AGENDA

INFORMATION TECHNOLOGY COMMITTEE

Meeting Date: November 3, 2016
Time: 2:15 PM
Location: 125 Worth Street, Room 532

BOARD OF DIRECTORS

CALL TO ORDER — **MR. CAMPBELL**

ADOPTION OF MINUTES
June 9, 2016

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

INFORMATION ITEM:

EITS PROGRAM UPDATES

1) Data Sciences-Compass Platform — **MR. SARADHI**
2) Enterprise Resource Planning Program (Project Evolve) — **MS. KARAGEOZIAN**
3) Meaningful Use — **DR. GAROFALO**
4) Radiology Integration Program — **DR. GAROFALO**

OLD BUSINESS

NEW BUSINESS

ADJOURNMENT

MINUTES

Meeting Date: June 9, 2016

INFORMATION TECHNOLOGY COMMITTEE

ATTENDEES

COMMITTEE MEMBERS

Lilliam Barrios-Paoli, PhD, Chair
Vincent Calamia, MD
Barbara Lowe, RN
Ram Raju, MD, President
Jennifer Yeaw (representing Steven Banks in a voting capacity)

NYC HEALTH + HOSPITALS CENTRAL OFFICE STAFF:

Paul Albertson, Senior Assistant Vice President, Supply Chain
Jun Amora, Director of Strategy, Supply Chain Services, Enterprise Information Technology Services
Vikrant Arora, Assistant Vice President and Chief Information Security Officer, Enterprise Information Technology Services
Eytan Behiri, Chief Medical Informatics Officer, Enterprise Information Technology Services
Suzanne Fathi, Director, Enterprise Information Technology Services
Sal Guido, Senior Vice President and Chief Information Officer, Enterprise Information Technology Services
Elizabeth Guzman, Assistant Vice President, Finance, 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
Barbara Lederman, Senior Director, Enterprise Information Technology Services
Patricia Lockhart, Secretary to the Corporation
Satish Malla, Senior Auditor, Office of Internal Audits
Randall Mark, Chief of Staff, Office of the President
Antonio Martin, Executive Vice President and Chief Operating Officer
Salvatore Russo, Senior Vice President & General Counsel, Legal Affairs
Marisa Salamone Greason, Assistant Vice President, Enterprise Information Technology Services
Barry Schechter, Assistant Director, Enterprise Information Technology Services
Brenda Schultz, Assistant Vice President, Enterprise Information Technology Services
Ross Wilson, MD, Senior Vice President and Corporate Chief Medical Officer, Medical & Professional Affairs

OTHERS PRESENT:

Larry Garvey, Cerner Corporation
Osmund de Souza, Account Executive, Juniper Networks
Scott Hill, Account Executive, QuadraMed
David N. Hoffman, Compliance Officer, Physicians Affiliate Group of New York
Joni Watson, Office of State Comptroller
Shaylee Wheeler, Office of Management and Budget

INFORMATION TECHNOLOGY COMMITTEE
Thursday, June 9, 2016

Dr. Lilliam Barrios-Paoli, Chair of the Committee, called the meeting to order at 4:05 PM. The minutes of the May 12, 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 that there would be two items to discuss: one Action Item and one Information Item.

Mr. Guido addressed the report's Major IT Program Status Updates on a red-yellow-green color scale: Meaningful Use (Overall yellow, Budget green, On-Time yellow); Electronic Medical Record (Overall yellow, Budget and On-Time status green); Enterprise Resource Planning (all green); Imaging (Overall yellow, Budget and On-Time status green); and Data Sciences – Analytics (all green).

Mr. Guido said that the Epic electronic medical record (EMR) is on track for deployment by the end of the year for the next two sites: Jacobi and North Central Bronx Hospitals, along with several clinics.

He then spoke to some projects in progress:

CLINICAL INFORMATION SYSTEMS APPLICATION RATIONALIZATION PROJECT

Mr. Guido addressed the Clinical Information Systems Application Rationalization project. He said it is a consolidation of our clinical applications.

Mr. Guido stated that with Epic, we will retire approximately 25% of our clinical applications. He said we are doing additional consolidations, including Radiology, which will bring 11 different systems into one; and Dentrix (dental), which will bring 12 systems into one by the end of the year. He also mentioned we are looking to do more consolidations and we will be giving you briefings in the future on efficiencies and cost savings.

ENTERPRISE IT SERVICES (EITS) STAFF SURVEY

Mr. Guido said we will be conducting a staff survey of EITS employees. He explained that in April 2015, we sent out our first survey and we learned we had to communicate more with our departments. We corrected this by having monthly teleconferences, quarterly town hall meetings, and getting more resources in the Networks engaged in what is going on. He said thanks to Mr. Martin and Dr. Raju, we were able to deploy a telecommunications policy to do remote work, which will help us tremendously over the coming months.

Mr. Guido said we will be conducting another survey to see if we are doing what we promised as well as to see what other issues there might be. He told the committee that we want to keep engaged with our EITS employees.

Dr. Barrios-Paoli said you mentioned Epic. We want to congratulate you for the incredible job done.

Mr. Guido expressed his thanks but indicated that we have a long way to go. He said we have a great team with Clinovations and our new employees who have really strengthened us as well.

Dr. Raju said that at a recent meeting a physician was speaking very highly of the Epic system and your efforts are appreciated.

ACTION ITEM #1:

Mr. Guido presented to the Committee the following resolution for Deloitte implementation contract:

Authorizing the New York City Health and Hospitals Corporation ("NYC Health + Hospitals") to execute a contract with Deloitte Consulting, LLP to provide implementation services for the PeopleSoft Enterprise Resource Planning ("ERP") System. The contract will be for a term of three (3) years with two one-year options to renew exercisable solely by NYC Health + Hospitals for an amount not to exceed $18.2 million during the initial three-year term.

The following EITS staff introduced themselves: Janet Karegozian, Assistant Vice President, Business Applications; Elizabeth Guzman, Assistant Vice President, Finance; Barbara Lederman, Senior Director, Finance; and Jun Amora, Senior Director, Supply Chain Services.

Ms. Karegozian spoke first to the presentation, "Contract Award for ERP Implementation Services – Deloitte Consulting, LLP." She asked for approval to award a contract to Deloitte Consulting, LLP for PeopleSoft ERP Implementation Services. She explained that the contract will be for three years with two one-year renewals, not to exceed $18.2 million. She stated that Finance, EITS, and Supply Chain presented the software contract for approval at the December 2015 Board meeting. She said once Mythics/Oracle was approved as vendor, we were able to solicit for implementation services.

Ms. Karegozian stated Deloitte will provide ERP Implementation Services with finance, supply chain, and project management expertise since they work with PeopleSoft Applications in health care organizations. She said they would partner with us to establish standardized processes and best practices, as well as a detailed project plan, design, interfaces, conversions, and maintenance activities.

Ms. Guzman gave a Business Justification in which she talked about the Current State: we have a financial legacy system installed in 1977 and does not fully meet our current business demands. She said the systems do not "talk" to each other and there is a lot of manual work. Ms. Guzman went to training and saw this system is more transparent, not in silos. She said there are fewer entries and redundancies. She said ERP will be a single source of data that will make for a better, user-friendly, and more efficient system. She said Deloitte also works on best practices to make the system work best for us.

Mr. Amora spoke to the Procurement Process. He stated that the solicitation went out to 27 vendors, including third party contractors and EITS IT requirement vendors. He said two proposals were received from Deloitte and HCI Group. Deloitte was selected because it was a standout based on our evaluation (they scored 86% vs. 52% for HCI Group). He stated that they bring a wealth of expertise in PeopleSoft, ERP, and health care. He said this team worked on the Aventis system – a very large group of hospitals.

Dr. Raju asked if they could explain why only two responses were received when the solicitation went out to 27 suitable candidates. Mr. Amora responded that several non-responders were surveyed and they indicated that they were either already committed to other projects or they did not have the necessary expertise.

Dr. Raju asked if the market is that tight. Mr. Amora stated that there was one company that asked for an extension. Unfortunately, we had a tight timeline and could not give them the one month extension. We would not have moved forward had we not thought that Deloitte had the expertise and background to do the job. Mr. Amora also told the committee that they solicited CMA, a minority- and woman-owned company. He said they chose to partner/sub-contract with Deloitte rather than go it alone.

Dr. Raju asked if even five companies had applied instead of two, would it be fair to say that the price would have been affected. Mr. Guido replied no, stating it was a fair price and pricing was kept secret.

Mr. Amora said we were able to negotiate and bring the price with Deloitte from $26 million to $18.2 million. He stated that we were getting a deal and no vendors knew who the others were, nor did they know each other's' pricing.

Dr. Raju said he was not afraid of collusion but when we make a bid, for instance, with Philips for MRI, people find out. He said he was just surprised that so few made bids.

Ms. Lowe asked if this will extend to HR (human resources) processes as well. Mr. Guido said there will be additional processes such as payroll and cost accounting. He said this will get rid of our current (paper) timesheets.

Ms. Lowe said PeopleSoft has been HR-dominated and asked if that would continue. Ms. Karegozian responded that it would.

Ms. Guzman spoke to the slide Approved ERP Budget. She said this slide was presented to the Board in December 2015. It listed the ERP Projected Expenses. She pointed out that the Deloitte contract was incorporated into Implementation Support.

Mr. Guido said the nursing time sheet will be a real-time interface with a holistic view.

Ms. Lowe said regarding nursing scheduling, her goal was to have this embedded in the real-time patient status information.

Dr. Barrios-Paoli asked Mr. Guido if the inventory control would be bar coded. Mr. Guido responded yes, that they were working with Paul Albertson and Mr. Amora on this. It will make Mr. Albertson's life easier because he will see what is being bought and where it is being stored. He said inventory control and cost control are extremely important to us and it has tremendous benefit to our organization.

Approved for consideration by the full board.

INFORMATION ITEM:

Mr. Guido introduced Vikram Arora, Assistant Vice President and Chief Information Risk and Security Officer, who gave the following update on IT Security and how we are combatting threats in the field today:

Mr. Arora thanked the Committee for allowing him the time to speak. He addressed the presentation, "Security & Risk Management: An Overview." He said we are sharing information like never before and this creates risks coming from social media, cloud computing, etc.

Mr. Arora stated there is paradox that every technology we are using to implement Vision 20/20, including DSRIP (Delivery System Reform Incentive Payment), EMR, and TeleHealth can all be used to inflict harm, such as fraud and stealing health information. He provided the committee saying it can be used to inflict physical harm by turning off pumps or life support systems. It can be a patient safety issue and not just a revenue loss or reputational damage.

Mr. Arora went over the presentation Agenda, including the questions, Why are we at risk? From whom? – Threat Landscape; and What are we doing about it? He said that he would then talk about CyberFlu.

Mr. Arora started with, "Why are we at risk?" He said it is pure math and showed a graphic that listed the costs of information that is at risk from cyber criminals. Healthcare – at $363 – was the most valuable. The closest category after it was Financial (credit cards) at $215 and the least was Public at $68.

Mr. Arora said the reason that Healthcare is so high is the sheer quantity of information that we have in our records. He said this ranges from Social Security numbers to medical procedure data, and people are willing

to pay a lot of money to get this information. He said health care systems are not as mature in data protection and it is very lucrative for hackers, so they try to get it.

Mr. Arora said the first virus was in 1980; HIPAA (Health Insurance Portability and Accountability Act) was passed in 1996; and it was not enforced until 2010. He said we are behind in securing technology we adopted. He said EMR adoption was 5% a few years ago; now with ObamaCare it is 90-95%, but security has not kept up in general.

Mr. Arora next spoke to Threat Landscape – It's a business out there! He gave a list of Prices for zero-day vulnerabilities (viruses) for a series of popular systems, including Adobe Reader, Mac OS X, Android, and Microsoft Word. He showed that the prices for a virus range from $5,000 – $250,000. He showed that anyone can buy a list of every doctor in America for $114 and you can get 30 million emails sent in one month for $13,340.

Dr. Raju stated that he thought Macs did not need virus protection. Mr. Guido responded that with Macs being more prevalent, there is more ROI (return on investment) for hackers to get to it by building viruses.

Mr. Arora said it is like population health – you want to go after the wider population.

Mr. Arora then addressed Threat Landscape – We are under attack! He showed a series statistics showing internal and external threats that NYC Health + Hospitals IT Security deals with and counters. He said that threats include 1,000 viruses blocked each week; NYC Health + Hospitals employees trying to access malicious Websites 26 million times; 7,000 users have been blocked from sending sensitive information since 2015; and there are 23,000 denials of service weekly. Mr. Arora said we block 35,000 ePHI (electronic protected health information) records from being sent weekly; and two Ransomware attempts were thwarted in the past six months.

Mr. Arora showed that 2 million SPAM messages are blocked weekly and 36% of the attacks come from outside the US, with China, Taiwan and Brazil being the top three.

Mr. Arora showed a slide called Threat Landscape – Phishing Problem. He said the Security team randomly chose 700-800 users across various departments and sent a SPAM email to see how aware they were. He said almost everyone who viewed it, clicked on it. These messages included messages about checking your HR status or getting a fax. Mr. Guido reiterated that we do this to educate our folks out there not to do it.

Dr. Raju asked if there can be something like caller ID or call-blocking, like we have on phones for email. Mr. Guido responded we have provisions like this in place but the problem is you get emails in your SPAM folder that you do not want. He said we need to gauge what is SPAM and what is not. We need to ensure that we are not blocking legitimate emails.

Dr. Raju asked that if someone is not in his address book, can the email get blocked and have a message stating that they need to be added to his address book in order for him to read the email. Mr. Guido responded that we have the capability but it needs to be rolled out slowly with education for users.

Dr. Raju said we have to understand the magnitude of the issue since it is only going to get bigger.

Mr. Arora stated that we can "build more mousetraps" but the weakest link is the human being. He said we have to focus on people. He told the committee that EITS blocks 2 million emails per week but something can always get through so we have to teach people.

Dr. Raju said that the human factor makes us curious and we want to see things. He said we have to tell people this is a workplace and you should only get work-related emails.

Mr. Guido said we have to be very proactive about what is going on in the marketplace since it changes all the time. He reiterated that we need to show the committee the magnitude. Dr. Raju said it is mind-boggling.

Mr. Arora spoke to Threat Landscape – National Emergency! He said that on April 1, 2015, President Obama signed an Executive Order making cybersecurity a national emergency and included health care as one of 16 critical infrastructures.

Mr. Arora spoke to the slide, "What are we doing about it?" He said that the team focuses on three simple phases: What we do before, during, and after the attack. He said we have to recognize that we cannot prevent everything so we need to respond to and recover from attacks. He said the slide shows how we measure information security: Ad-Hoc, Partial, Risk-Aligned, and Adaptive. He said we marked our goals on the slide.

Mr. Guido showed that Mr. Arora's team has prioritized those groups that need the most attention. He said we reached some of our goals but we have a lot of work to accomplish. Mr. Arora said we need skilled people and the right processes, not just the right mousetrap.

Dr. Raju asked if the team takes into account the changing nature of these threats. Mr. Guido responded that is the reason we partner with Homeland Security and the FBI, so that they can relay threats to us in a proactive way and we can react to it. He said we need to get to a level that is adaptive, so that we can adapt to any circumstance. He said it is a lofty goal but it is the ideal state of where we want to be.

Dr. Raju asked if this is about having better technology or the right people. Mr. Guido said it is really about the right processes and education. Mr. Arora said it takes 30-35 seconds for an individual to recognize SPAM, which is faster than the most advanced technology out there.

Mr. Russo asked if the problem is just opening the email or clicking on a link. If you don't open it, you do not know if it is legitimate. Mr. Guido said responded that there are some really nasty viruses out there. He stated that NYC Health + Hospitals gets 4-5 million emails per day and 80-90% are blocked.

Mr. Arora concluded by introducing the term CyberFlu. He likened people not taking cyber security seriously with those who do doubt the need for flu shots. He said that the CDC analyzed 14 years of flu-related communications to highlight the public's views on it and why people do not get their shots. The categories included: people feel that they are not susceptible; they question its effectiveness; they fear side effects; they think that preventive measures are enough or more effective; etc. Mr. Arora said you could switch the word "flu" with "cyber security" and you would get the same results.

The Committee thanked Mr. Arora for the presentation.

There being no further business, the meeting was adjourned 4:55 PM.

CHIEF INFORMATION OFFICER REPORT

Information Technology Committee of the NYC Health+Hospitals Board of Directors – November 3, 2016 @ 2:15PM

Thank you and good afternoon.

For today's meeting, I thought it would be important to have my Service Line Leaders present to the IT Committee their respective program updates on four (4) major initiatives that Enterprise IT Services has underway. This afternoon you will hear the following staff provide program updates on:

- Vijay Saradhi, AVP Data Sciences - Compass Platform
- Janet Karageozian, AVP, Business Applications – Enterprise Resource Planning *(Project Evolve)*
- Alfred Garofalo, DPM, Sr. AVP, Clinical Information Systems/Michelle Hyde, Sr. Director- Meaningful Use
- Alfred Garofalo, DPM, Sr. AVP, Clinical Information Systems/ Julio Santos, Sr. Director – Radiology Integration Program

Due to a scheduling conflict this month, the leads for the Electronic Medical Record (EMR) /Project Go were unable to be here and present their update. They will provide their program update at our December IT Committee meeting.

Before the program updates, I wanted to update the Committee members on the results from the Enterprise IT Staff Survey that I reported on in June.

Enterprise IT Services (EITS) Staff Survey:

- In June 2016, a short questionnaire was developed and distributed to all EITs staff to gauge their overall satisfaction in their work experience within our Division as well as to hear their feedback and comments.
- Since I began my role as Interim CIO in February 2015, I have tried to keep our 1100+ EITS staff informed, engaged and educated on the strategic initiatives put forth

by Dr. Raju in his vision 2020. I believe that EITS staff should be cognizant of their roles within the NYC Health + Hospitals, how they contribute to its success and make our patient's healthcare experience better. I also want our staff to be satisfied in the work they accomplish.

- We engaged a third party with the responsibility to disseminate the survey, collecting the responses and ensuring that the confidentiality of all respondents was maintained.
- Response rate to the survey was 40%. Results from the survey showed that EITS initiatives were progressing well relative to expectations with staff generally satisfied with their roles and how they support EITS initiatives.
- However, there is still room for improvement. Women within the division expressed concern in several areas such as collaboration, communication and project scheduling.
- In order to better understand these concerns, earlier this month we held a series of focus groups for all women EITS staff to meet and discuss these findings. An independent third party was engaged to facilitate these sessions and aggregate the results into themes and recommendations.
- My goal is to use these recommendations to create next steps in making EITS a more productive and satisfying work environment.

This completes my report today. Thank you.

NYC HEALTH+ HOSPITALS

Enterprise IT Services Program Updates

Information Technology Committee Meeting

November 3, 2016

Vijay Sarahi, AVP, Data Sciences
Janet Karageozian, AVP, Business Applications
Dr. Alfred Garofalo, Sr. AVP, Clinical Information Systems
Michelle Hyde, Sr. Director, Clinical Information Systems
Julio Santos, Sr. Director, Clinical Information Systems

NYC HEALTH+ HOSPITALS

Agenda

Slides

NYC HEALTH+ HOSPITALS

Compass

Comprehensive Business Intelligence Platform for NYC Health + Hospitals

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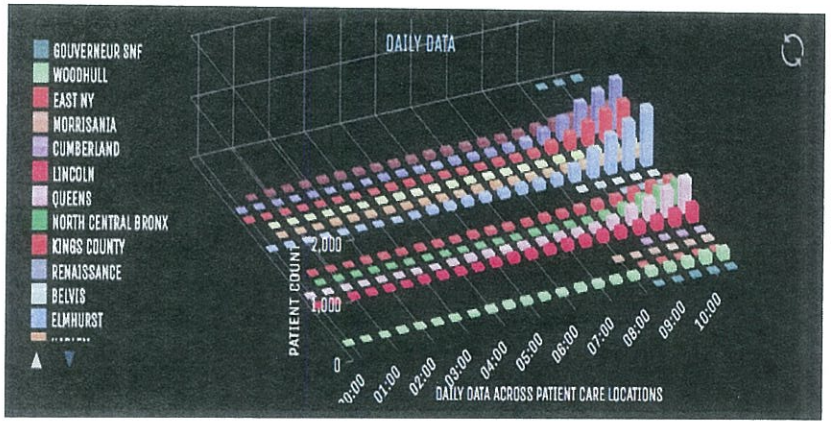
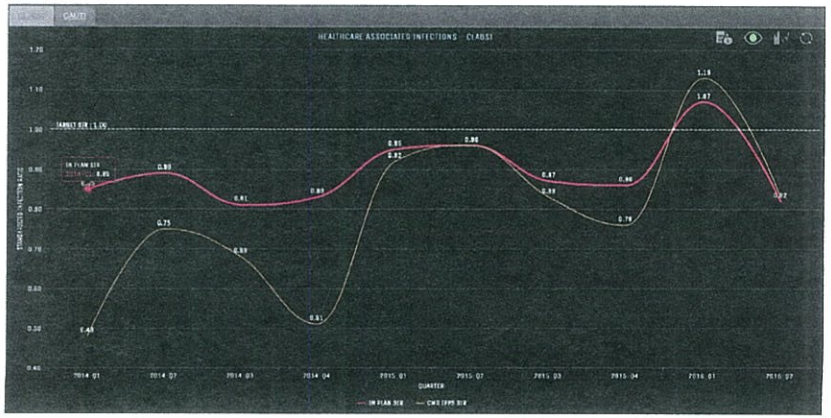
Compass Overview

- Compass is a powerful and versatile enterprise business intelligence platform, built to meet complex data and analytical needs
- Single portal to meet all the data and analytics needs of executives and operational managers
- Designed to support Dr. Raju's Vision 20/20, including reducing NYC Health + Hospitals' costs, improving quality of care, leading to better patient outcomes
- Web-based application built using in-house tools and technologies; built entirely by EITS/Data Sciences staff
- Released on September 29, 2016

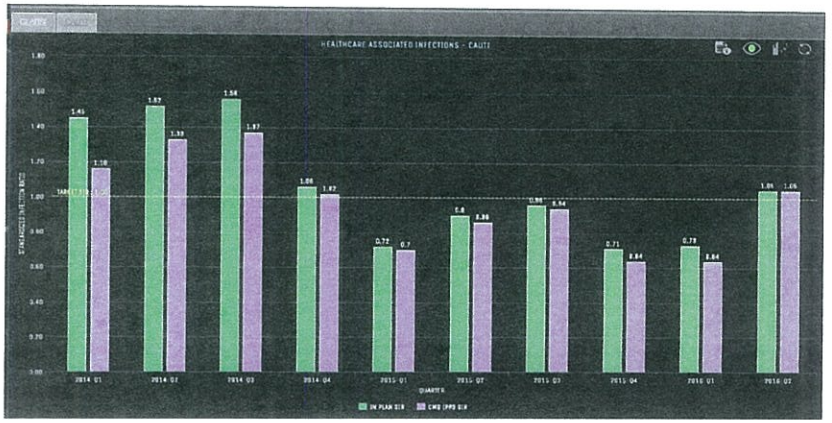


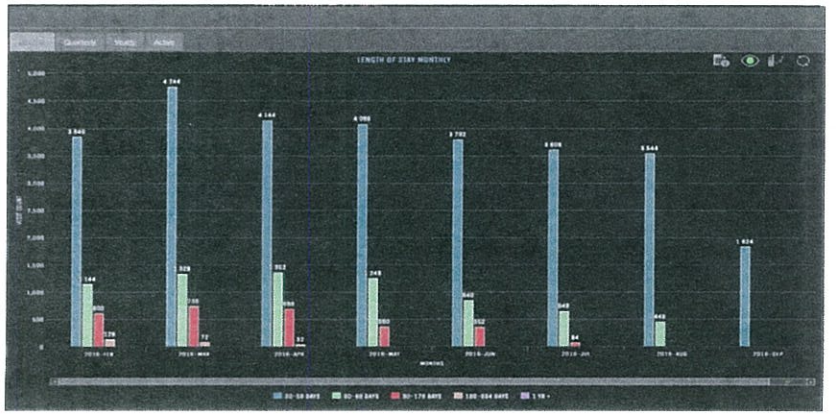


NYC HEALTH+ HOSPITALS

Data Domains

- Patients and Visits
- Length of Stay
- Readmissions
- Healthcare Associated Infections
- Emergency Department
- Opioid Prescriptions
- Patient Satisfaction
- Payers/Insurance
- Value Based Purchasing
- Real-time Analytics

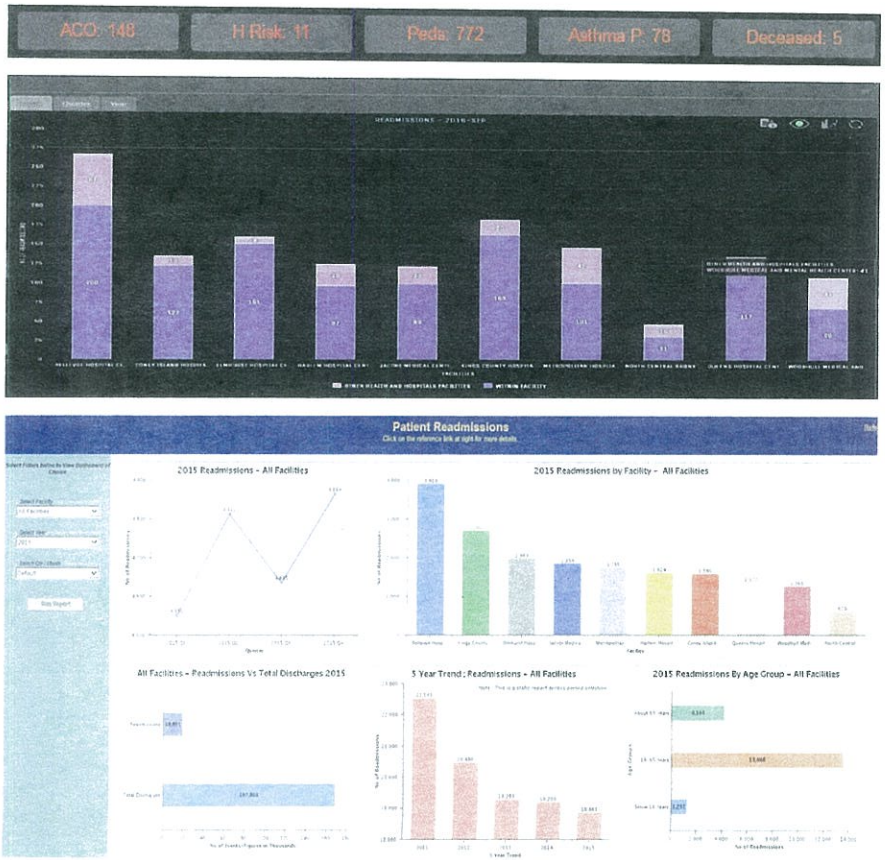




NYC HEALTH+ HOSPITALS

Features & Capabilities

- 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
- User feedback



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Enhancements Under Development

- Develop Dashboards for Three Service Line Leads
  - Hospital
  - Ambulatory
  - Post-Acute
- Dashboards for Business Areas
  - CNO
  - Value Based Purchasing
- Subject Area Specific Dashboards
  - Readmissions
  - Patient Satisfaction Survey
  - Mammography
- Strategic Program Dashboards
  - DSRIP
- Additional Data Domains
  - Finance, Claims
  - Operations
  - HR

NYC HEALTH+ HOSPITALS

Enterprise Resource Planning (ERP) Program

Project Evolve

NYC HEALTH+ HOSPITALS

NYC Health + Hospitals' Business Systems Are Obsolete

- NYC Health + Hospitals' legacy financial system was installed in 1977 and does not fully meet our current business demands.
- There is no automated budgeting system. Instead, monthly budgets are updated via an IT download from the General Ledger cash subsystem, which then requires manual configuration into Excel spreadsheets.
- The vintage of the Mainframe is a major vulnerability as it requires qualified technical programmers and there are few remaining qualified staff who can work on the aging Mainframe. It needs to be upgraded or replaced altogether.
- Currently, we have disparate systems that are strung together using interfaces. This limits the visibility of data and creates redundant work. For example, to create a single purchase order, information must flow through 3 systems (GHX, E-commerce and OTPS).

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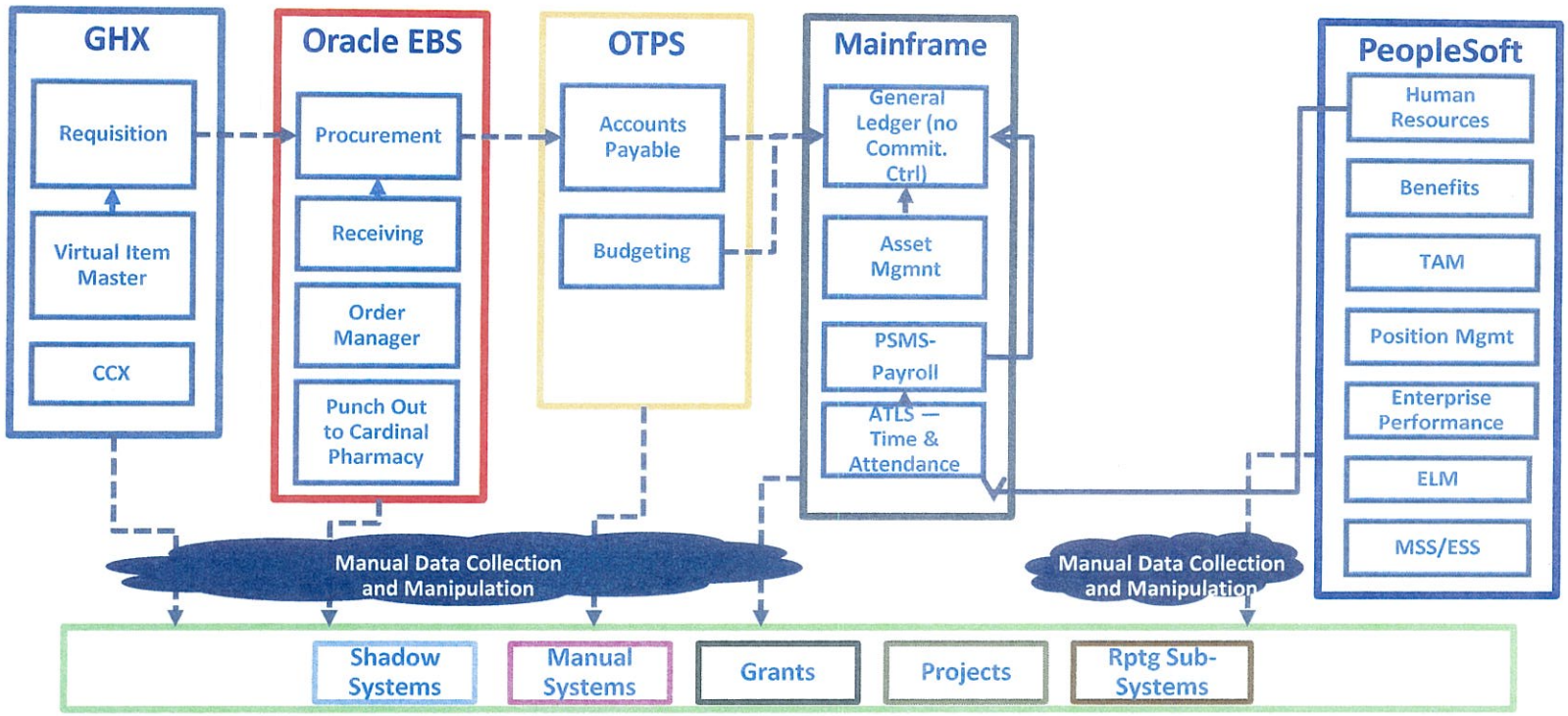
Current State of Our Business Infrastructure



- The current siloed system architecture is not integrated, resulting in redundant, error-prone manual data entry and reconciliation; it does not fully support financial analysis
- Users create shadow systems and processes to fill in gaps of un-met business needs
- Upgrades and standards must be implemented to sustain current systems
- Maintaining legacy systems is expensive and staffing qualified technical resources is challenging

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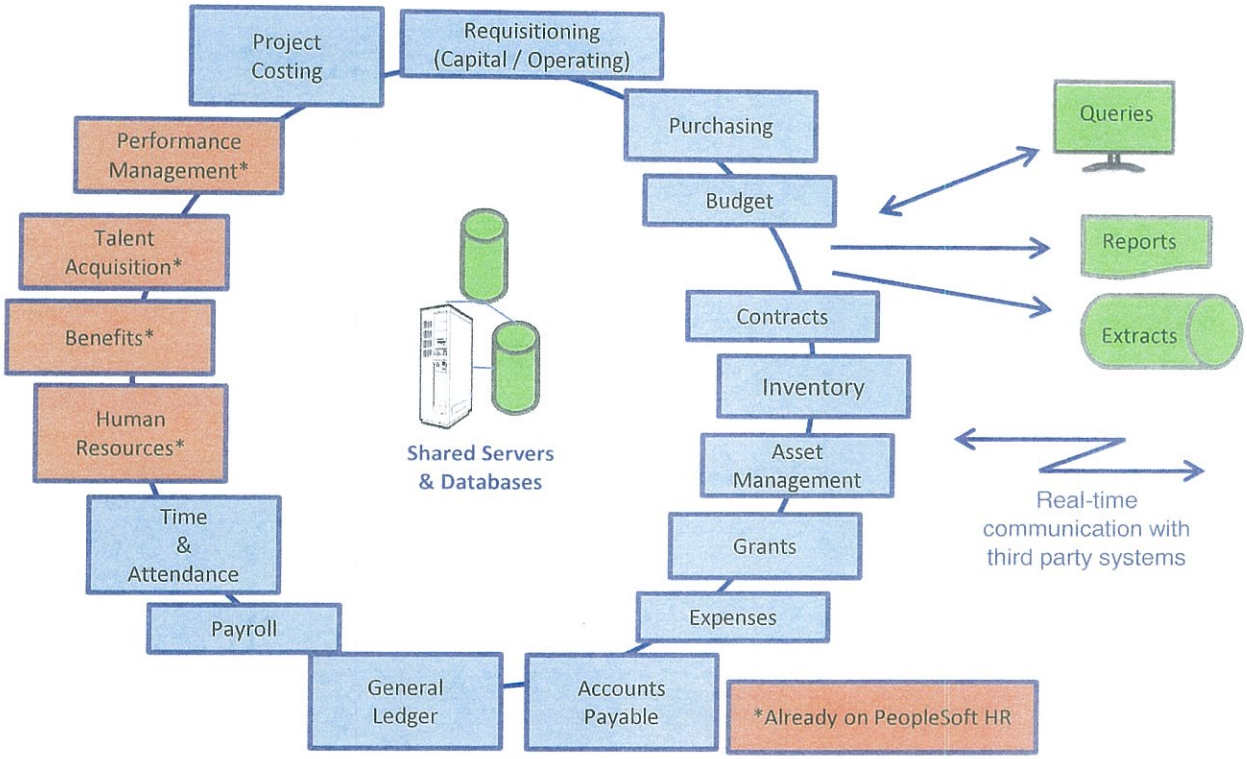
What is an Enterprise Resource Planning (ERP) System?



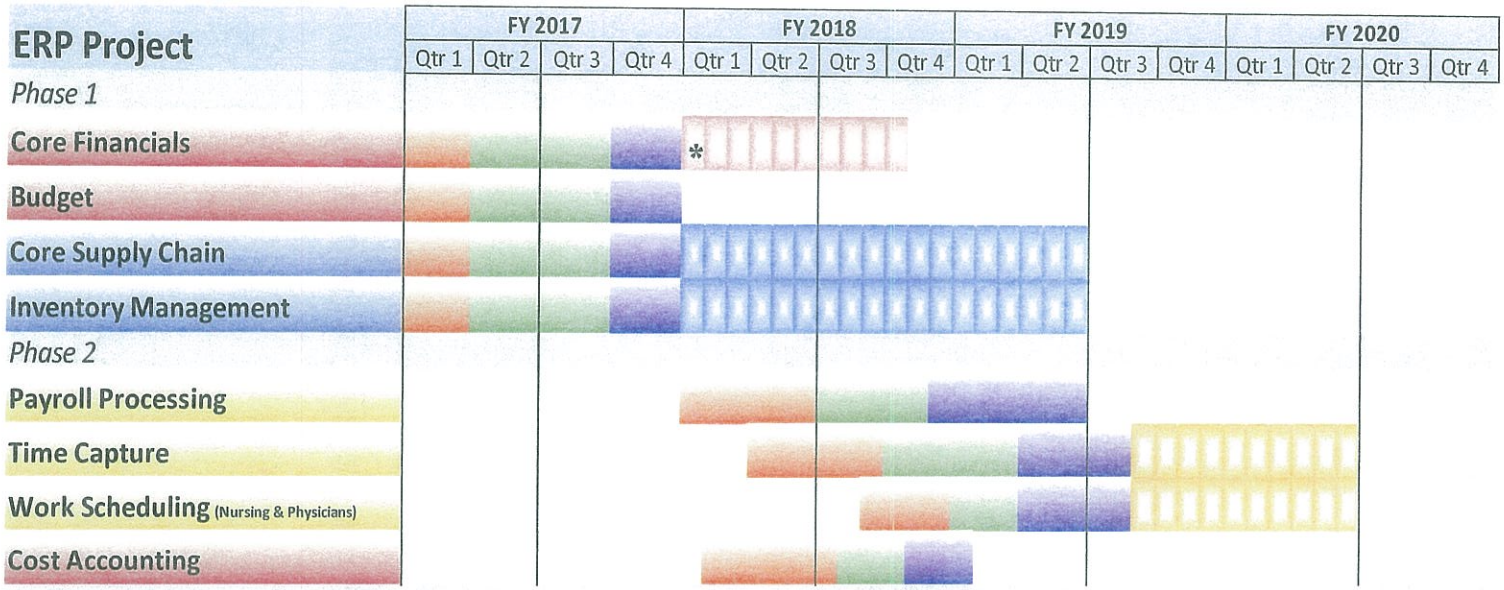
- Fully integrated system
- Reduces reliance on paper based processes
- Reduces reliance on custom legacy systems
- Drive improvements in operational performance

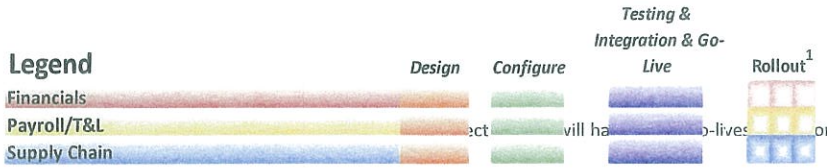
An **ERP** system is an integrated suite of business applications that share a common process and data model, covering broad and deep operational end-to-end processes, such as those found in finance, HR, distribution, manufacturing, service and the supply chain.

- Gartner

NYC HEALTH+ HOSPITALS

ERP "High-Level" Program Delivery Schedule





ect vill ha o-lives ort of the Supply Chain schedule. Asset Tagging will also follow the Supply

[1]Rollout means the Go-live will be spread out by facilities instead of everyone switching over at once to the new system.

NYC HEALTH+ HOSPITALS

ERP Program Update

- Finalized Business Process Design
- Completed Initial System Configuration
- Completed Configuration Unit Testing
- Completed initial Hyperion Budgeting System Test
- Began Development of Interfaces, Enhancements, and Data Conversion Programs
- Hyperion Budgeting System Test (Round 2) Scheduled for November 21st
- Finance and Supply Chain System Test Scheduled to Begin on November 28th

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Meaningful Use

Eligible Professional (EP)
Eligible Hospital (EH)

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Meaningful Use Eligible Professional Incentives

The objectives of this program are to;

- Improve quality, safety, and efficiency
- Reduce health disparities, and engage patients and family
- Improve care coordination, and population and public health

Specific goals and objectives are created by the Centers for Medicare and Medicare Services (CMS) in which eligible professionals (EPs) must achieve to qualify for Incentive Programs and dollars. Qualifying for Meaningful Use and the Incentive dollars is a two step process:

Step I Focuses on registering (commonly referred to as Adopt/Implement/Upgrade "AIU") providers who meet specific criteria
Step II Focuses on providers who successfully meet the objectives of the program (commonly referred to as Attesting).

Step I – Adopt/Implement/Upgrade = $21,500 per provider
2014 – NYC Health + Hospitals successfully completed AIU for 894 providers = Incentive dollars = **$18,997,500**
2015 – NYC Health + Hospitals continued the AIU for an additional 1,291 providers = Incentive dollars = **$21,972,500**
2016 – Final year for AIU process for approximately 1,364 providers = Incentive dollars = **$28,985,000**
[Elmhurst and Queens will demonstrate and attest to Meaningful Use with Epic in 2016]

Step II – Attesting = $8,500 per provider
2017 – 2021 (5 yr. Period) – Approximately 3,547 Eligible Providers = Approximate 5 year total **$131,622,500**

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Meaningful Use Eligible Hospital & Professional "Watch List"

Patient Electronic Access aka Patient Portal

What is a Patient Portal?

A patient portal allows 24-hour access by the patient to their personal health information from anywhere with an Internet connection. Over the last 18 months 87,000 of NYC Health + Hospitals' patients have registered for portal use and at least 80% - 85% of those patients have been accessing the portal two or more times over the past year.

The portal also allows exchange of information between patient and providers in regards to the patient health care record. A few examples of the information shared include:

Recent Clinical / Inpatient visits	Discharge summaries
Current/Past Medications	Immunization History
Allergies	Lab and Radiology Results

*The overarching goal of the portal is to enhance patient-provider communication, empower patients, support care between visits, and, most importantly, ***improve patient outcomes***.

**Source: Health IT – November 2015*

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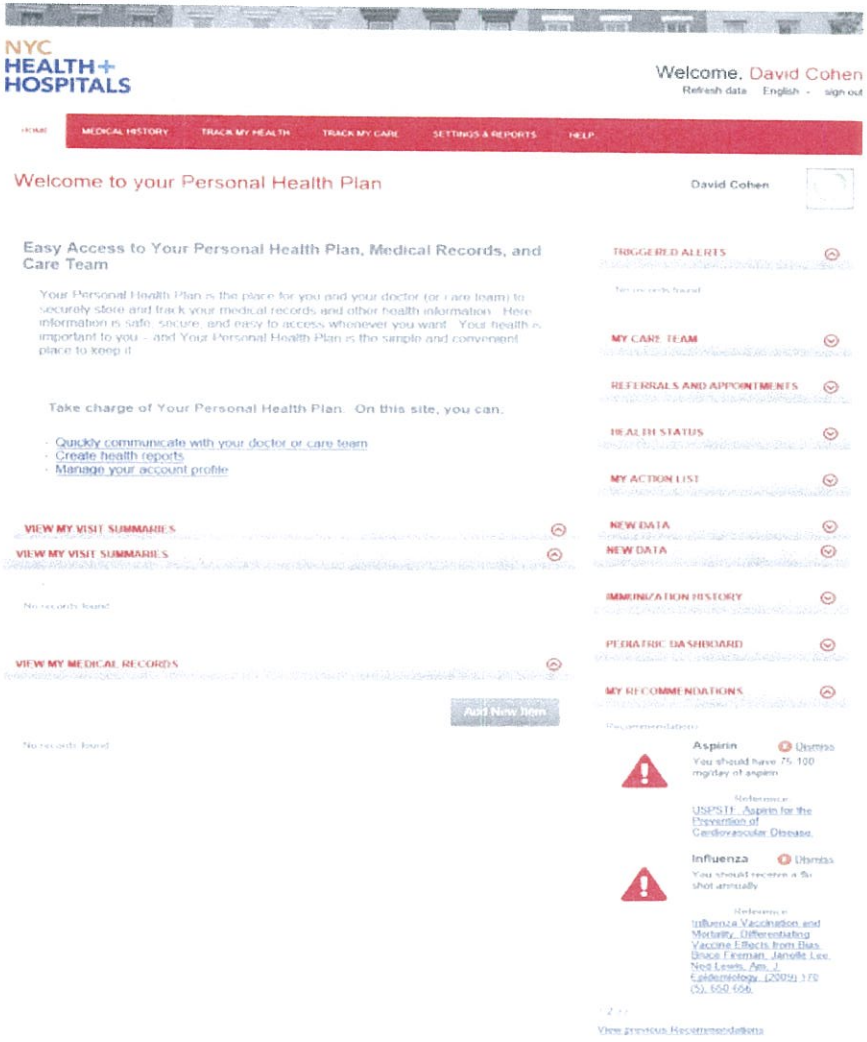

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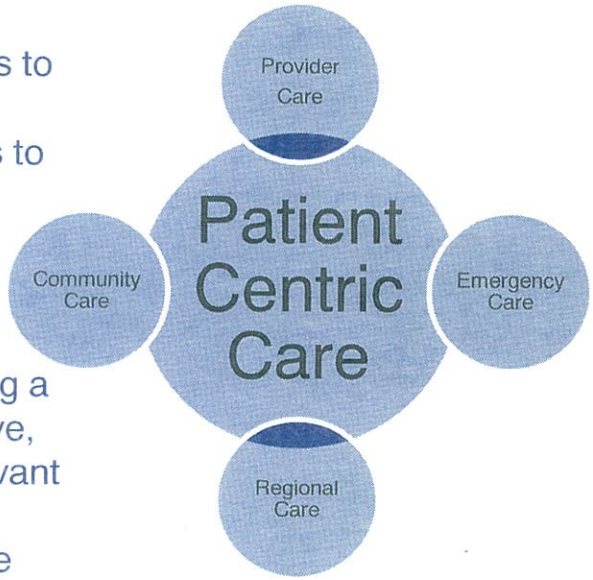
Three Challenges

Medication Reconciliation

This is a "Major Component" of patient safety and covers the process of comparing the patients medication order to all of the patients medications to prevent errors, omissions, duplications, incorrect or over-dosing and interactions with medications the patient may already be taking. It brings to light all of the Home (both prescribed and "Over The Counter ") Inpatient and Outpatient medications.



Secure Messaging

This 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 patients health and even as a remote consultation with the patient regarding a new or a pre-existing condition. The communications become part of the Electronic Health Record for recall and referencing by other members of the health care team.

Health Information Exchange

Simply put, the ability to share patient information with all of the patients health care providers, making the patients' health record the centric of care.

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Radiology Integration Program

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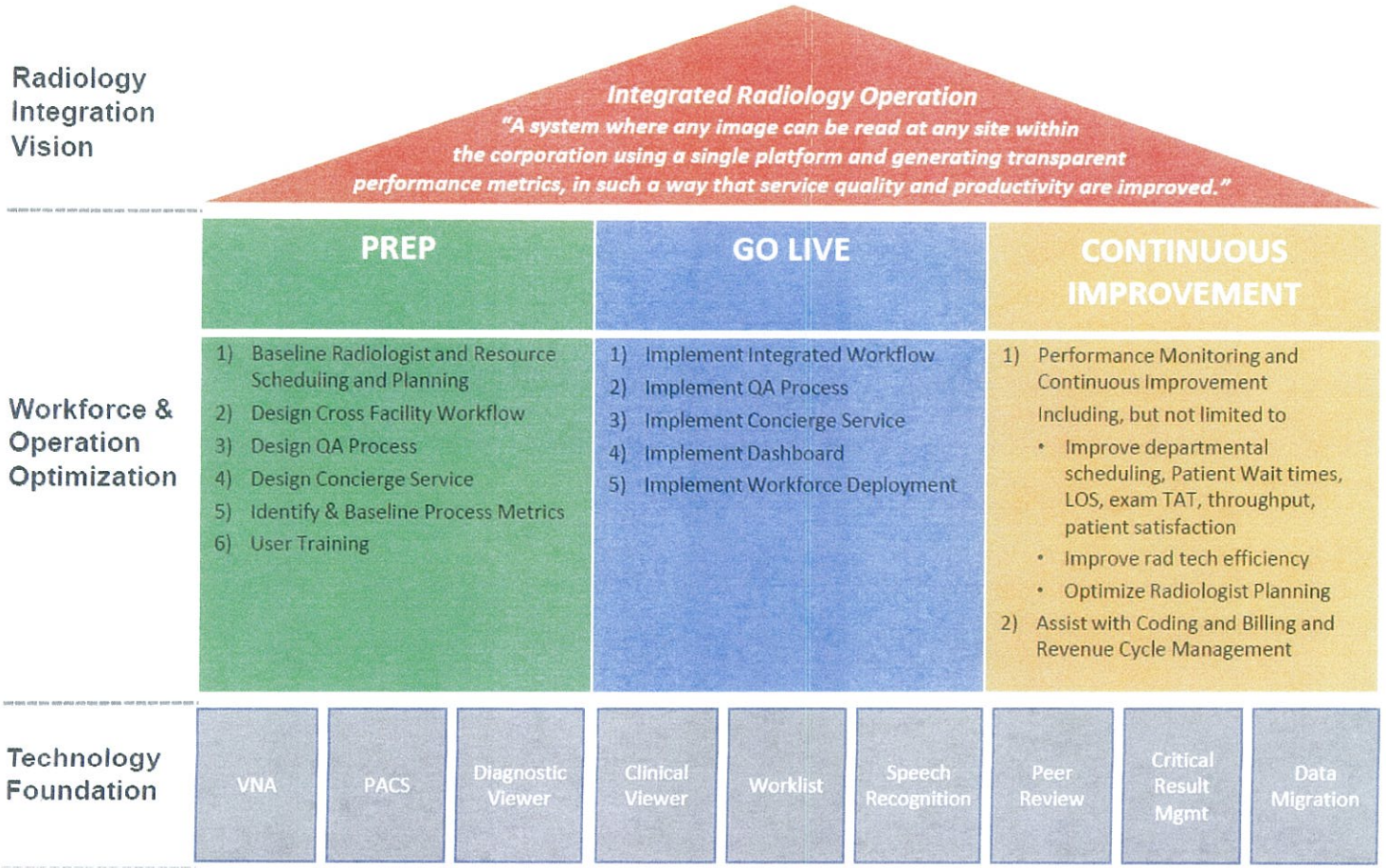
Radiology Integration Vision and Framework



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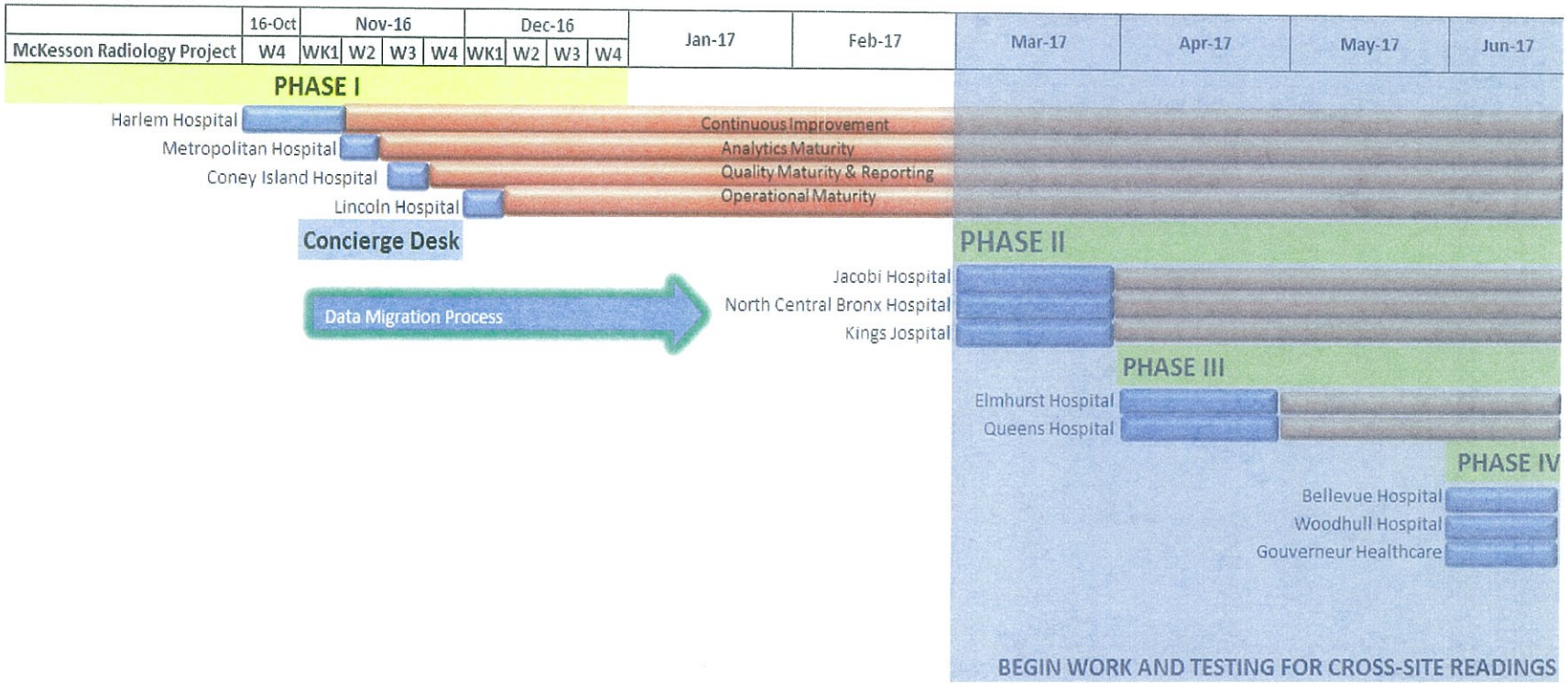
Timeline & Activities



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Program Update - Technology

- **Workflow Intelligence in place**
  - Local and enterprise worklist software deployed
  - Initial deployment at the local level
  - Enterprise workflow – Dependent on workforce redesign
  - Peer Review tool deployed – Process design in progress
  - Critical Results Communication Tool deployed – Leverage Concierge Services
- **Business Intelligence and Data Archive**
  - Infrastructure deployed
- **Enterprise Imaging Archive**
  - Data migration begins November 2016
  - Final integration testing
  - Picture Archival and Communication System Imaging Integration
  - Foundation for Enterprise Imaging Management - Other "ologies"
- **Enterprise Radiology Speech Recognition systems**
  - 8 of 11 Radiology and associated departments are live