplished by the introduction of appropriate resilience strategies to reduce the likelihood and impact of a threat and the development of plans to respond and recover from threats that cannot be controlled or mitigated.

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Business Continuity Management (BCM) Program
Critical Planning Components

Business Continuity Management

Business Recovery

- Impact Assessment
- Identification of critical business processes
- Recovery Strategy
- Phased recovery of critical business processes
- Plan development and documentation
- Temporary Work Alternatives
- Personnel Resource

Incident Management

- Initial control of emergency situation
- Decision Making Guidelines
- Strategic direction/policy issues
- Crisis communications – internal and external (media)
- Public Relations/Media Relations
- High level coordination of service recovery
- Stabilization, Security
- Damage assessment
- Disaster Declaration

Occupant Emergency Plan

- Safeguarding human life
- Commands Centers
- Rally Points
- Shelter in Place
- Emergency Kits

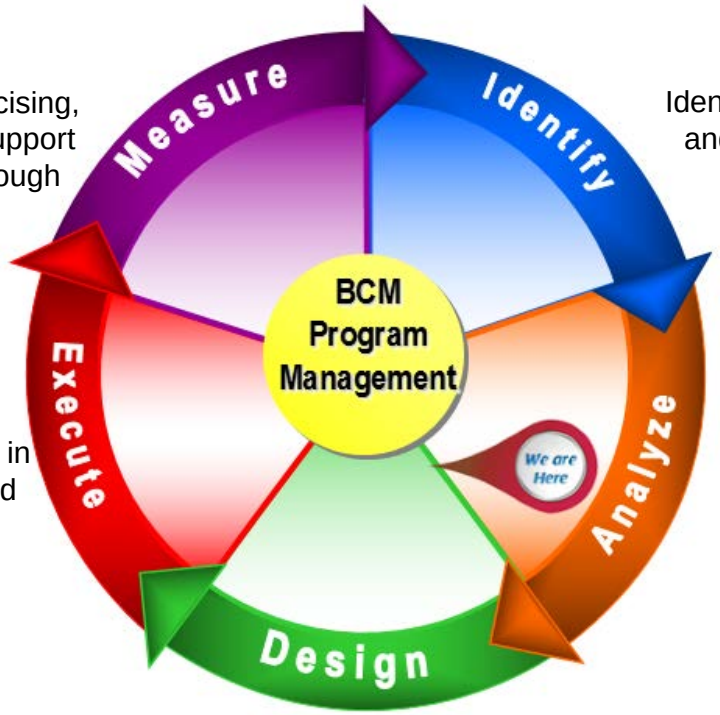
Disaster Recovery

- Risk Assessment
- Recovery of IT infrastructure, systems and applications
- Disaster Recovery Strategies identification
- Disaster Recovery Plan development and documentation
- Plan validation and maintenance
- Restoration of stricken data center. Return to Business As Usual

How Do We Plan?

BCM program management – driven top-down by executive management ensuring ownership and establishing policy.

Measure results through exercising, maintenance and training. Support continuous improvement through constructive feedback.



Identify overall strategic objectives, values and activities; identify stakeholders and services

Develop business continuity plans in line with agreed strategies; embed BCM within culture of the organization.

Analyze financial and clinical business impacts and risks resulting from disruption of business processes (BIA); identify business-critical processes; identify gaps in recovery capability; develop prioritized recovery timeline.

Design appropriate levels of recovery strategies that provide practical, cost-effective solutions to continue operations; design organizational structure to implement the formulated strategic objectives and operating model to respond to major incidents.

Business Continuity/Disaster Recovery

EITS Business Continuity Milestone Recap 2016

- Partnered with Hospital unit staff to develop and document Downtime Procedures for Queens/Elmhurst Go-Live. Work is in final stages for Coney Island.
- Provided Oversight and Quality assurance of EITS Business Continuity preparedness
- Worked with EHR Application teams to develop end to end processes for planned and unplanned outages from pre downtime communications to post downtime reconciliation
- Incident Management plans executed for Hurricane Matthew and adapted lessons learned
- OEM Updates:
  - SendWordNow testing completed
  - EITS CO-OPERATIONAL (COOP) Plan updated
  - Contributed to two Office of Emergency Management (OEM) tabletop exercises
  - Participated in OEM Hazardous Material (HAZMAT) Risk Assessment

Business Continuity/Disaster Recovery

EITS Business Continuity Milestone Recap 2016

- Based on the completed Business Impact Analysis, developing EITS wide Business Continuity plans

- Purchased and installed ‘Sustainable Planner’ BC/DR software from Virtual Corp
  - Software training completed BCP staff
  - Customization in progress
  - Business Continuity Plan data to be imported in 1st quarter 2017

- In order to prepare for increased regulation enforcement:
  - Completed Delivery System Reform Incentive Payment (DSRIP) assessment
  - Completed Nippon Telephone and Telegraph (NTT) Security assessment
  - Completed Control Objectives for Information and Related Technologies (COBIT 5) Phase 1 assessment

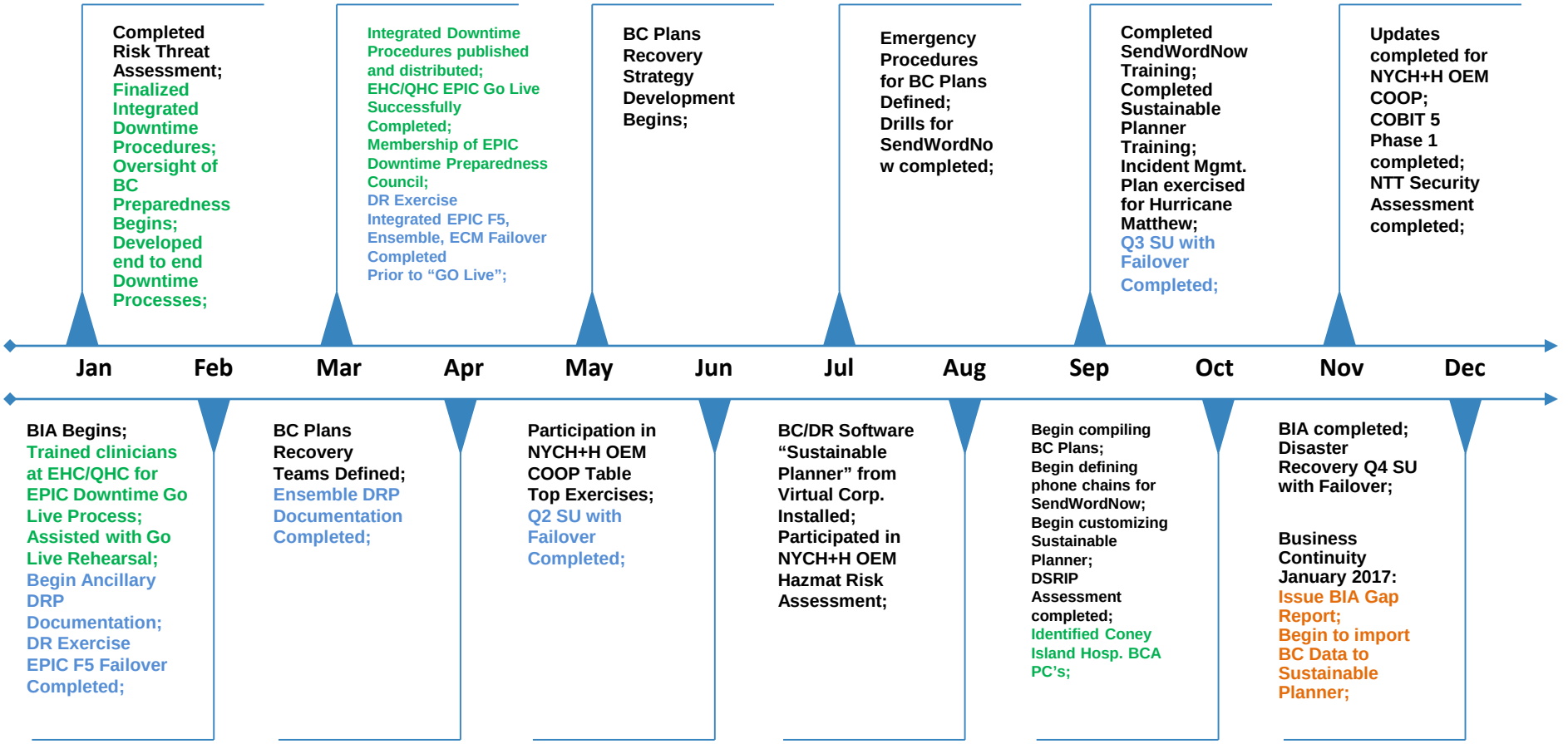
Business Continuity/Disaster Recovery

EITS Disaster Recovery Milestone Recap 2016

- Epic is included in the NYC Health + Hospitals EITS Disaster Recovery Program for Queens and Elmhurst. Coney Island is in progress
- Application Impact Analysis (AIA) completed for Epic Ancillary Applications to determine criticality level and upstream/downstream processes.
- Disaster Recovery Plans (DRP) documented and published or in the development stage for Epic Tier 0 and Tier 1 applications. Additional DRPs documentation in progress for Ancillary and System applications within the Tiers 0 – Tiers 2 (0 – 24 Hours) recovery window.
- Disaster Recovery Integrated Exercises (tests) conducted prior to, during, and following ‘Go Live” implementation for Queens and Elmhurst. Successfully failed over Epic and ancillaries to the alternate data center.
- After Action reports documented and action items assessed. Opportunities for improvement identified and assigned to plan owners.
  - Disaster Recovery Plans updated according to identified revisions.
- Successful Data center Failover strategies incorporated into major (quarterly) Epic Software Upgrades.

Business Continuity Management Milestones 2016

EITS Business Continuity
EPIC Business Continuity Access
EITS Disaster Recovery
Future Task



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Questions?