AGENDA

INFORMATION TECHNOLOGY COMMITTEE

Meeting Date: November 8, 2018
Time: 10:00 AM
Location: 125 Worth Street, Room 532

BOARD OF DIRECTORS

CALL TO ORDER

ADOPTION OF MINUTES
   September 13, 2018

CHIEF INFORMATION OFFICER REPORT

INFORMATION ITEM ONE – BUDGET OVERVIEW

OLD BUSINESS

NEW BUSINESS

ADJOURNMENT
MINUTES

Meeting Date: September 13, 2018

INFORMATION TECHNOLOGY COMMITTEE

ATTENDEES

COMMITTEE MEMBERS
Emily Youssouf, Chair
Josephine Bolus, RN
Scott French (representing Steven Banks in a voting capacity)
Mitchell Katz, MD, President and Chief Executive Officer

NYC HEALTH + HOSPITALS CENTRAL OFFICE STAFF:
Paul Albertson, Vice President, Supply Chain and Materials Management
Machelle Allen, MD, Senior Vice President, Chief Medical Officer
Aaron Anderson, Senior Director, Correctional Health Services
Jennifer Bender, Director, Marketing and Communications
Jeremy Berman, Deputy Counsel, General Counsel
Kenra Ford, Senior Assistant Vice President, Office of Medical & Professional Affairs
Colicia Hercules, Chief of Staff, Office of the Chairperson
Jeffrey Herrera, Senior Director, Correctional Health Services
Jessica Laboy, Assistant Vice President, Correctional Health Services
Barbara Lederman, Assistant Vice President, Information Technology
Nemanja Liskovic, Associate Director, Correctional Health Services
Ross MacDonald, Chief Medical Officer, Correctional Health Services
Maureen McClusky, Senior Vice President, Post-Acute Care Operations
Kim Mendez, Senior Vice President, Chief Nursing Executive
Krista Olson, Assistant Vice President, Finance
Shaylee Papadakis, Senior Management Consultant, Finance
Lisette Saravia, Senior Executive Secretary, Office of the Chairperson
Barry Schechter, Assistant Director, Information Technology
Brenda Schultz, Senior Assistant Vice President, Financial Planning
Devon Wilson, Senior Director, Audit

OTHERS PRESENT:
Tim Cosgrave, Cerner
Justine DeGeorge, Office of State Comptroller
Moira Dolan, Senior Assistant Director, DC 37
Scott French, Chief of Staff, Department of Social Services
Sarina Shrier, Office of Management & Budget
Emily Youssouf called the meeting to order at 10:05 AM. The minutes of the July 19, 2018 meeting were adopted.

CHIEF INFORMATION OFFICER REPORT

Kevin Lynch thanked the Committee and then spoke to the CIO Report.

He began with an Update on Post Acute Care and Correctional Health. He said neither Post Acute Care or Correctional Health Services can utilize Epic as an Electronic Medical Record solution until mid/late 2020 because of the work effort to deploy across our current remaining Acute Care and Gotham/Ambulatory landscape.

Regarding Post Acute Care, Mr. Lynch said we evaluated our options which included staying on paper for the next two years and implement Epic in mid/late calendar 2020, or implement a niche product in a timely fashion in order to leverage better reimbursement and provide better patient care. We can then evaluate Epic in 2020. The increased revenue which we will receive by going to this package through CY 2020 will be greater than the cost of acquiring the package.

Mr. Lynch said for Correctional Health Services our current eClinicalWorks product does not adequately meet our clinical needs and is being replaced in early 2019 with a new product that has no correctional health retrofits. This leaves us in the need of an immediate solution. We can implement a niche product in a timely fashion to continue patient care and evaluate Epic in 2020. The capital funding for this project is covered in the City’s capital plan.

Mr. Lynch said both Post Acute Care and Correctional Health Services niche systems will need integration options which will be evaluated with some of the industry standard tools available.

Governance

Mr. Lynch then spoke to Governance. He said the Health Information Technology Prioritization Steering Committee continues the work effort of prioritizing the highest strategic IT projects (10) listed on the CIO Report. Those that are underlined will be addressed in this CIO Report below.

Epic Electronic Medical Record (EMR) Initiative

Mr. Lynch said the GO team continues the work effort to extend our enterprise electronic medical record system across all NYC Health + Hospitals Acute Care, Gotham, and Ambulatory patient care locations. It is scheduled to be completed by the end of calendar year 2019.

He said the next go-live is scheduled for October 20, 2018 (in 35 days). This includes Clinical and Revenue Cycle Epic applications at Woodhull/Cumberland and the retrofit of Revenue Cycle at Queens, Elmhurst, and Coney Island.

Ms. Youssouf asked what retrofitting means.

Mr. Lynch said when we went live with the first Epic rollouts at Queens, Elmhurst, and Coney Island, we only implemented the clinical, not revenue cycle applications. They are using Unity and Soarian. We decided to retrofit it with Epic revenue cycle. We are replacing the old ones with Epic.

Yesterday, we do gate checks every 30 days, starting with 120 days before rollout. Testing is accurate and training is set. So we brought together leadership from each facility and ambulatory to feel comfortable with quality of product. It was very successful.

Mr. Lynch said we trained over 300 SuperUsers. They help our internal go-lives.
Ms. Youssouf asked if they are employees.

Mr. Lynch said yes, they are employees, not consultants. He said our end-user training starts on Monday. That will be around 3700 staff that we will train right up to go-live. We are confident and looking forward to our next update at the Board meeting.

**Enterprise Radiology Integration Update:**

Mr. Lynch spoke about Enterprise Radiology Integration. That is our PACS (picture archiving and communication system). He said it is now live at Coney Island, Woodhull, Kings County, and most recently at Metropolitan. He said it is on track for go lives at the remaining sites including Lincoln, Harlem, Bellevue, North Central Bronx, Jacobi, Queens, and Elmhurst which scheduled for fall through winter of 2018/19.

**Enterprise Resource Planning (Project Evolve) Update:**

Mr. Lynch said this project has completed Phase 1, Waves 1-5 which included PeopleSoft’s Finance (Accounts Payable, Asset Management, Budget, General Ledger) and Supply Chain (eProcurement, Inventory) modules across all NYC Health + Hospitals locations.

He said Cost Accounting has moved from its planned September go live to a date yet to be determined. The plan is being reworked and a new date is being worked out.

Ms. Youssouf asked what the issue was/

Mr. Lynch said we have several different versions of QuadraMed, Unity and Soarian. The differences have some minor discrepancies that need to be resolved to make it successful. This platform will be for cost accounting.

Dr. Katz said most of our expense is personnel. You can’t do cost accounting if you don’t know where people work. Our current system does not allow for this. ERP will clean up PeopleSoft and we will know we are accurately counting people.

Ms. Youssouf asked if we will be eventually getting rid of disparate systems?

Mr. Lynch said we will be replacing Unity and Soarian once we leave QuadraMed.

Ms. Youssouf asked if this is in conjunction with PeopleSoft.

Mr. Lynch said we are using PeopleSoft as cost accounting module.

Ms. Bolus asked what we will be left with?

Mr. Lynch said we are keeping PeopleSoft and Epic. We are looking at EMRs for post-acute care and correctional health. I will show a lot of systems we have. We want to collapse onto enterprise systems instead of silos.

Mr. Lynch said we are currently in the initial build for Clairvia Clinical Scheduling (for nurses) and expected to go live for Wave 1 in Spring 2019. Design and build efforts have begun for our Wave 1 facilities, which includes Coney Island, Kings, County, SeaView, McKinney and East New York. He said the rollout of Waves 1B – 1F will continue through the Fall 2019. This integrates with PeopleSoft and EMR.

Mr. Lynch spoke to a slide with the SharePoint site for EITS News. He showed how it has an IT Landscape which as very detailed list of the top ten and all other EITS projects and their accompanying parts. He pointed out the Project Portfolio, which is a summarized view of the projects. We are focusing on the most important projects.

Mr. Lynch then spoke to the slide titled Acute Facilities + Post Acute Care + Correctional Health Services + Gotham Health Facilities. It shows all 70+ sites where NYC Health + Hospitals provides care. He moved to the next slide, called Current Electronic Medical Record + Revenue Cycle Landscape. Then he showed EMR
Future State, which is how the enterprise will look after the Epic Clinical and Revenue Cycle is fully implemented. He said once we fully implement Epic, clinicians will have all information about a patient no matter where in the system that person is.

Mr. Lynch went on to speak to the slide NYC H+H Epic and QuadraMed Instances. He said there had been concern about where Ambulatory locations were.

Then Mr. Lynch spoke to NYC H+H Epic and QuadraMed Instances, Post October 20, 2018, when Epic is implemented at a group of sites. He said Bellevue and Harlem will go live in the Spring.

Ms. Youssouf said these slides are very helpful to her and to the Committee. She said as laymen, this makes it much easier for us to understand.

Mr. Lynch showed the slide NYC H+H 2020 EMR Landscape. This is what the enterprise will look like after full Epic implementation. He showed the next slide, which showed that Epic will later have future state integration with Post Acute Care EMR and Correctional Health Care EMR.

The next slide Mr. Lynch showed was NYC H+H Clinical IT Systems, Current and Future State. Each arrow represents an interface. There are 65 interfaces now but we will be retiring some soon. Then he spoke to NYC H+H Clinical IT Systems Interfaces. He said there are over 200 different applications tracking to Epic and QuadraMed. There are almost 1000 in all of IT that we maintain currently. We show it on our site. We look to them when we need an application. We will show the ones we are keeping in the future.

Ms. Youssouf said these are very helpful slides.

Mr. Lynch showed Epic EMR Implementation Timeline. After that, he addressed GO Program Executive Budget Summary.

The last slide Mr. Lynch showed was Enterprise Radiology Integration Initiative Time Line.

Dr. Katz asked if the Board has seen this.

Ms. Youssouf said I think they want to know how many systems we have. I am glad that information is in here.

Dr. Katz said it is not unusual for a big organization to have this many systems but it shows a lot potential. He said Kevin got an email from a doctor asking if Epic will allow him to see patient information from various hospitals. People are trained to think that EMRs are only hospital-centric and not systemwide.

Ms. Youssouf said this will make us more efficient and allow our medical staff to deliver better care. This will lead to more revenue and better outcomes.

Dr. Allen thanked the Chair for helping and guiding through the process.

Ms. Youssouf thanked the medical staff for all their work.

**ACTION ITEM 1:**

**RESOLUTION FOR CERNER LABORATORY INFORMATION SYSTEMS AMENDMENT TO THE PARTICIPATION AGREEMENT WITH NORTHWELL**

Mr. Lynch read the resolution:

Authorizing the New York City Health and Hospitals Corporation (the “NYC Health + Hospitals”) to execute an amendment to the Participation Agreement (the “Participation Agreement”) with Northwell Health, Inc. (“Northwell”) to support an amendment to the agreement (the “Cerner Agreement”) between Northwell and Cerner Corporation (“Cerner”) by which Cerner will provide implementation and support services to
complete the installation and roll-out of the Cerner laboratory information system (the “LIS”) across all of
the NYC Health + Hospitals system with the resulting amendment to the Cerner Agreement increasing the
total budgeted cost by $12,955,085 bringing the cost of such implementation and roll-out to a not to
exceed total, inclusive of all expenses, of $34,379,677 over the period required for such implementation
and roll-out currently estimated to be approximately June, 2020.

Mr. Lynch, Ms. Ford, and Dr. Garofalo addressed the presentation called Cerner Laboratory Information
Systems, Application to Approve an Amendment to the Participation Agreement with Northwell September
20, 2018.

Dr. Garofalo spoke to Background. He said in 2015, NYC Health + Hospitals entered into an agreement for a
joint venture with Northwell; per the agreement, NYC Health + Hospitals would send outpatient lab tests to
the existing Northwell lab, pending construction of a new joint lab venture. He said the Joint Venture lab
services will utilize Cerner LIS (laboratory information services).

Dr. Garofalo said the Benefit is of a LIS is a standardized, enterprise-wide model, encompassing all
enterprise lab services with seamless integration to the joint venture laboratory.

Ms. Ford spoke to Reasons for Amendment. She said Cerner LIS has been implemented at Elmhurst, Queens
and Coney Island Hospitals; further build is necessary to align with the Epic Financials. She said based on
prior experiences/“lessons learned” with the Cerner LIS implementation at Elmhurst, Queens and Coney
Island Hospitals, additional services are needed for training and support services for the remaining facilities.

Ms. Ford said some of the build/implementation work already performed by Cerner for remaining sites
requires updating/modification, to alignment with revised Epic timeline.

Ms. Youssouf asked about the next slide: Cost Breakdown. I remember this venture kicking off a few years
ago. Is this retrofit to hook it up with Epic?

Ms. Ford said the joint venture remains the same. The retrofit is for sites already live with Epic.

Mr. Lynch said we originally decided to build it with Soarian and Unity. For Revenue Cycle, we had to claw it
back to Epic.

Ms. Ford said Cerner had also done work at Jacobi and North Central Bronx, in addition to three facilities
that already have Epic. This is a one-time upgrade. We have to retouch the three sites with Epic but going
forward, we should not have to do any more retrofits.

Ms. Youssouf asked if that is because Cerner has not yet been implemented anywhere else.

Ms. Ford said that was correct. The retrofit will take place on October 20. It should really be Epic and Cerner
when we talk about that date.

Ms. Youssouf asked if clinicians are happy with Cerner.

Ms. Ford said we are generally speaking doing well and making progress. We are working on issues to make
the process smoother and using lessons learned with each implementation.

Mr. Berman said we are at the investment stage which has taken longer due to changes in Epic financials.
We will be able to send many more in the future. We are still building and working on this. The greater
benefits will come later.

Ms. Ford said we were working very short staffed and we are realigning staff for this project.

Ms. Bolus asked if we will need to continue to retrofit at future facilities.

Ms. Ford said it will be part of the standard project, so no need to retrofit.
Mr. Lynch said we retrofitted the standard build for future rollouts. Clinical is pretty standard. But the lab product will be consistent in future go-lives.

Ms. Ford said our lab timeline is equal to Epic.

Ms. Bolus asked how specimens are collected.

Ms. Ford said Cerner is the delivery service. It is daily.

Ms. Bolus asked what happens in a snowstorm. Do we use our own labs?

Ms. Ford said it would not affect delivery as we make preparations. She said the tests going out are not time critical.

Dr. Katz said hospitals no longer do all tests. It is no longer a viable model. You can have backups within the hospital in case of emergency. But all other non-emergency labs should be sent out for pricing purposes. You want automation because it prevents occupational injuries. I support this 100%. On the other side, there will be more point of care testing where clinician does my tests right then and there. At my appointment at Gouverneur, they ask if I want tests done right there. If I am treating a patient, I could have my nurse do test and we can adjust medication without phone calls or extra visits. There are more tests that are being done this way.

Ms. Ford said we are working with doctors to create a plan to meet needs of patients.

Dr. Katz said we want to make right decisions for patients.

Mr. Berman said the benefits in this venture will be see which tests are over-administered and other variations. It will help in reducing costs since we will have less equipment. The price of new equipment is coming down due to our arrangement with Northwell.

Ms. Ford said regarding emergency planning, we can rely on ourselves by sending to other enterprise sites and moving staff around.

Dr. Katz said when I see patients at Gouverneur, the labels have normal or abnormal listings on each test. I have to open each one to see the information. This will change with Epic. I will see results and not just abnormal flag.

The resolution was adopted.

**ACTION ITEM 2:**

**RESOLUTION FOR QUADRAMED/HARRIS CONTRACT RENEWAL (THE “4TH AMENDMENT”)**

Mr. Lynch read the resolution:

Authorizing the New York City Health and Hospitals Corporation (the “NYC Health + Hospitals”) to execute an amendment to extend its contract with Harris Computer Corporation ("Harris"), successor in interest of QuadraMed, to continue operation, maintenance and support of NYC Health + Hospitals’ legacy electronic medical record system, QuadraMed, for a term of three-years with four (4) one-year renewals in an amount not to exceed $61,316,936.00.

Mr. Lynch and Dr. Garofalo addressed the presentation called QuadraMed Contract Renewal, The “4th Amendment.” He said Harris now owns the QuadraMed system. We will need to maintain the six QuadraMed system until we go to Epic.

Ms. Youssouf asked about the slide called Contract History which listed the Date Executed, Agreement, and Vendor of our agreements to use QuadraMed. She asked if this is a real IT increase.
Dr. Garofalo said the original contract had a wind-down clause and there was no other EMR on the table. We got better pricing than we did in 2011.

Ms. Bolus said this system has been sold a lot.

Mr. Lynch said there is stability in this agreement. The four years allow us to move forward with implementing Epic and the one year options give us a safety net of future service, whether we need it or not. We prefer not to use them but they are committing to us. They agreed to support us if needed.

Dr. Katz asked if company will be around.

Mr. Lynch said they are a larger company that will be around. They set aside staff to continue to support this system.

Dr. Garofalo says they own a lot of big systems.

Dr. Katz said it was probably a good thing they were bought. That makes it more secure. Big companies want systems like this to maintain cash flow for the future. They do not have much to do. Guaranteed source of income.

The resolution was adopted.

**ACTION ITEM 3:**

**RESOLUTION FOR CERNER LABORATORY INFORMATION SYSTEMS AMENDMENT TO THE PARTICIPATION AGREEMENT WITH NORTHWELL**

Dr. Katz said since we were all here for the previous presentation by Correctional Health, we do not need to do it again.

Ms. Youssouf said she wanted the record to show she was present for the previous meeting and heard the presentation and that Ms. Bolus is a member of that committee. Everyone here was present.

Mr. Lynch read the resolution:

Authorizing New York City Health and Hospitals Corporation (the “System”) to execute an agreement with Fusion, a division of Fusion Capital Management, to procure a Correctional Health specific electronic medical record for the System’s Correctional Health Services division with primary care, pharmacy, specialty services, mental health and drug treatment in 11 NYC jails, with an initial term of three years with two one-year options to renew solely exercisable by the System and with total amount over the combined five-year term not to exceed $12,999,354 to pay Fusion.

Ms. Youssouf said when you mentioned Post Acute Care and Correctional Health would be separate from the rest, that was because Epic does not have a module for those. I do not think we need to hear it all again.

Ms. Bolus said I know the company that previously had Rikers Island. I want to say the current Correctional Health Services team is a big improvement.

Ms. Youssouf said they have a tough job.

The resolution was adopted.

There being no further business, the meeting was adjourned at 11:10 AM.
Thank you and good morning. I would like to provide the committee with the following brief updates:

(H2O) Epic Electronic Medical Record (EMR) Initiative:

- We have a new name for enterprise medical record: H2O. It stands for Health and Hospital Online. H2O has been successfully turned on at Woodhull/Cumberland and 10 associated Gotham Clinics for clinical and revenue cycle modules. We also retrofitted the Revenue Cycle module for Queens, Elmhurst, Coney Island and 17 associated clinics which have already been using the clinical modules to provide patient care.

- Patient care is being performed using H2O in a meaningful way. The project is progressing positively with the natural discovery and remediation of a standard go-live issues. Our enthused and energetic staff are using H2O effectively to provide patient care. We continue onsite support for the next several weeks and will have dedicated staff allocated for additional weeks, as needed.

- Our next go live will be at Bellevue, Harlem and all of their associated Gotham clinic locations on March 30, 2019.
# H₂O Clinical & Revenue Cycle Implementation Timeline

<table>
<thead>
<tr>
<th>Project</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
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<td>Q1 2 3 4 5</td>
<td>Q6 7 8 9 10</td>
<td>Q1 2 3 4 5</td>
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<tr>
<td>Enterprise Build, Validation</td>
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<td>and Testing</td>
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<td>Woodhull</td>
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<td>Gotham Health</td>
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<td>Gotham Health</td>
<td>Gouverneur</td>
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<td>Harlem</td>
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<td>Gotham Health</td>
<td>Sydenham</td>
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<td>Metropolitan</td>
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<td>Lincoln</td>
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<td>Gotham Health</td>
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<td>Kings County</td>
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<tr>
<td>Gotham Health</td>
<td>East NY</td>
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- **Pre-Work**: Green
- **Validation**: Yellow
- **Build**: Blue
- **Testing**: Dark blue
- **Testing/Training/Op Readiness Overlap**: Orange
- **Site Readiness (Training, Op Readiness)**: Red
- **GO Decision**: Red star
- **GO Live**: Yellow star
- **GO Support**: Purple

- Enterprise Build, Validation and Testing: 10/20/2018
- Gotham Health|Cumberland: 3/30/2019
- Gotham Health|Sydenham: 7/27/2019
- Gotham Health|East NY: 10/2019
CHIEF INFORMATION OFFICER REPORT

Briefing for the Information Technology Committee of the NYC Health + Hospitals
November 8, 2018

Enterprise Radiology Integration Initiative:

- Live at Coney Island, Woodhull, Kings County, and Metropolitan.
- We adjusted the go-lives dates at the remaining sites to align with other prioritized projects. The remaining sites include: Lincoln, Harlem, Bellevue, North Central Bronx, Jacobi, Queens and Elmhurst.
Enterprise Radiology Integration Initiative Time Line

- **April, 2018**: Coney Island (Agfa)
- **June**: Woodhull (Agfa)
- **July**: Metropolitan (Sectra)
- **August 27th**: King's County (Sectra)
- **November 5th**: Lincoln (Sectra)

- **December 3rd**: Harlem (Sectra)
- **February 2, 2019**: Bellevue (Sectra)
- **April 8, 2019**: Jacobi / NCB (Agfa)
- **May 6, 2019**: Queens (Agfa)
- **June 10, 2019**: Elmhurst (Agfa)

**Agfa Imaging Sites**

**Sectra Imaging Sites**

**Enterprise McKesson PACS Imaging Sites**
Enterprise Resource Planning (Project Evolve) Update:

- Cost Accounting is still planning their go-live to be aligned with other priority projects.
- Phase 2 – PeopleSoft Payroll/Time & Labor/Absence Management/Electronic Time Capture:
  - Payroll Go-Live is on track for January 2019. We have continued detailed testing efforts including multiple parallel payroll cycles. We are tracking expected milestones / gate-checks to ensure we are ready of a successful go-live.
  - Time and Labor/Absence Management modules are on track for May 2019.
  - Electronic Time Capture is on track to begin rolling out in June 2019.
- Clairvia Clinical Scheduling in progress and expected to go live for Wave 1 in Spring 2019. Design and build efforts have progressed positively for our Wave 1 facilities, including Coney Island, Kings, County, Sea View, McKinney and East New York.
  - The rollout of Waves 1B – 1F will continue through the Fall 2019.

- Enterprise Information Technology System’s budget overview presentation.

This completes my report today. Thank you.
Information Technology Budget Overview

IT Committee
November 8, 2018
Kevin Lynch, SVP/CIO
H₂O Project Budget (Clinical & Revenue Cycle)
  Operating: $515M (FY13-FY21)
  Capital: $537M (FY13-FY21)

Enterprise Information Technology Services Budget (Other than H₂O):
  Operating (FY18): $240M
  Capital* (FY19-FY21): $156M

Capital Restructuring Finance Program (CRFP)
  NYS Grant (2017-2021) IT Portion of the Total Grant Award: $212M

*City Capital funds remaining based on Sept. FY19 Capital Plan
# H₂O Project Executive Budget Summary
($ in Millions)

<table>
<thead>
<tr>
<th>Summary through FY19 (as of 9.30.18)</th>
<th>Accruals (FY13-FY19 Q1)</th>
<th>Remaining Balance</th>
<th>Total</th>
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<tr>
<td>Clinical Capital</td>
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<td>$123.92</td>
<td>$386.89</td>
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<tr>
<td>Revenue Cycle Capital</td>
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<tr>
<td><strong>Total Capital</strong></td>
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<td><strong>$244.47</strong></td>
<td><strong>$537.29</strong></td>
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<td>Clinical Operating</td>
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<td>Revenue Cycle Operating</td>
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<td><strong>Total Operating</strong></td>
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<td><strong>$251.78</strong></td>
<td><strong>$515.89</strong></td>
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<tr>
<td>Total Clinical</td>
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<td>$254.43</td>
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<tr>
<td>Total Revenue Cycle</td>
<td>$47.30</td>
<td>$241.82</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$556.93</strong></td>
<td><strong>$496.25</strong></td>
<td><strong>$1,053.18</strong></td>
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**FY13-FY21 Clinical and Revenue Cycle Operating Budget Summary**

<table>
<thead>
<tr>
<th>Category</th>
<th>FY13</th>
<th>FY21</th>
</tr>
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<tbody>
<tr>
<td><strong>Total Operating ($515.89)</strong></td>
<td>$264.11</td>
<td>$251.78</td>
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<tr>
<td><strong>Application Support (FTE) ($125.18)</strong></td>
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<td><strong>Implementation Support ($206.27)</strong></td>
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<tr>
<td><strong>Interfaces ($12.76)</strong></td>
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<tr>
<td><strong>Hardware ($30.78)</strong></td>
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<tr>
<td><strong>Third Party &amp; Other Software ($72.98)</strong></td>
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<tr>
<td><strong>Epic Contract ($67.93)</strong></td>
<td>$31.84</td>
<td>$36.09</td>
</tr>
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</table>

**Application Support** – H+H Employees assigned to H₂O program; as of 10/15/18 there are 182 H+H employees

**Implementation Support** – Consultants performing support and at-the-elbow support services. As of 10/15/18 there are 63 consultants in the operating budget; the number of consultants ramps up/down based on the project needs

**Interfaces** – build and maintenance of the integration points between H₂O and H+H business and clinical software applications

**Hardware** – purchase and maintenance of end-user equipment; servers and storage equipment in Jacobi and Sungard Data Centers

**Third Party and Other Software** – maintenance for non-Epic software

**Epic Contract** – maintenance of Epic software licenses
H₂O Capital Accruals vs Balance as of 9.30.18 ($ in Millions)

FY13-FY21 Clinical and Revenue Cycle Capital Budget Summary

- **Total Capital ($537.29)**:
  - Accruals: $292.82
  - Balance: $244.47

- **Implementation Support ($355.33)**:
  - Accruals: $161.90
  - Balance: $193.43

- **Interfaces ($25.6)**:
  - Accruals: $22.33
  - Balance: $3.27

- **Hardware ($58.65)**:
  - Accruals: $45.71
  - Balance: $12.94

- **Third Party & Other Software ($11.68)**:
  - Accruals: $5.09
  - Balance: $6.58

- **Epic Contract ($86.04)**:
  - Accruals: $75.35
  - Balance: $10.68

**Implementation Support** – Consultants performing design, build, testing and deployment. As of 10/15/18 there are 163 consultants in the Capital budget; the number of consultants ramps up/down based on the project needs.

**Interfaces** – build of the integration points between H₂O and H+H business and clinical software applications.

**Hardware** – purchase and installation of end-user equipment; servers and storage equipment in Jacobi and Sungard Data Centers.

**Third Party and Other Software** – purchase of non-Epic software.

**Epic Contract** – purchase of Epic software licenses.
FY18 Historical Spend (Non H₂O - Operating)

- The FY18 Commitments for Non H₂O was $239.7M. This does not include reserves, Personal Services or H₂O-related OTPS funding.

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance</td>
<td>$173M</td>
</tr>
<tr>
<td>Staff Augmentation</td>
<td>$42M</td>
</tr>
<tr>
<td>Upgrades</td>
<td>$24M</td>
</tr>
</tbody>
</table>

**Maintenance**
- Data Sciences: $8.2M
- Infrastructure Services: $5.4M
- Enterprise Service Desk: $4.2M
- Workforce Computing Group: $3.3M
- Microsoft: $12.7M
- Managed Print Services: $11.6M
- Smartnet: $10.7M
- Sungard: $6.7M

Some examples, include:
- PC/Hardware Refresh: $9.6M
- Bluecoat Upgrade: $1.4M
- Network Refresh(1): $1.3M

(1) Equipment that was not Capital eligible.
The Year-to-Date Encumbered is by Non H₂O only through 9/13/18

The Year-to-Date Encumbered for the Radiology project only includes items for McKesson

(1) Funding is comprised of Capital and Operating budgets.
Board Approved Contracts for Ongoing Operating Expenses

Board Approved Contracts vs Year-to-Date Encumbered

($ in millions)

Sungard
$31M
Approved – 5/26/16 (1)

$10.4M/year for 3 years

$27

$31

Microsoft
$38M
Approved – 2/25/16

$12.7M/year for 3 years

$28

$38

Managed Print Services
$74M
Approved – 7/28/16

Average of $10.6M/year for 7 years

$27

$74

Lightower Fiber Networks
$51M
Approved – 1/28/16

$10.2M/year for 5 years

$51

Rounded to the nearest million.
Year-to-Date Encumbered is by Non H2O only through 9/13/18
(1) Includes a funding increase of $8M for previous contract.

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# NYS Grant

*(CRFP/DSRIP Grant – IT Projects Only)*

*(As of August 31, 2018)*

($ in Millions)

## Grant/Cash Disbursement Summary

<table>
<thead>
<tr>
<th>Project</th>
<th>Total Grant Amount</th>
<th>Grant Amount</th>
<th>Cash Disbursement Amount</th>
<th>Net Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral Health</td>
<td>$44.6</td>
<td>$7.9</td>
<td>$0.0</td>
<td>$7.9</td>
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<tr>
<td>Contact Center</td>
<td>$19.4</td>
<td>$11.8</td>
<td>$0.1</td>
<td>$11.7</td>
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<tr>
<td>Digital Health</td>
<td>$109.1</td>
<td>$109.1</td>
<td>$10.0</td>
<td>$99.1</td>
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<tr>
<td>Emergency Department</td>
<td>$19.6</td>
<td>$2.1</td>
<td>$0.0</td>
<td>$2.1</td>
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<tr>
<td>Population Health</td>
<td>$81.3</td>
<td>$81.3</td>
<td>$4.8</td>
<td>$76.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$274.0</strong></td>
<td><strong>$212.2</strong></td>
<td><strong>$14.9</strong></td>
<td><strong>$197.3</strong></td>
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