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TRANSCRIPT OF THE MINUTES

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COMMITTEE ON TECHNOLOGY

jointly with

COMMITTEE ON HOSPITALS

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B E F O R E: Robert Holden
Chairperson
Committee on Technology

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JOHN BIANDO: This is a microphone check. Today's date is November 20, 2019, joint Committee on Hospitals with Technology, being recorded by John Biando, City Hall, Committee Room.

CHAIRPERSON RIVERA: [gavel] Good afternoon, everyone. I am Council Member Carlina Rivera, chair of the Hospitals Committee, and I'd like to start off by acknowledging my colleague, Kalman Yeger. On January 16, 2013, H&H entered into a 15-year, 302 million dollar contract agreement with EPIC Systems Corporation, EPIC to replace H&H's then 20-year-old electronic health record system, EHR. EPIC Systems develops EHRs and currently covers more than 250 million patients. H&H aims to have EPIC used at all of their patient care facilities, including 11 hospitals, four long-term care facilities, six diagnostic treatment centers, and more than 70 community-based clinics by the end of 2019. H&H has discussed EPIC at multiple council hearings, such as a hearing in November 2018 where H&H testified that they are transferring their EPIC systems to better meet the needs of those who are transgender and gender nonconforming, TGNC. By making medical information more available, easier to

read, and portable, EHRs have changed the way medicine is delivered in our health care system itself. However, they raise technical, procedural, ethical, and other issues. An audit performed by New York City comptroller, Scott Stringer, found that the average timeframes in which higher-priority service restoration issues affecting the EPIC EHR at Elmhurst Hospital were resolved, significantly exceeding targets. According to a survey performed by Kaiser Family Foundation, over half of respondents reported feeling very concerned or somewhat concerned about their EHR's accessibility to unauthorized persons. Additionally, nearly half reported feeling very concerned or somewhat concerned of errors in their personal health information that can lead to negative impacts on their health care. In fact, one in five individuals say that they or a family member had already noticed an error in their EHR. Furthermore, doctors and patients alike have felt the change of using EMRs during meetings and treatments with doctors, oftentimes needing to stare at a screen instead of interacting face-to-face with their patients. Although EHRs have greatly improved medical billing and physician compliance

measurements, studies have argued that they have yet to show that they improve patient health. In fact, one study found significant differences in rates of mortality, readmission, and complications between patients and hospitals with full EHRs compared to hospitals with no EHRs. However, these differences did not hold when adjusted for patient and hospital factors. Furthermore, the effects of EHR adoption was not associated with improved patient outcomes, specifically in patient mortality, readmissions, and complications. Another study found that while EHRs can generate reports, these reports did not necessarily support quality improvement initiatives and current EHR measurement functionality may be insufficient to support federal initiatives that tie payments to clinical quality measures. Today I look forward to hearing more about the EPIC rollout of H&H and H&H's plans to utilize EPIC to better meet the needs of their patients additionally. I look forward to hearing about how H&H is handling concerns about patient privacy and the accuracy of EHRs. With that, I'm going to turn it over to my cochair of this committee hearing, Council Member Bob Holden.

CHAIRPERSON HOLDEN: Thank you, Chair Rivera. Good afternoon, I am Council Member Holden, chair of the Committee on Technology, and I'm pleased to join the Committee on Hospitals, chaired by Council Member Carlina Rivera. Medical information stored electronically is protected by HIPAA, the Health Insurance Portability and Accountability Act. Under HIPAA hospitals and other covered entities must insure the confidentiality, integrity, and availability of all electronic private health information they receive or transmit. They must also protect against threats to this information, prevent unlawful uses or disclosures, and ensure compliance of their workforce. However, HIPAA also has provisions that allow for hospitals and other health entities to disclose medical data to their business associates. This is to assist with the performance of the health care, including, but not limited to, processing claims, billing, services, and transcription services. This past August Mount Sinai Hospital had over 33,0000 patients' medical data compromised by a cyber attack on bill services, contractor American Medical Collection Agency. Additionally, Apple, Amazon, Google, and Microsoft

all have made agreements with health care providers to store patient health information and develop software. The *Wall Street Journal* reported this month that Google had secretly begun Project Nightingale last year, which is a partnership with Ascension, a nonprofit chain of 2600 health entities to collect, store, and analyze patient data. As more private health information moves to electronic storage the risk of cyber attacks, of course, increases. Having all of this medical information electronically available raises serious concerns for data security and privacy. Medical data is an incredibly desirable form of information for criminals because it contains personally identifying information, like, of course, Social Security numbers, which could lead to identify theft and credit fraud. Medical data also includes information that could be used to acquire expensive medical services and medications and to fraudulently obtain government benefits like Medicare or Medicaid. The information recorded in electronic health records is so valuable that over the past two years the US Department of Health and Human Services has reported 568 data breaches nationwide currently under

investigation, and affecting millions of people. Thirteen of those breaches were right here in New York City. According to HHS, these data breaches occur in a variety of ways, from network services and emails being hacked to physical devices holding medical information and being stolen, lost, or improperly disposed of. Other health entities experience unauthorized access or disclosure of their health-keeping systems. Considering all these threats, it is incredible, or it's incredibly important, to understand the protection in place for the medical data of New York residents, and we look forward to understanding how the city can better serve and protect its residents and their medical data from the threats of cyber attack as well as the risks and problems that come with storing this data electronically. We wish to work together with the administration on this issue and look forward to hearing their valuable testimony and those industry experts and community advocates. And I'd like to thank my staff, the Committee on Technology, counsel Irene Bahofsky, to my left, and policy analyst Charles Kim, finance analyst Sebastian Bachi, and Jean Kabor. I'd also like to thank my staff, Daniel

Kazini and communications director Ryan Kelly. And I'll take it back to you.

CHAIRPERSON RODRIGUEZ: And with that I'll have committee counsel swear you in.

COMMITTEE COUNSEL: Raise your right hands, please. Do you affirm to tell the truth, the whole truth, and nothing but the truth in your testimony before this committee and to respond honestly to council member questions?

KEVIN LYNCH: Thank you. Health and Hospitals has submitted an official testimony for the record, which you have in front of you. I will now share with you an abbreviated version of that testimony. Good afternoon, Chair Rivera, Chair Holden, members of the Committee on Hospitals and the Committee on Technology. I am Kevin Lynch, senior vice president and chief information officer of New York City Health and Hospitals. I'm joined by Dr. Michael Bouton, our chief medical information officer. He is also an emergency room doctor at Harlem Hospital, along with Chris Rocher, our chief executive officer at Queens Hospital Center. Thank you for the opportunity to update you on Health and Hospitals' implementation of its electronic health

record system, or EHR. To clarify, an electronic health record system, EHR, is a tool that is used in every hospital or clinic to document clinical care. We all use some form of EHR in our own patient care. We call to schedule a doctor's appointment. We're registered when we arrive. The nurse will document our height, our weight, our medications, along with the reason we are there for the visit. The doctor will also document findings and may order tests, such as labs, radiology, or may order a process. We have all experienced emergency department visit. All these components, scheduling, registration, clinical documentation, orders, results, along with the other modules like emergency department, operating room, cardiology, lab, radiology, pharmacy, medical records and coding, and patient accounting all make up the collective EHR. Health and Hospitals has evolved over the last several decades using individual clinic systems at each of their 11 acute hospitals. That means that patient Kevin Lynch could go to Jacobi, then go to Harlem, then to Bellevue, and the provider treating Kevin Lynch at Bellevue would not have access to the patient records at either Jacobi or Harlem. Fast forward to today, where we have 10 of

our 11 acute care centers and 47 of 56 Gotham Ambulatory Care locations live on an Enterprise electronic health record system. Now when patient Kevin Lynch goes to Jacobi or Harlem or Bellevue or Coney Island, or any of the other patient care locations, the providers treating patient Kevin Lynch will have access to the complete patient record. And in 16 days all of our acute and Gotham Ambulatory Care Centers will be on the Enterprise electronic health record systems that we have named H2O. And that stands for Health and Hospitals Online. Currently we have over 45,000 users, 4.8 million unique registered patients. We have trained over 54,700 people with over 97,000 courses completed. Our revenue cycle has improved significantly over, ah, with over an increase of 20% charge capture and 55 million dollars cash collection cumulatively for our October 2018 Go Light sites that include Woodhull, Coney Island, Elmhurst, and Queens, plus the 27 Gotham Ambulatory sites. We have had an increase of 29% charge capture and 25 million dollars collectively for our March 2019 Go Light sites that include Bellevue, Harlem, and 18 Gotham Ambulatory sites, and an increase of 20% charge capture for our

July 2019 Go Light sites, including Metropolitan, Jacobi, Lincoln, and North Central Bronx. In early 2013 Health and Hospitals contracted with EPIC as our Enterprise electronic health record system. With the intention of deploying across all acute Gotham Ambulatory along with post-acute care locations, the budgeted amount was 764 million dollars. The project was initiated with the intent of implementing a standard Enterprise EHR throughout Health and Hospitals for clinical care and documentation. Soarian would be used for revenue cycle, which includes registration, medical records, and patient accounting. And this would be interfaced to EPIC. The timeline for completion was December 2018. In 2016 the first facilities to go live, Queens and Elmhurst, had challenges with the training and the adoption along with the revenue cycle clinical interface. In 2017, after the third facility that went live, Coney Island, with the Enterprise Clinical Instance interface to Soarian for revenue cycle it was decided to utilize EPIC for both clinical and revenue cycle, which added 289 million dollars to the project, which now totals 1.05 billion and extended the project timeline to late 2020. In 2018 we

accelerated the implementation timeline to be completed at acute Gotham sites by calendar year 2019. We also decided to utilize separate EHRs for both post-acute care and correctional health. Based upon the immediate need to get off legacy clinical products, our current version of EPIC at the time was not a mature model for either post-acute care or correctional health services. Both post-acute care and correctional health have successfully implemented their systems over the summer and fall of 2019. We allow appropriate access to the clinical data with the intent to integrate data using industry-standard tools, including interfaces, sharing data through standard formats, along with other integration platforms, such as EPIC Care Everywhere, EPIC Care Quality, EPIC Care Link, and EPIC Care Connect. Along with the health information exchanges, such as New York Care Information Gateway, or NYCIG, and Healthix. EPIC Care Everywhere, which provides the ability to share individual patient information with their consent when they are seen at other EPIC facilities. EPIC Care Quality is a platform to share patient healthcare information with their consent to non-EPIC sites. And EPIC Care Link supports external

providers to securely log on to Health and Hospitals instance of EPIC to place referrals for their patients who are currently being treated at Health and Hospitals facilities. EPIC Care Connect will allow the extension of our Health and Hospitals EPIC Instance to external providers. Some featured benefits and new functionality of H2O, our EPIC EHR, for patient and provider partnership focus include H2O offers a single patient record across all of our facilities. H2O provides alerts for providers when similar or contraindicated medication is being ordered. H2O reduces unnecessary tests and procedures. My Chart is our patient portal that allows patients to access personal information from computer, tablet or smart phone to view test results, communicate directly and securely to their health care provider, request prescriptions refills, make and reschedule reappointments, appointments. It also improves health and quality and safety throughout an early alert system, which notifies providers of patients who potentially have sepsis and guides tows evidenced-based treatment ports. It also has bar code medication administration across our inpatient care environment and it ensures the right medication

gets to the right patient at the right time with the right dose. It alerts to remind providers of the appropriate screenings, immunizations, or infection prevention protocol to follow. Some improvements for data governance and reporting along with analysis, H2O supports a single source of truth for clinical and revenue cycle data. It uses industry-standard Enterprise operational, clinical, revenue, and regulatory reports with the ability to develop and maintain Health and Hospitals specific reports as needed. With privacy and security we abide by, Health and Hospitals maintains HIPAA, which is Health Insurance Portability and Accountability Act of 1996 compliance. To share patient healthcare data, the patient must opt in and consent to sharing of their data, or there must be a legal exception for which the sharing of the data is authorized. H2O reports a detailed record of access to any sensitive data. Health and Hospitals maintains the security measures to protect our data in use, in transit, and in storage. This supports confidentiality, data integrity, and the appropriate availability of that data. The foundation of our IT security program is built upon NIST Cybersecurity Framework. Our

information secondary policies and standards are aligned with HIPAA operating process and direct the implementation of our security controls across our enterprise. Our risk management program conducts ongoing assessments, including compliance, counsel, supply chain, and independent expert vendor to conduct risk assessments and network penetration testing. Information security and awareness work force training is required annually and is supplemented with monthly newsletters, screensavers, and quarterly phishing exercises that reinforces security best practices. H&H has implemented a layered security platform, including intrusion prevention systems and industry-standard anti-virus tools that protect our circuits, switches, servers, and end-point devices. We encrypt all end-point devices, including hard drives, USB devices, and secure our mobile devices. We access H2O from a virtual desktop to ensure that electronic-protected health information will not be exposed to a local PC. Some of the new IT infrastructure and technical devices for this project have been IT's infrastructures, logistics address data center refresh, our wide-area network circuits, new network

cabling for required devices, including work stations, Wi-Fi, computers on wheels, patient-facing kiosks, laboratory label printers, facility-based network closets, construction need for power and cooling, and we consolidated a number of network printers and the need to print physical paper. New operational devices with standard workflows were implemented to support patient registration. Best practices included cameras to take and link the patient photo to their health record for patient safety, e-signature pads to capture the consents and link them to the patient's health record, bar code label printers to replace embossed cards for patient identification, and document scanners to link insurance card and ID and additional pertinent patient documentation to the patient record. We also included credit card swipe machines to collect co-payments at the registration desk. Our future path and next steps, our Enterprise health record system serves as a foundational tool to drive Enterprise standard integrated health system. We support and align our strategic health systems prioritize initiatives. We provide ongoing sustainable training and development to our staff. We augment and

optimize functionality based on clinical councils and operational business owners direction and we leverage the EPIC community industry-standard best practice. Thank you for allowing me to testify before you today, and we look forward to taking your questions.

CHAIRPERSON RIVERA: Thank you. Thank you for your testimony. I think we can agree, based on, and I know that the people here can't see this, but previously the old system was very disorganized, I guess is the word. It just didn't talk to each other and we all know that a lack of streamlined technology is just really a disservice, especially in the 21st century. With that being said, I want to ask a few questions about EPIC specifically and about some of the issues and information that is listed in your testimony, that I want to make sure we're on the record as fully understanding, and I guess we will start with the status of the EPIC rollout. I saw some issues that were being had with implementation and I'll ask about training in a few minutes. But what is the status of the EPIC rollout in terms of timeline, and I would also like if you can touch on the total price tag. I saw something in there on one point, ah, over a billion dollars, and so I just want

to make sure we get some of those facts and figures on the record.

KEVIN LYNCH: Thank you for that question, Council Member.

CHAIRPERSON RIVERA: Yep.

KEVIN LYNCH: Yes, our project is on time and on budget. We are, in 16 days we will be going live with Kings County and the affiliated Gotham and ambulatory clinics, and that will conclude our, our Enterprise implementation of H2O, or EPIC, across our acute and ambulatory locations. The 1.05 billion dollar was the amount that we budgeted and we are on track to keep that budget through the implementation.

CHAIRPERSON RIVERA: So you're on track to stay within the budget itself, you haven't gone over? I mean, initially you had, but.

KEVIN LYNCH: Yes, that is correct.

CHAIRPERSON RIVERA: So in 16 days when this last kind of facility is brought into the fold you will be fully on and operational technology-wise?

KEVIN LYNCH: Yes, and clinically.

CHAIRPERSON RIVERA: And clinically?

KEVIN LYNCH: On the same Enterprise electronic health record system on all 11 acute care centers, plus all the 56 Gotham ambulatory clinics.

CHAIRPERSON RIVERA: And the trainings, how are the trainings conducted, how long are they, who is trained and by whom, and has everyone been trained that you assume would have access to the system?

KEVIN LYNCH: Thank you. We have, we have a very strong training program. We have trained over 90, I'm sorry, 54,000 of our employees to date. We, we require training to have access to the system. So in this, we've been training for the last six weeks prior to every go live. We train each one of our clinicians and providers and anybody who uses the system has to go through a, a training that may last, depending on their role, of a half a day, or some of the roles require a couple of days of training. They have to prove competency, and if they have some difficulty with their training we have refresher classes or we're able to help them come up to speed with their competency in these training efforts.

CHAIRPERSON RIVERA: So you've trained 54,000 people so far?

KEVIN LYNCH: Across all of our, ah, entities.

CHAIRPERSON RIVERA: And how many more are to be trained? And how many people are in the system are employees of Health and Hospitals?

KEVIN LYNCH: So that was a great question again. The amount of people who have been trained equal the amount of people who have been accessing the application. So every one of our at Queens and Elmhurst, Woodhull, Coney Island, ah, and Kings County, all of the, of our end users must complete training prior to the end user. So we've counted 54,000 of our folks who are unique users today. Once Kings County goes live we'll probably add another, you know, six to eight thousand new users to the S.

CHAIRPERSON RIVERA: So one of the concerns, and I have to, I know we're going to hear from her later, but we have a doctor here who is going to speak to her experiences. She flew in from Texas. So I encourage you stay and listen to that testimony, at the very least. The concern is that, um, does the training include a component about using the system while in the room with a patient, right?

Because there's screen time and you want to make you're interacting with the patient and they're not glued to the computer.

KEVIN LYNCH: Yeah, um, nationally there's a difference by specialty and your practice environment, but about 50% of provider time is spent documenting. That's, that's a problem. Our notes in the United States are about three times longer than equivalent notes in Europe. That's a problem. While we're not immune to those challenges here at H&H, we really are committed to providing the most time possible to our patients, to our providers to have direct contact with their patients. So I can tell that our notes on average are actually shorter than EPIC notes in general. Our providers take less time in their notes than other systems. Now, if I come to you a year from now I hope to day that we've cut that down even further. We take this very seriously. We do everything we can to foster that doctor-patient, nurse-patient interaction. But it is a national problem.

CHAIRPERSON RIVERA: And I want to thank you, because you gave us an excellent presentation at Coney Island Hospital, and Council Member Treyger was

very hospitable. And I know you had come from Harlem. It is a, it is a big system. It's kind of a monster of a system. It reminds me of like Sales Force, like it could, it could do the things that you want it to do if you know how to use the parts of it that could really benefit the patient and benefit the doctor. And, you know, some people are concerned that, well H&H clearly financially we're all, we're all expecting H&H to do better financially and I know that you're on your way to doing much better financially, and that's important to everyone, including some of the hospitals who aren't always here to testify, and I thank you for always being present and giving testimony. But some are concerned that the system itself is, is really to ensure billing and, and coding, and I know that might not be a fair comment for you as someone who is devoted to his practice, but how can EPIC help improve the quality of care at H&H?

UNIDENTIFIED: It's a great question, thank you for that. So in my workflow as an emergency medicine doctor I constantly get alerts. You know, in our old system I would get alerts that were kind of general and what we're able to do in

EPIC is tailor it a little bit more specifically. I'll give you an example. Ah, ibuprofen, every time I, and this is a couple years ago, every time I'd prescribe ibuprofen it would tell me, thanks, yeah. All right, can you hear me now? Great. Every time I would prescribe ibuprofen it would tell me that it was nephrotoxic, meaning it was potentially damaging to the kidneys. Myself and a number of my colleagues, you know, we spent about a decade training for this, we all know the side effects of ibuprofen, and it's not really useful if you tell me that every single time. Where it is useful is I can look at what the patient's kidney function or what their diagnoses were and if it's, and if in this situation ibuprofen might be specifically dangerous. And that's the kind of thing that we're able to do with EPIC that we were not able to do before, is tailor our alerts to give the doctor and the nurse the right information for the right patient at the right time.

CHAIRPERSON RIVERA: So it's a, you're saying one of the biggest benefits of the system, and we've just been joined by Council Member Mark Levine,

thank you very much. Um, the benefit is just having the, the history?

UNIDENTIFIED: The history, a better means of providing alerts, a better means of providing alerts, but then the advantages, Kevin mentioned this earlier, I can, if I'm practicing at Harlem I can see the patient record from Bellevue, which is wonderful. I'll share with you a story that, Chair Rivera, I think I shared with you previously. But I was working in the emergency department at Harlem and I had a, I had a young child arrive in my emergency department and he was very sick. His oxygen sats were low, they were like 85%. And I went to, I went into EPIC and I saw that this child had been seen at another New York City institution that is not part of New York City Health and Hospitals, and I got the mother's consent. I went into the record and I got critical information on that patient that changed my care of this child. It led me actually to not intubate, or put a breathing tube down, that I might have done otherwise, and that would have been a very dangerous procedure for that child, and so I have, you know, more stories than I can count of very similar instances. So while I acknowledge that EPIC

has helped us financially, I certainly do think it's helped us from a quality perspective also.

CHAIRPERSON RIVERA: Are you tracking patient saturations.

UNIDENTIFIED: We are tracking, yes.

UNIDENTIFIED: So, yes, the answer is yes. So we are tracking it through [Preskini] and we use those scores to make ourselves more efficient, make sure that we're putting the patient in the center of everything that we're doing. Our decisions, our focus, and our operations.

CHAIRPERSON RIVERA: We've a council of providers, especially generalists who are struggling to meet the demands of EHRs while providing quality care. How is H&H meeting the needs of direct care staff as they utilize EPIC?

KEVIN LYNCH: You know, we talked about the initial training, which is important, but then there's ongoing training after that and that can involve retraining of providers or nursing staff that would like that. But it also involves one-on-one sessions to get them up to speed with what's the, what's actually available to help speed their workflows, and then there's kind of, there's a

concept of personalization, which is tailoring EPIC to your individual workflows, and this has been one of the highest, ah, it is highly correlated with physician satisfaction, and we offer that. So we do take this very seriously. We do want to make providers and nurses, their experience of EPIC as positive as possible.

CHAIRPERSON RIVERA: And how long does it typically take someone to really grasp the system, and what is your plan for like ongoing professional development?

KEVIN LYNCH: Yeah, great, great question. I will share with you my personal experience here. After my first shift I, you know, I was up to speed and I think I was as fast as previously. Within two weeks we become operationally as efficient as before. And I will say, what I was mentioning before around our ongoing training, we have credentialed trainers at all the institutions that do this ongoing training to get the providers, nursing, and other staff the know-how that they need to get to through their workflow as quickly as possible. At the end of the day what is important is

not documenting, it's the direct care of the patient and we try to ease that burden as much as possible.

UNIDENTIFIED: I would add to that, that during our, during the go live that we're about to, in 16 days at Kings County, we have a, a stabilization time period where we, we have a number of what we call at-the-elbow support folks that we, we have commandeered from our previous go live sites who have experience to help the, the Kings County in their go live effort. So we do have a stabilization time period where we have, during that go live we train them for the, you know, the several weeks before the go live. During the go live, during the first two weeks we'll have extra help at each one of the nursing stations and each one of the clinical care areas to help the folks acclimating the first several days and weeks.

CHAIRPERSON RIVERA: For those two weeks, who are, who are the people there to assist your staff?

KEVIN LYNCH: So it's a combination of professional services, staff that know EPIC that, that we have used in the past in other locations, and for this particular go live we're using a number of

our own resources, we're calling it Pay It Forward, Pay It Back. For instance, staff members from Queens and Elmhurst and Coney Island and Woodhull and Bellevue are all helping out with this stabilization effort while we're going live at Kings County.

UNIDENTIFIED: So think of it as, think of it as layered services, right? So we have certified people who are at our hospitals that are at the elbow helping our doctors, our nurses, and then we have super-new users that are doctors, nurses, they're not certified but they're super users. They feel good about the system, they can help their teammates and so those are the people who are actually going, well, to Kings County this go-round.

CHAIRPERSON RIVERA: OK, and last follow-up before I turn it over to Chair Holden. How do you become a super user? Is how much time you spend in the system? Is it because maybe a supervisor or someone who is directly involved with the implementation of EPIC has some sort of critical?

UNIDENTIFIED: So the super users themselves, those are people who are not certified, but those are doctors who, that feel very comfortable with the system, can offer help to doctors, nurses,

front-line staff. So they're, they're a part of the system, part of the hospital in the operations.

CHAIRPERSON RIVERA: And again, I just want to make sure that, that I heard we're, we are tracking patient satisfaction with their physicians and those interactions, correct?

UNIDENTIFIED: Yes.

CHAIRPERSON RIVERA: OK. We've been joined by Council Member Diana Ayala. And I want to turn it over Chair Holden, who certainly has a few questions.

CHAIRPERSON HOLDEN: Thank you, Chair Rivera. Just a follow-up on the chair's question, are doctors required to take training?

KEVIN LYNCH: Yes, all doctors are required. To get access to EPIC you need to go through training for EPIC.

CHAIRPERSON HOLDEN: Is there any pushback from some doctors to say this training is taking too long, because I can see their schedules and they would object to any new system that's rolled out, and we had one at CUNY when I was there. It was tremendous pushback.

KEVIN LYNCH: Yeah.

CHAIRPERSON HOLDEN: And it was also well over a billion-dollar software.

KEVIN LYNCH: Overall, I'd say training has been very well accepted. If your question is specifically has there been a few doctors who have pushed back on the length of training, the answer to that question would also be yes.

CHAIRPERSON HOLDEN: So what happens if they are deemed not proficient after the training?

KEVIN LYNCH: We have a system of getting one-on-one support to those doctors and then getting them retrained and retested to attest that they are functional to use the system?

CHAIRPERSON HOLDEN: And it's working?

KEVIN LYNCH: Yes.

CHAIRPERSON HOLDEN: OK, so far, all right. I have some technical questions on, you know, technology. Does the implementation process of EPIC address the following - EPHI encryption?

KEVIN LYNCH: Yes, we encrypt the, the data and we encrypt our devices also that are using.

CHAIRPERSON HOLDEN: So if somebody has, let's say somebody has a laptop and they open it, and

it's theirs, it will be protected if the device is stolen?

KEVIN LYNCH: Yes, we have, well, there's two layers to this. First of all, EPIC is presented in what's called a virtual desktop. So no, no data is actually reaching to the end point or the laptop or, in this, in this case. They're accessing EPIC. Access to EPIC is through what's called virtual desktop integration, VDI.

CHAIRPERSON HOLDEN: Or a mainframe or something like that's connected?

KEVIN LYNCH: Yes, so it's a, when they make the connection and have their session within EPIC and then discontinue there's nothing left on the end point device.

CHAIRPERSON HOLDEN: Is it, go ahead.

KEVIN LYNCH: In addition, the devices are, all of our devices, desktops, carts, which are the carts on the wheels, laptops on, on wheels, and laptops are all individually encrypted also, for their hard drives.

CHAIRPERSON HOLDEN: Is there an auditing function on EPIC?

KEVIN LYNCH: We do have an auditing function that tells how many users are in place, and they go down to the level of what data is being viewed by each one of the users.

CHAIRPERSON HOLDEN: Where is the information stored? Is it on the cloud?

KEVIN LYNCH: It is not on the cloud.

CHAIRPERSON HOLDEN: OK.

KEVIN LYNCH: We contain it through our data centers. There's a diagram, I think it's number five in your, in your, in the middle. There's two data centers, one at Jacobi and one at Sungard, and we host active-active instances of H2O or EPIC within our own, um, data centers and, and share it with a fiber network and then, ah, to all of our patient care locations.

CHAIRPERSON HOLDEN: Do the hospitals use Amazon Comprehend medical software?

KEVIN LYNCH: No we do not.

CHAIRPERSON HOLDEN: OK. You know, in April of last year H&H notified 595 patients of a missing laptop with their protected health information, including their names, medical resources, numbers, date of birth, hearing test,

whether a hearing test was passed. It appeared that a locked laptop was missing from the facility since January of 2018. Do you have any information on to how this incident occurred?

KEVIN LYNCH: I do not have, that device did turn up missing in an inventory, so that has also led to the implementation of our encryption of every single end-point device going forward.

CHAIRPERSON HOLDEN: According to HIPAA, patients have the right to access, correct, and sometimes eliminate information. What is the process for that.

UNIDENTIFIED: So we are actually a leader in this space and we, through My Chart, our patient portal where a patient can go on and look at their patient information, we provide access to our notes. So if they do recognize an error they would go to their provider and ask this to be corrected. You could also go to our HIM department, or health information management.

CHAIRPERSON HOLDEN: What number should they call if they want to access?

UNIDENTIFIED: It would be their actual facility at which they're being taken care of.

CHAIRPERSON HOLDEN: To have the access, OK, all right.

UNIDENTIFIED: Yeah, so they would actually come to the location...

CHAIRPERSON HOLDEN: They have to go.

UNIDENTIFIED: Go to HIM department. There would be a form to fill out and that's how that would happen.

CHAIRPERSON HOLDEN: All right, so there's a process, and they submit it and how, what's the follow-up on that? How long does it take, or?

UNIDENTIFIED: So I don't know how long it would take, um, it's a back-and-forth with the doctor, the patient, HIM director, um, it could take two weeks to four weeks.

CHAIRPERSON HOLDEN: So they shouldn't notify their doctor, they should just go?

UNIDENTIFIED: I mean, they can have a conversation with their doctor, but what, what has to happen, they have to go through HIM.

CHAIRPERSON HOLDEN: Have you heard about Google Nightingale Project?

UNIDENTIFIED: Yes, we have.

CHAIRPERSON HOLDEN: And? Does any New York City hospitals work with Ascension?

UNIDENTIFIED: No, we do not.

CHAIRPERSON HOLDEN: OK. OK, Chair Rivera, I think that's it for me. Thank you.

CHAIRPERSON RIVERA: I wanted to ask about Chair Holden asked about the physicians and how you track physician feedback. How has that been going?

UNIDENTIFIED: So we, we have not performed a formal survey to look at how physicians are responding to the system at this juncture. We have committees in every single hospital that focuses on this, that feed up to our central offices, where we address concerns and optimizations.

CHAIRPERSON RIVERA: I'm sorry, can you talk a little bit more about it, about how?

UNIDENTIFIED: There's a, yeah, if there's a concern with the record at, about how EPIC is functioning at this point. You're a provider at Bellevue. You would bring it to, you would bring that concern to the Bellevue leadership, who would then try to get the person trained to use the system appropriately, and if we've figured that they're, and

if they identify something that should, can be corrected, we correct it system-wide. We correct system-wide for all of the facilities so they can all benefit from that.

CHAIRPERSON RIVERA: So how often have those improvements been happening since you first launched it?

UNIDENTIFIED: We make constant improvements to the system and I anticipate us making constant improvements to the system for the next many years. I think we are a learning health system and that's part of our commitment to this.

CHAIRPERSON RIVERA: Because in your testimony you say we strive to free physicians from the EHR to spend more time in direct, uninterrupted contact with their patients and we have significant work to do in this space.

UNIDENTIFIED: Yup.

CHAIRPERSON RIVERA: So since you are constantly trying to improve the system, roughly what would you say were some of the biggest complaints, the biggest issues, roughly how many times have you made improvements, fully understanding that this is a work in progress and you want it to be the best?

KEVIN LYNCH: So I'd say that the, you know, if you look at how we've evolved from 11 different independent clinical systems to one Enterprise system, just the logistics of getting everybody to, changes that were made at Queens Hospital affect Harlem and Bellevue. So getting the clinical councils together to work as an enterprise, that's, that's the work that faces us in the next year. Dr. Bouton mentioned many different optimizations that come through these clinical councils and decided and prioritized to ensure which ones are the most important, which ones we should and how we will implement those optimizations. We also have to balance that with our go live schedule that is in flight.

CHAIRPERSON RIVERA: Understood. I realize it's going to be a work in progress. Understanding that technology is ever-changing, do you think that based on the 15-year contract with EPIC that in 15 years that this will be technology-wise up to standard? Will it be still trending? Will it be relevant?

KEVIN LYNCH: That's a great question, Council Member. I would say technically it, I would

say and that's probably the easier part of this, technically we will have a, an industry-standard best practices class voted electronic health record system using EPIC deployed across all our, all of our locations. Technically that will be, we will be at a very high level. Clinically, we are making great strides and I'd lend to Dr. Bouton for his perspective.

DR. BOUTON: Clinically, we've already seen great improvement with the electronic medical record. You know, EPIC, the question is specifically about EPIC as a product and where we're going to be at 15 years at the end of the contract. When you look at the 10 top health systems in this country, and they all use EPIC at this juncture, and I said we're part of a learning environment. We learn from them, those 10 health systems as well.

CHAIRPERSON RIVERA: I realize they have a large market and I think some would call it a monopoly, but I realize it speaks to their reputation. I wanted to ask, in my testimony, I mean my opening statement, I mentioned how over half of the respondents in the Kaiser Family Foundation's report, they said they were very concerned and had

actually noticed some errors in their personal health in their record. However, you said that it actually supports the hospital's ability to prevent medical errors. So can you speak to how EPIC has been successfully in kind of rebutting what I think many, the public's perception? And, really quickly, we have been joined by Council Member Francisco Moya.

DR. BOUTON: So areas where we've specifically shown benefit, we mentioned sepsis in our testimony. Today we have, if a patient shows up to the emergency department we have a means of flagging patients at risk for the serious and life-threatening condition and directing the physician, or suggesting to the physician what would be the best practice for this patient. Now it's ultimately the physician's decision on what to do, but we suggest to them the Enterprise standard and national standard best practices on what to do. And this is, I think this is hugely beneficial. It makes the physician's life easier. It allows speed of care and it ultimately will improve patient outcomes, which is our, I mean, patient-centered outcomes is what we ultimately care about.

CHAIRPERSON RIVERA: Do you know how many FQHCs and providers use EPIC in the city, by any chance?

KEVIN LYNCH: Unfortunately we don't have that exact answer. We could come back to the council with that after discovery.

CHAIRPERSON RIVERA: And what I'm asking is whether any FQHC can access patient information from H&H systems?

KEVIN LYNCH: Got it, yeah. So there's a variety of mechanisms...

CHAIRPERSON RIVERA: And even if they don't use EPIC.

KEVIN LYNCH: Right, yeah, yeah, there's a variety of mechanisms. So we talked about Care Everywhere. If you do use EPIC we can share data. We've also signed up for the Care Quality, which is a national framework for sharing data across, across electronic medical records, regardless of who the vendor is in that space. And I'd also bring up here our regional health information organization, or RHIO. Anybody who participates in that we'll be able to share data with. So if an FQHC is part of the RHIO we will certainly be able to, and even if

they're not part of our individual regional health information exchange organization, there's an other statewide agency called the SHINY, or Statewide Information Registry, where they all, where they all share the data. So the vision of sharing data across practices regardless of state, regardless of electronic medical vendor, is something that we're deeply committed to and have taken many steps towards.

CHAIRPERSON RIVERA: So eventually they will be able to talk to each other, or can they talk to each other now?

KEVIN LYNCH: I'd have to look at the particular case, but we do provide the ability for them to all talk to each other, and then there's also something called EPIC Care Link, and I'm sorry for all the jargon here.

CHAIRPERSON RIVERA: I'm writing it all down.

KEVIN LYNCH: Yeah, yeah, but this allows people that are not physically part of H&H, but if they have a relationship with us to actually get access to our record, if we share patients in common.

CHAIRPERSON RIVERA: I mean, it's important, right? We want a patient's experience to be as seamless as possible, considering they're dealing with such a sensitive moment, regardless of even if it's just a general checkup. And so we want different centers and however small or large your corporation may be, we'd love if they were talking to each other. It does, it does leave the question of the security that Chair Holden brought up, and I know that we mentioned Nightingale, which will probably at some point get its own Congressional hearing, but that's not why we're here, and that's being run with the major US hospital network, Ascension, to help analyze data from their EMR resources to identify macro healthcare solutions at their hospitals, and of course people are concerned that Google could use this data for marketing in the rest of its system, right? This is a big, big concern, and as was mentioned health data is probably the number one pool of information that people look to hack. So is H&H working with or planning to work with any third parties to conduct EHR data analysis?

KEVIN LYNCH: We do not, we do participate in certain third-party elements. Each

one of those has to go through an extensive security and privacy review from our, and sign business associate agreements. We are very, we guard our patient health information very seriously. So, ah, if there's ever any hint of nefarious use we will, we will not participate in that. We do have, um, healthcare, our health plans that we have to share data with for payments and other related elements. Any third-party elements that we do share has to go through a significant and detailed security and privacy review.

CHAIRPERSON RIVERA: Do trainings include a data security component to it?

UNIDENTIFIED: We have general trainings that go over data privacy and security.

CHAIRPERSON RIVERA: And so just to confirm, you did mention a couple of partnerships that you have. Can you outline some of those partnerships? I wasn't quite clear.

KEVIN LYNCH: Some of the health plans that we share contracts with to provide care and get payments for them, we have to share appropriate billing information back and forth, for the, for those covered patients and the payment back to them,

so that's an example of a third party that we partner with.

CHAIRPERSON HOLDEN: Just to follow up on that, so you share the data with insurance companies, obviously. But what other entities other than billing or?

KEVIN LYNCH: It's limited to, it's limited to, ah, you know, anything that is direct patient care treatment and billing.

CHAIRPERSON HOLDEN: Can you give me an example?

KEVIN LYNCH: Um, well, we have EPIC, ah, we interface to Cerner for our laboratory activities. So there's an actual HL-7 interface that travels information back and forth for, for a, our lab system, which is not part of the integrated EPIC system. So they're bound by all HIPAA and state and federal guidelines, and also data transit.

CHAIRPERSON HOLDEN: So the third parties are not, they can't share data for marketing purposes at all?

KEVIN LYNCH: That is correct.

CHAIRPERSON HOLDEN: OK. And we know that they don't, right? Even though they signed something?

KEVIN LYNCH: The business associate agreement ensures that they, any third party partner of ours is, is responsible for the security of that, ah, the data that is shared. And it is only, it is only to be used for the patient care.

CHAIRPERSON HOLDEN: OK. Thanks, chair.

CHAIRPERSON RIVERA: I'm thinking of whether the third-party system has like a cloud in the business aspect of that information and in terms of the number of companies that become involved with this data, we're really just trying to get on the record for how important it is for H&H to not only be transparent about its partner companies and about its affiliations and the reality of doing business, but to be very clear with us so we can relate to our patients that their security is safe. So I know that there is, that's why you have some help to make sure you can say things clearly. Would the cloud provider be a, be classified as a business associate and therefore have access to the data?

KEVIN LYNCH: So again any partner that we have as a third party has to go through a significant and stringent security and privacy rule, that, that, a review from our council and compliance and IT security teams. I'm not, which includes review of how their data is in transit and storage. So, ah, I'm not aware of any cloud-based elements that we're sharing data with. That has to be part of our security review. And we do take the, with great measures to protect our patient data.

CHAIRPERSON RIVERA: So let me ask it a different way. Are you working with any companies who do data analysis exclusively?

KEVIN LYNCH: No, we are not.

CHAIRPERSON RIVERA: OK. I wanted to make sure if my colleagues, if you have any questions.

COUNCIL MEMBER AYALA: My question is are you sharing this information with pharmaceuticals? Do they have access to this information?

KEVIN LYNCH: Could you repeat the question, please?

COUNCIL MEMBER AYALA: Do pharmaceutical companies have access to our medical records via this network?

KEVIN LYNCH: They don't have, the pharmaceutical companies do not have access to our, our clinical data. Or revenue cycle data.

COUNCIL MEMBER AYALA: Is there a way to be one hundred percent sure, by knowing exactly who you are partnering with organizationally. Is it, are you one hundred percent confident that you know exactly who they are doing business with and who they're able to potentially sell this data to?

KEVIN LYNCH: Again, we take great measures to protect our patient data and we feel confident that our business associate agreements, our security and privacy reviews, ah, protect our patient data in that same fashion.

CHAIRPERSON RIVERA: We're just concerned. I know there have been some security issues in the past and we want H&H to be successful. Please, please understand that. You're the most important, in my humble opinion, public health system in the country, and I want to make sure that we are being helpful, so we're asking you tough questions,

because sometimes we're not quite getting the answer, you know, so we have to ask you a different way, and I get that, and I know Chair Holden has another question.

CHAIRPERSON HOLDEN: Yes, thanks. Are there, in this contract with EPIC are there a number of, unlimited upgrades as we go through the years?

KEVIN LYNCH: It does cover the upgrades through the contract time period. Interestingly, we just completed successfully an upgrade to a platform version from last Thursday over the weekend. It's been very successful. We plan other upgrades on a timely fashion. I think our next upgrade is scheduled in November of 2020.

CHAIRPERSON HOLDEN: Has the company mentioned when you do an upgrade it might be drastic and needs more training? Are they, are they notifying you of that?

KEVIN LYNCH: It all depends on the scale of the upgrade, and I can't get into specifics because truly every upgrade would be different. As a general rule we do not require in-person again on a scale of one to two days. We would, we would do this through departmental meetings and have credentialed

trainers go to the providers, go to the nurses, go to those meetings and do it in that manner.

CHAIRPERSON HOLDEN: And have there been upgrades since the contract was signed?

KEVIN LYNCH: Yes, we just, we just finished one last week, which was a significant upgrade, which we, we accomplished with, and as you, as you outlined, we knew exactly what the changes were and the differences. Sometimes you look at this at, like an upgrade to your phone. Sometimes they're, you do that upgrade and you don't really notice a difference. Sometimes you do the upgrade and there's some significant differences. When we have those significant changes we will be giving the appropriate training to the right folks that will be affected going forward, and there's time to plan for that. So, as you said we, we're planning the our, the next upgrade to be in November of 2020. During that time period we'll evaluate what those changes will be and make sure that we have the right train, we train the right elements for the changes that will take place.

CHAIRPERSON HOLDEN: And did they do any, I mean, did you notify them of any bugs that you're

seeing in the system and/or things that could be made a little and are that accommodating you on that, or is there pushback?

KEVIN LYNCH: Yes, we, we, no, we have a very transparent and open relationship with them. When we find, ah, when we find elements that need to be corrected programatically within their application we have an escalation method to notify them and track the remediation of it.

CHAIRPERSON HOLDEN: OK. Thank you, Chair.

CHAIRPERSON RIVERA: I just have one more question and it's about our physicians again, because I know that's, that's why you're here. We want to make sure we're preventing burnout, right? So I guess my last question is are you considering hiring more scribes to help with physicians and do you think that additional charting hours for this, particularly at home, which we're hearing from some of the doctors, they have to take some of this work home with them, right? That's supposed to be like your time. And will all of those hours that they're putting in to ensure that the data is entered and collected lead to

doctor burnout and I guess my real question are you considering hiring more scribes to assist them?

KEVIN LYNCH: I will try to take all of those at once here. Those are great, those are really great questions. Physician burnout is a national problem. We have that problem here. I just want to say this. We are really committed to reducing the burden of the electronic medical record and playing to its strengths in areas that it can help the physicians and help the nurses and ultimately help our patients. There's many tools that we used and scribes are certainly one of them. They're not the right answer in every situation. They are in some. Voice dictation is the right response in some areas. Expediting work flows, so if a patient comes in with strep throat there's a pre-defined algorithm that you go through so we can make, we can ease the burden of documentation for those common conditions, suggests the right patient discharge instructions, and that reduces the physician's time documenting. So it's, it's all of the above is the answer to your question. And yes, we do look at scribes.

CHAIRPERSON RIVERA: So you are looking to hire more scribes?

KEVIN LYNCH: We do look at, we do, I'm not particularly aware of us looking to hire more scribes at this moment.

CHAIRPERSON RIVERA: OK.

KEVIN LYNCH: We have used scribes and we do routinely evaluate it on a case-by-case basis.

CHAIRPERSON RIVERA: OK. OK, I just want to thank you for being here and for giving us time to answer some of our questions. Again, I want to ask that you stay to hear some testimony we have. A couple of physicians who are here who want to speak to this issue and I think it would be helpful for all of us to try to do the best thing for our patients and the physicians and staff at our hospital system. So thank you very much, and with that I'm going to call the next panel.

KEVIN LYNCH: Thank you very much.

UNIDENTIFIED: Thank you.

CHAIRPERSON RIVERA: Thank you. I'll see you in Queens.

UNIDENTIFIED: Yes.

CHAIRPERSON RIVERA: I'm going to call up Dr. Judith Thompson, who is here from New Braunfels, Texas. Did I say that correctly? Thank you so much for being here, by the way. It's a pleasure. Thank you. Is Leah Houston coming up? Yeah, you could sit at the, and then we have Varoon Mather, and please let me know if I mispronounced anyone's name.

VAROON MATHER: You got it right.

CHAIRPERSON RIVERA: I got it right? Thank you. Yeah, you get to take a seat and then we'll just go one by one, and then if there are any questions from the committee, OK, the Sergeant at Arms will get your testimony. Give us a copy. However which side you start, we'll go through each and everyone of your testimony, and then should we have questions for you, hopefully you'll be able to answer them and, and just thank you for being here. Can we start with you, Doctor?

DR. JUDITH THOMPSON: Thank you for the opportunity to speak to this council. I'm Judith Thompson. I'm an independent solo general surgeon from New Braunfels, Texas. But I'm here representing Practicing Physicians of America, a physician advocacy group which is committed to patient safety

and physician autonomy. I'm also representing the Free to Care Movement, which is 22 advocacy groups across the country, about three million citizens, 37,000 physicians, and it continues to grow on a daily basis. I'm speaking also on behalf the Citizens' Council for Healthcare Freedom, founded by Twyla Brase. Twyla is a expert on HIPAA policy. She's written a book about it. I learned about this opportunity yesterday, so if I had a little more time I would arrange for you to have the book, and it's not too late if you want it. We can see to it. But Twyla sent me a text yesterday, and she is an expert and I am not. I'm an independent physician who saw this as a very important opportunity, so I stopped what I was doing, rescheduled my clinic, jumped on a plane last night, and when I'm done here I'll get on a plane and go back home, and be in the operating room in the morning. But this is very, very important. You guys are asking the right questions, and they are very important questions. It is hugely refreshing to hear somebody stop and ask about the safety of the data, patient safety, and a number of other questions that I'm going to address, and I'm going to truncate my testimony so that you guys can

ask questions. But let me read to you what Twyla wanted you to know. Too many people do not understand what the electronic health record is and because of that they're making decisions based upon false understandings about why it was put into place. I'm happy to help bring these facts to the committee to help them understand the truth about this issue. One more thing - please do not forget to tell them that HIPAA is not a privacy rule. We all believe that because we're told that and as physicians we are obliged to provide for patient safety, but it's my understand and Twyla would love to give you more information. The operation side is not obliged to the same standards. HIPAA is a permissive data-sharing rule that allows what's happening between Ascension and Google. People think that HIPAA is a privacy policy. That is one of the greatest deceptions ever foisted upon the American people. In short, the electronic health record facilities what HIPAA allows. Part of what got my attention to come here and share some information with you all yesterday was perhaps, and correct me if I'm wrong, the question of why has the electronic health record not addressed the access to patient safety, cost

containment, quality of care, and patient safety. And why has the electronic health record been a primary instrument in the ushering in of the phenomenon of physician burnout, which is driving physicians out of practice, into early retirement, or into committing suicide. I'm not going to blame the electronic health record for that in and of itself, but physician suicide rates are as high as they have ever been in the history of medicine. I'm not an IT expert, but I am a physician who in 24 hours stopped what I was doing to come here and answer these questions. Health, electronic health records fail to address cost, access, quality, and safety because that was not the initial intention of the development of the software program. The intention was to gather our most private and personal information and deliver it to third parties, commercial and government, who use that information to manipulate, mandate, and ration healthcare services. Secondly, the electronic health records were designed to be coding and billing tools, which you obviously are aware of. They have effectively diverted revenue into the hands of special interests, who influence our legislators to maintain and persist with a system that progressively

transfers cost onto patients and clinicians, driving clinicians out of business and patients into bankruptcy. Electronic health records have reduced access to care. As you well know, the amount of time that we have to spend entering information into the EHR quite simply takes away from patients. There are so many minutes in a day. There's reduced safety. I gave you all information, including a document from Health and Human Services, albeit from 2010. Not much has changed since that time in terms of confusion and likelihood of errors that are transmitted through the electronic health record system. With reference to the term quality, quality has been speciously used. What it really means is physician compliance with data acquisition and entry into the electronic health record. If we do not gather the information that is required by the record and enter it, then we are not meeting quality metrics, whether it has anything to do with your healthcare needs at the time. And we become subject to a decrease in pay, sham peer review, or even loss of employment and black-balling, so that we can't become employed elsewhere. Presently I remain independent, but those are threats that I'm

potentially faced should I need to become employed to meet my financial obligations at home. And then last in terms of cost. I think you have had first-hand experience with the cost of the electronic health records. There's the initial hardware, there's the software, there's the support, there are the continuous upgrades, there's training and the time necessary to, ah, teach clinicians, not only physicians but everybody involved. Those are huge cost issues, without evidence of improving healthcare quality, without evidence of improving safety or access to care. So electronic health records have failed across the board. So it sounds like you guys have taken the dive and you're probably committed. I think the most important message that I would like to bring to you today is the misunderstanding that we all have that this is piece of software was rolled out to serve our best interests. And we have ample data. The revenue streams have been redirected. The CEOs of the companies and the special interests, the hospital systems, insurance companies, IT, and so on are making profits, historical profits. We've never seen anything like it. Where that money is going I can only speculate. So we just need to be honest

with ourselves about what we're doing. And put yourself in the hospital bed now. When I arrive, let's say I'm an employed physician. I begin to take a history from you, and you suddenly wonder why I'm asking you questions that really have nothing to do with why you're there and it's rather on the personal side. If I don't ask those questions and if I don't enter that information into the electronic health record I'll be called before the executive board and asked to explain my behavior and potentially experience the ramifications of not doing so. And you're a witness right now, what's happening with Ascension and Google. This is, this is just the beginning. Personally, I wonder if this is a threat to our national security. Google is a worldwide organization and it's easy for me to imagine that they will enter into business contracts with many other healthcare organizations and what they'll do with that information I just don't know. Thank you very much for this opportunity.

CHAIRPERSON RIVERA: Thank you, and I just wanted to say that I know we're in a different time zone technically, but if I had any questions

about some of the information that you gave us I hope that we can stay in touch.

DR. JUDITH THOMPSON: Please do, yeah.

CHAIRPERSON RIVERA: A little red light is on, because then I can hear you a lot better.

DR. LEAH HOUSTON: Hello, hi, thank you so much for having us and giving us an opportunity to speak. I'm going to echo what Dr. Thompson said. When we heard some of the questions we were very grateful to hear that you were paying attention to some of the most important questions that we've been having for many, many years. Interestingly, I'm echoing a lot of what she said in this, but I do want to explain why I'm here. I'm an emergency room physician in practice for 10 years and I'm currently the founder of a company that aims to give privacy to physicians around their data as practicing doctors in order to allow them to interact with patients, especially as we talk more about telemedicine and things of that nature. Transparency and who is on the other end of that, knowing their credentials, knowing their qualifications, and being certain of that. There's new secure technology that is a decentralizing technology that isn't kept in

centralized systems. And a lot of these data breaches that you mentioned, the reason that these breaches occur is because the data is being kept in centralized systems. And to date that's really the, the only available option that we have, which is why that's what is being implemented. But I do strongly feel that 15 years out that is not going to be, the current system is not, is no longer going to be useful and these new decentralizing technologies that allow for self-sovereignty allow for data ownership, allow for privacy protection, are going to be implemented, or at least that's my hope. So there was a quote that I saw in an email thread that came through this invite, and it said that studies show that while EHRs have improved billing processes they have yet to really improve patient health. And although we can hear anecdotal stories of children that don't need to be intubated or, you know, alarm fatigue issues that are being alleviated, overall I tend to agree that EHRs are doing more harm than good. You know, we as physicians are the ones who took an oath to put patients first above all else. We predicted this long ago. We were ignored. Those who designed and implemented EMR technology did not

take our concerns, the concerns of the physician community, into consideration and therefore the technology is not providing benefit. I appreciate and commend that you're giving me an opportunity to testify as a physician who has seen and experienced the harm caused by EMR. Since the inception of [High Tack] in 2009 we've watched in horror as this technology has forced its way into our exam rooms and led to an assault on the doctor-patient relationship. Medical resources were historically created for communication from physician to physician in order to best coordinate care for the patient. It later became a form of evidence for malpractice attorneys and later as HMOs gained market share it began to be used as a tool to capture information for billing and coding. The [High Tack] app allowed industry, special interest, to control the narrative around how these systems were designed and it has been those industries that have benefitted. Meanwhile, the patients, the ones who should actually matter, are seeing no benefit because they were not truly considered. Our patients feel ignored and we've been mandated to ignore them or risk our jobs or our livelihoods, as Dr. Thompson mentioned. This is a

government-mandated, uncompensated, administrative burden that is taking time away from our patients. The time that used to be utilized to think critically about complex patient problems has now been misappropriated to clicking boxes to capture meaningless metrics. Alert fatigue, copy and paste, and forced clicks to proceed have left us with useless, inaccurate, and dirty data, and an inability to see the actual clinical picture. Physicians are spending more time with EMR than they are with their patients and this is why we're frustrated and exhausted, to the point that we're leaving our practice and dying by suicide at faster rates. We didn't discuss this beforehand, so this is a real problem, obviously. Electronic health records are inefficient, not interoperable, and an intrusion on the doctor-patient relationship. Because EMRs are now mandated, health systems, insurance companies, and EMR companies now have our patients' protected health information and we no longer have the rights to protect it as physicians. Cerner and EPIC now control nearly 50% of the market. Why do private companies have so much control over the practice of medicine and the structure of medical documentation?

In many ways, and in my opinion, this has been a government-sanctioned, human subjects research experiment that they never sought proper informed consent for. I commend the ONC's 21st Century Cures Act acknowledgement of some of these problems and hope that they follow through on implementing the interoperability and enforce the penalties for information blocking, as they promise. In addition, more needs to be done to preserve patient privacy, as patients need to be assured that they can be honest with their physicians in order to obtain the best care. We talk about consent. I just want to add something about that. Informed consent means that I discuss the risks, the benefits, and the alternatives. My mother is suffering from leukemia right now. She is not being given any type of informed consent around what they're doing with her data that they're putting into those EMRs. And there has been at the hospital she is at, I'm not going to name names, there has recently been some news about them using patient data inappropriately. So it's a concern for me as a physician and as, you know, a caregiver. So there's some pictures here, I took some snapshots of some Twitter comments from

patients. They're really feeling like they aren't able to get the care that they need, and this is all interrelated. And there's one additional and unfortunately far more insidiously problem occurring that I must draw your attention to. Based on my experience and review of currently available information, I have reason to believe that the data we're being forced to generate as physicians is not being analyzed to improve patient outcomes, as promised, as much as it is being analyzed to improve revenue streams. The cost of care is going up. The value patients see is going down, and the payment for services is being increasingly denied and reduced. It's now clear to me that we as physicians are being forced to mine our patients' private health data for industries who seek to extract value from rather than provide value to patients. No wonder US life expectancy is now decreased for two years in a row. Surveillance capitalism has reached our exam rooms and patients are dying. Considering our recent experience with the Cambridge Analytica scandal, this concern must be taken seriously as a potential threat to the health of our nation.

CHAIRPERSON RIVERA: Thank you, and thank you for sharing your story personally and how you're concerned.

VAROON MATHER: Good afternoon, Chairpersons Rivera and Holden, and members of the Hospitals and Technology Committees. My name is Varoon Mather and I currently serve as a technology fellow at the AI Now Institute, an interdisciplinary research institute at NYU, focused on the social implications of artificial intelligence. Thank you for the opportunity for me to testify today on privacy and security concerns regarding electronic health records. The rapid development and implementation of machine learning algorithms and data sharing partnerships to the healthcare space bring new challenges around privacy, security, and patient identifiable through EHR data. These new developments raise two key questions. One - how does our definition of protected health information, or PHI, change in the age of AI algorithms, given their predictive capabilities which can disclose sensitive information, even absent PHI. And two, how do we assess the utility of EHRs in building more advanced algorithms for better patient care? New research

suggests that the rapid development and deployment of clinical AI tools, absent regulatory oversight, leaves patient vulnerable to privacy and security breaches. Under HIPAA, PHI data is characterized as data that directly and uniquely ties to an individual, with examples including names, birth dates, and email address. De-identified data therefore would be the removal of such categories from a potential EHR dataset. However, new research shows that it is possible to link two de-identified EHRs of the same patient but from two different data sources accurately using computational methods, so as to create a complete history of a patient without using any PHI of the patient in question. Similarly, last month a *New York Times* article reported new research that showed it is possible to create a reconstruction of a patient's face using de-identified MRI images that could then be identified using facial recognition systems. These examples demonstrate how vulnerabilities within large technology infrastructure present serious security and privacy challenges for the collection and use of EHR data, and that these may be beyond the reach of HIPAA protections. But trading the privacy and

security of individual patients in order to leverage precision clinical care incorrectly assumes that EHR data are inherently viable for training of machine learning algorithms and models. Research, for example, conducted by Dr. Elizabeth Kazunis, a post-doctoral fellow at AI Now, demonstrated the ways in which the social construction of health data results in a failure to capture important types of health information for the patient. Given the large number of world-class health systems in New York City, this committee has a unique opportunity to spearhead citywide legislative efforts that can address current challenges. We provide three forward-looking policy recommendations that this council could pursue, which are detailed in my written testimony. But one, require New York City Health Systems procuring AI and ML solutions to conduct algorithmic impact assessments as part of notifying and obtaining consent from patients. Two, require New York City Health Systems to publicly state whether social media data is combined with EHR data for patient surveillance or monitoring of patient well-being. And three, conduct citywide disparate impact evaluations around the current uses of EHRs in order

to identify potential socioeconomic disparities arising from the use of AIL and ML health solutions with EHR data. Thank you very much.

CHAIRPERSON RIVERA: Thank you so much for your testimony, and I just want to ask about AI Now. So you are, can you tell me a little bit about the group?

VAROON MATHER: Yeah, absolutely, thank you for the question. The AI Now Institute is an interdisciplinary research institute that focuses on trying to understand the social impacts of technology, especially artificial intelligence, within communities. So we have a team of research scholars that focus on the law and policy aspects of artificial intelligence , the historical significance of artificial intelligence within communities, how are communities impacted through ethnographic data that we collect and share, ah, that we collect and publish as a research institute, and we also talk about the security and privacy concerns around AI as it impacts how we define and think about surveillance and security. We are also, just to add, sorry, we are housed at NYU, so we are an academic research institution.

COUNCIL MEMBER RIVERA: Thank you. I want to recognize that we've been joined by Dr. Mathieu Eugene. In terms of, I just have one more question for you about this, because you are studying AI and we all know that's it here, it's been here actually for a long time and it's as common as writing an email, right? Are you looking at how, I guess on a grander scale would you say that the technology that is being used specifically and directly related to EHR is probably one of the greatest threats to how you look at data and how it impacts adversely certain communities that have historically, um, I guess been under threat.

VAROON MATHER: Yeah, thank you for the question. There's a key example that I detail in my written testimony at the end where a recent team from Berkeley were able to show that data, that algorithms built on top of patient data showed that an algorithm was recommending less care for black patients based on the fact that healthcare costs were used as a proxy to understand how high risk a patient would be. That's problematic because even though the EHR data might be capturing some patient information, it's not capturing the problem within the sociotechnical

context, which is that black patients on average are getting less access to care, and so we see electronic health records as being marketed as this new promise for big data analytics in which hospital systems might be tempted to think that better patient precision care could be built up EHRs. And new research now is showing, at least from what we are seeing, is that this is highly problematic, um, without proper auditing.

CHAIRPERSON RODRIGUEZ: Thank you, thank you for kind of reading into my question and being very honest about some of the data and those results and outcomes that we know have historically poor communities of color. Are there any questions from members of my committee?

CHAIRPERSON HOLDEN: Dr. Thompson, thank you for coming all the way here to New York City with information. Now you use EPIC and you said that they ask so many questions of the doctor that are not related to the particular patient. Why are they doing that?

DR. JUDITH THOMPSON: I do not use EPIC. I use Allscripts and Medicheck. I am in contact with colleagues who use EPIC and there's a great deal of

overlap of all four of the systems, but I can't speak directly to that. The supposition is that this information is being gathered to manipulate population health, manipulate the behavior of physicians, develop healthcare delivery algorithms, and frankly to ration care. The special interests have their hands on the money. You and I open our checkbooks and deliver a check to them on a regular basis. The government has a limited amount of money to pay for healthcare expenditures and the less they pay the special interests the more they get to keep. So the more personal private information they have on us, the more that they can use the analytical information to predict our behavior and likelihood of compliance and use that information to inform and guide physicians about how to implement treatment strategies.

CHAIRPERSON HOLDEN: So do you have any suggestions for improving the system or addressing what, how the patients can protect themselves? Is there, or should Congress do something? Do you have any suggestions, I mean?

DR. JUDITH THOMPSON: Yeah, the problem with Congress, if you well, and we have been there

and I'm going to quote Tom Massie, who is an independent from Kentucky. He said don't you understand that the lobbyists are in our offices every day telling us how to vote? And I told him yes, and I know that you know that my office is open and I bought an airplane ticket and I came up here to discuss with you what we think is important, boots on the ground level, and if you have a moral dilemma with who you're going to listen to let's hear about it right now. But the point being that the medical lobby in Washington, D.C. spends more dollars than all of the other lobby groups combined. The profits that they're generating right now are historical across the board. So data is being gathered, it's being moved in a way that's very profitable for the organizations, and billing and coding is being directed in such a way that, again, the revenue streams have been redirected into administrative and executive suites and away from clinicians and transferring those costs onto the shoulders of citizens.

CHAIRPERSON HOLDEN: So who's protecting the patient in Washington?

DR. JUDITH THOMPSON: There are a number of advocacy groups and there are grassroots advocacy groups all over the country. I've been involved in physician and patient grassroots advocacy since 2014 and in 2014 when we started there were about 30 groups across the country. They were very small. That's not one advocacy group per state. And now the, there is what I perceive to be a traffic jam or a growing hurricane of citizens and physicians alike who are finally getting their noses up off the grindstone and saying we have had enough and we object to what's happening. But it is very time-consuming and very expensive and you do you have to develop a personal relationship with your legislator. You have to stop what you're doing. You have to become informed, and when you get you have to be persuasive, and you have to be persuasive against, you know, special interest lobby money. So it's a, it's a challenging feat. But what better time, what better thing to do with our time and interest? I think I'm, this is my giving back to the country, personally. So how do patients protect themselves? I don't think we have a way to protect ourselves, not right now. And how can things be improved? I think

that the existing electronic health records systems that are, what, 10 or 15 years old and patched upon patched upon patched probably need to be disposed of and a new functional healthcare technology. I don't disagree that technology is going to be an important part of how we all communicate and share information with each other and in our society in the future, but using these antiquated systems that were developed, to the best of my understanding, by graduate students when the high tech act was implemented about 2009, and the government put a bunch of money on the table and suddenly companies popped up and created a software product that, ah, was intended very specifically to redirect the money. Follow the dollar. Any of us who were in politics long enough learned that that's ultimately the answer to the question. So I think that if, if technology were to be developed with the input of physicians who understand technology and maybe even patient advocates with privacy elements in place that we could be faced with less of a threat than we are faced with right now. Right now there's just no holds barred.

CHAIRPERSON HOLDEN: Well, thank you so much for that.

CHAIRPERSON RIVERA: We've been joined by Council Member Costa Constantinides. So if there is, and again I just want to thank the three of you and especially for traveling here, on what we knew was an important topic and we're glad that people have responded in all different, from all different perspectives. We want to make sure that we stay in touch with you and as, and as New York City continues to go forward with this how we can really make sure we're holding our public institutions at the very least accountable. I'm said to say, you know, we have a, the Greater New York Hospital Association, they represent a large number of hospitals here in New York City that are not a part of the H&H system and they let us know about an hour before the hearing that they could not attend, and so they submitted written testimony, which will be memorialized. However, it's discouraging that we could not ask them some of these questions that you yourselves understand are very important. With that, I just want to say thank you again to Health and Hospitals for being here, for always being present, for

answering our questions, and again to the three of you especially for your testimony. It's really, really appreciated. Thank you very much.

DR. JUDITH THOMPSON: If I may say one other thing. You may have unwittingly put on a real leadership hat by asking these questions and allowing all of us to have the opportunity to come and respond. I hope that the rest of the country will follow in like kind. Thank you.

CHAIRPERSON RIVERA: I hope so, too, and if you can stay in touch with us, I know that this leads to a number of other issues. One of them was touched on, including medical debt, which I think its...

DR. JUDITH THOMPSON: Right.

CHAIRPERSON RIVERA: Incredibly problematic nationally. So thank you, and if I have no other questions from members of the committee, going to adjourn this hearing. Thank you so much.

CHAIRPERSON HOLDEN: Thank you. [gavel]

C E R T I F I C A T E

World Wide Dictation certifies that the foregoing transcript is a true and accurate record of the proceedings. We further certify that there is no relation to any of the parties to this action by blood or marriage, and that there is interest in the outcome of this matter.

Date December 1, 2019