



**New York City Council**

**Oversight Hearing on Electronic Health Records**

**Committee on Hospitals  
&  
Committee on Technology**

**November 20, 2019**

Good afternoon Chairs Rivera and Holden, and members of the Committee on Hospitals and the Committee on Technology. I am Kevin Lynch, Senior Vice President and Chief Information Officer for NYC Health + Hospitals (Health + Hospitals). I'm joined by Michael Bouton, Chief Medical Information Officer at Health + Hospitals, and Chris Roker, Chief Executive Officer at NYC Health + Hospitals/Queens Hospital Center. Thank you for the opportunity to update you on Health + Hospitals implementation of its electronic health records (EHRs).

EHR systems have transformed the health care system from a mostly paper-based industry to one that utilizes technology to assist clinicians in delivering high quality care to their patients. In 2009, the Health Information Technology for Economic and Clinical Health (HITECH) Act was signed into law to incentivize providers – hospitals and physicians – to adopt EHR systems. HITECH requires providers to adopt EHRs and utilize them in a “meaningful” way, which includes using EHRs to reduce medical errors and contain costs.

Our system has seen significant improvements in meeting the “meaningful use” measures with the vast majority of providers meeting all the criteria/requirements<sup>i</sup> as an eligible provider for meaningful use this year for the first time. Physician notes in the United States are greater than three times longer than notes in Europe and we are not immune to this national challenge. We strive to free physicians from the EHR to spend more time in direct, uninterrupted contact with their patients. We have significant work to do in this space, but have also made significant improvements.

We have also made the EHR more useful to providers. Providers can see their patient's record not only within all our Health + Hospitals facilities, but also their records from other facilities. This leads to a reduction in redundant testing, decreased cost, and improved safety.

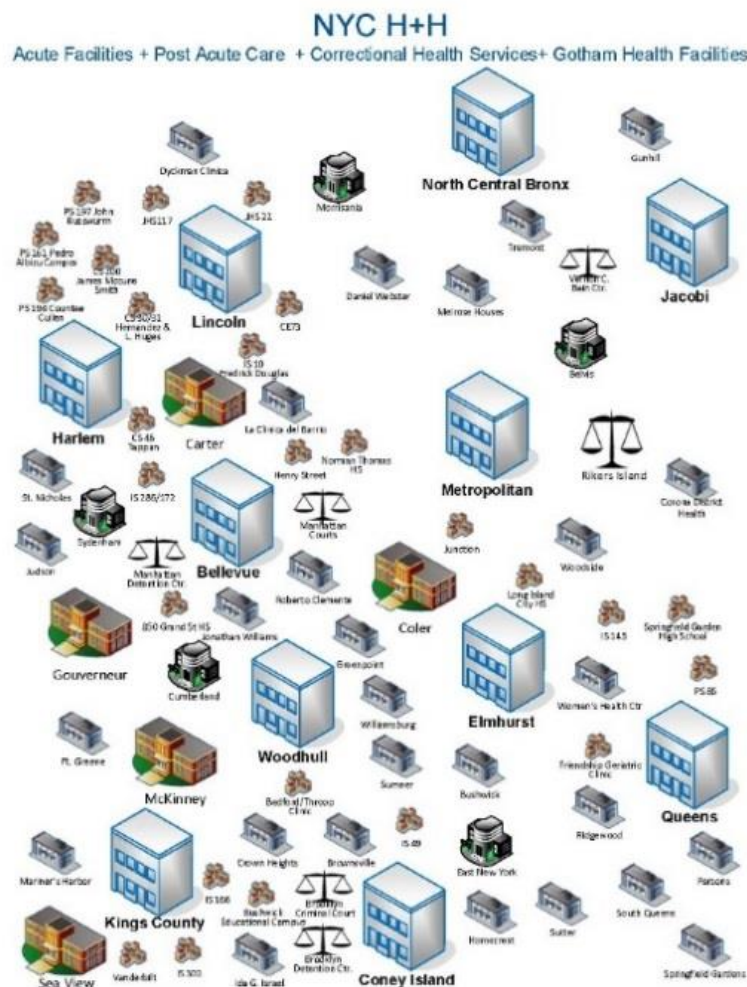
Today, we are a safer, more efficient system than we were last year. And next year we will be able to say that again.

Health + Hospitals has embraced EHRs as a critical step in the health system's transformation and New York City's plan to guarantee health coverage to all New Yorkers. Our principal Epic EHR, which has been named *H2O* (Health + Hospitals Online), connects the system's vast network of hospitals, emergency rooms, primary and specialty ambulatory outpatient services, as well as the

home care agency into one unified electronic health record and finance information system to assist clinicians to deliver safe and efficient care. Additionally, *H2O* allows patients easy access to their medical records and the ability to communicate with their provider through a secure patient-portal called *My Chart*.

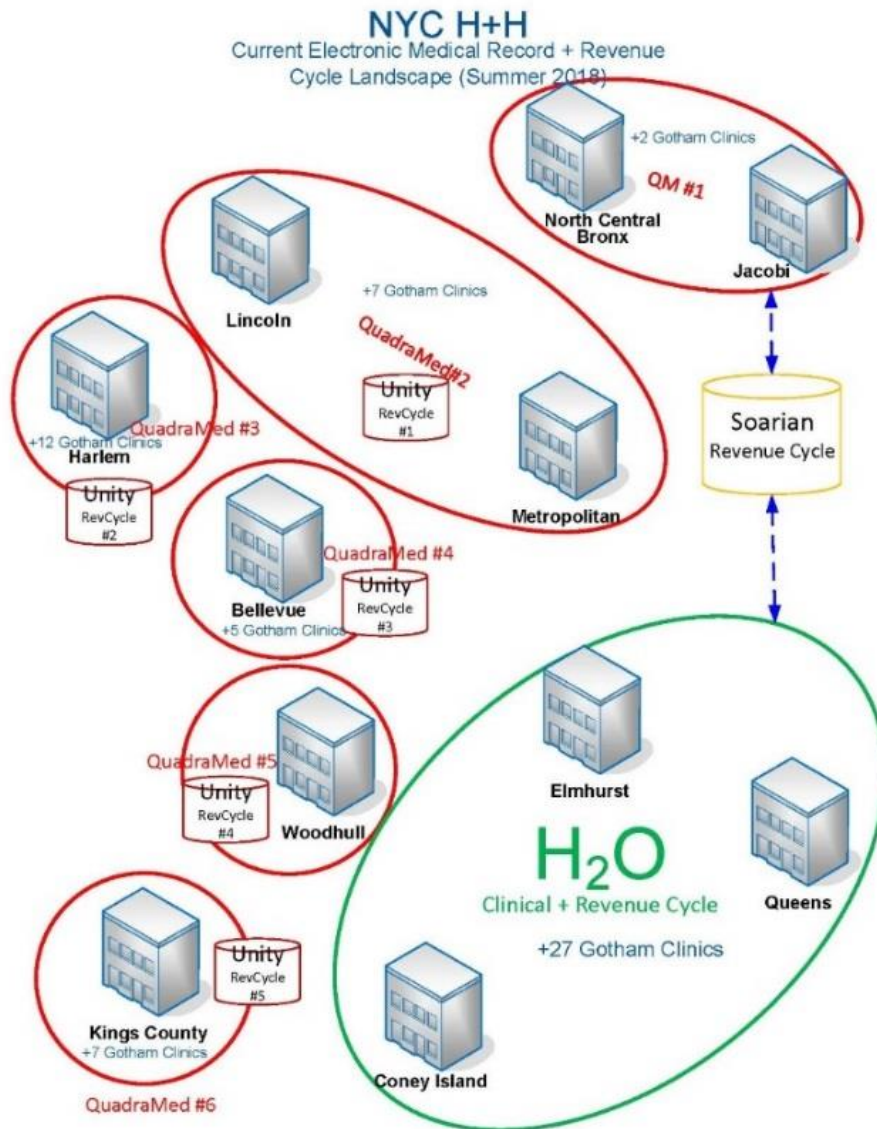
Health + Hospitals is the nation's largest public health system with 11 acute care facilities, a single long term acute care hospital, 56 Gotham Health/ambulatory locations -- the largest network of federally-qualified health centers in the nation, five post-acute care facilities, and over 10 correctional health locations.

**Figure 1**



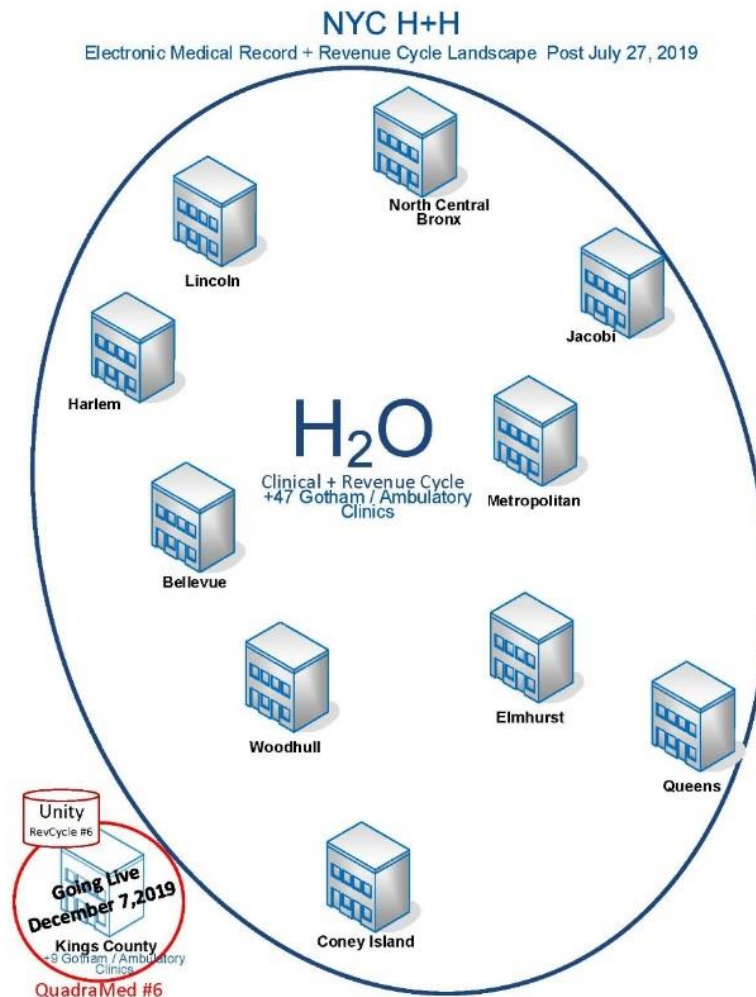
Until October 2018, we had eight separate versions of QuadraMed EHR for clinical documentation, several Soarian, and Unity systems for revenue cycle, and three facilities on an enterprise clinical version of Epic.

**Figure 2**



A year later, we have 10 of 11 acute locations and 47 of 56 Gotham Health/ambulatory locations on one enterprise electronic medical record and revenue cycle system.

**Figure 3**



We are 16 days <sup>ii</sup> away from having an enterprise electronic medical record system deployed across all of our acute and Gotham/ambulatory locations. Currently, we have over 45,000 users; 4.8 million unique registered patients; have trained over 54,700 people; and over 97,000 courses have been completed. Our ability to capture revenue has improved significantly with a 20% increase in charge capture and \$55 million in cumulative cash collection for our October 2018 go live sites;<sup>iii</sup> a 29% increase in our charge capture and \$25 million cumulative cash collection for our March 2019 go live sites;<sup>iv</sup> and a 20% increase in our charge capture for our July 2019 go live sites.<sup>v</sup>

In 2012, Health + Hospitals contracted with Epic as its enterprise electronic medical record system with the intention of deploying across all acute, Gotham Health/ambulatory, and post-acute care

locations with the option to evaluate the capability to extend it to Correctional Health Services. The budgeted amount was \$764 million.

The project initiated in 2013 with the intent to implement a standard enterprise EHR throughout Health + Hospitals for clinical care and documentation. Soarian would be used for revenue cycle and Epic would be used clinical care and documentation. The timeline for completion was December 2018.

In 2016, the first facilities to go live (NYC Health + Hospitals Queens Hospital Center & NYC Health + Hospitals/Elmhurst Hospital Center) had challenges with the training, and adoption, along with the revenue cycle / clinical interface. In 2017 after the third facility (NYC Health+Hospitals/Coney Island Hospital Center) went live with Epic for clinical care and documentation and Soarian for revenue cycle, it was decided to utilize Epic for both clinical care and revenue cycle. The decision was based on lessons learned from working with Epic's electronic medical record, which demonstrated the potential of the integrated system as well as the limitations of working with a differently designed revenue cycle product. This change added \$289 million to the project which now totals \$1.05 billion and extended the project timeline to late 2020.

In 2018, we accelerated the implementation timeline in order to complete at acute/Gotham Health/ambulatory sites by calendar year end 2019. We also decided to utilize separate EHRs for both Post-Acute Care and Correctional Health Services based upon the immediate need to get off legacy clinical products. Our current version of Epic, at that time, was not a mature model for Post-Acute Care and Correctional Health Services. The decision was to bring up separate Post-Acute Care and Correctional Health Services EHRs in a timely fashion and to allow appropriate access to the systems that support both clinical and financial benefits with the intent to eventually integrate the data as appropriate. Both Post-Acute Care and Correctional Health Services have successfully implemented their systems (Point Click Care and Fusion, respectively) over the spring/summer/fall of 2019.

Integration options include direct interfaces, sharing discrete data through standard formats such as Continuity of Care Documents and Clinical Document Architecture. Other integration platforms include Epic Care Everywhere, Epic Care Quality, Epic Care Connect, and Epic Care Link along with Health Information Exchanges such as New York Care Information Gateway (NYCIG) and Healthix.

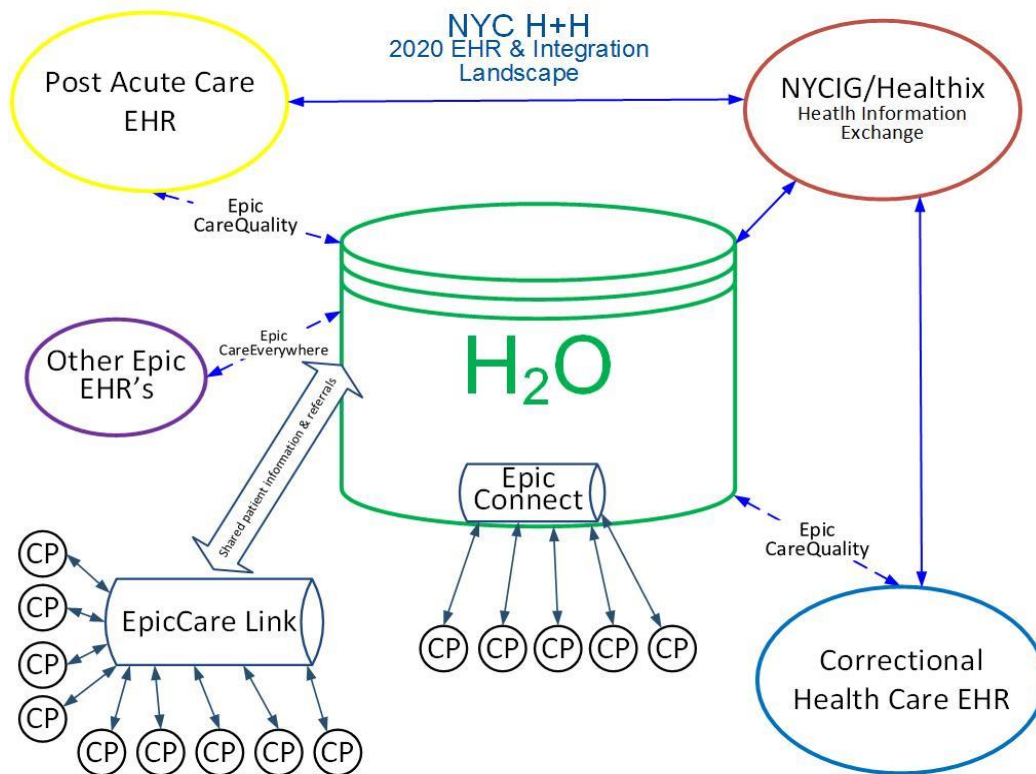
*Epic Care Everywhere*, which provides the ability to share individual patient information, with their consent, when they are seen at other Epic facilities is the platform that we are advancing with immediately and we will continue to evolve our integration/interoperability throughout 2020.

*Epic Care Quality*, is a platform to share patient health care information, with their consent, to non-Epic sites.

*Epic Care Link* supports external providers to securely log in to Health + Hospitals Epic application to perform simple tasks such as placing referrals for their patients who are currently being treated at Health + Hospital facilities. Epic Care Link replaces the *HHC Advantage program*.

*Epic Care Connect* will allow the extension of Health + Hospitals Epic application to external providers and/or hospitals. Health + Hospitals currently has an initiative to securely extend the ambulatory application suite to multiple physician partners in the local community.

**Figure 4**



## Featured Benefits and New Functionality of *H<sub>2</sub>O* (Epic) EHR

- **Patient & Provider Partnership Focused**
  - *H<sub>2</sub>O MyChart* is our online patient portal that allows patients to access personal health information by using a computer, tablet, or smartphone, to view their test results, communicate directly and securely with their healthcare provider, request prescription refills, and make/reschedule appointments, all which enable our patients to better track their care.
  - *H<sub>2</sub>O* reduces patient paperwork, there are fewer and shorter forms to complete; it moves information accurately into the hands of caregivers who need it; and, it



enables providers to make the best possible decisions, especially in a crisis and supports provider patient care coordination.

- *H2O* provides an alert to their provider if another provider has already prescribed a similar or contraindicated medication, saving them from risks and costs of taking ineffective medications and it reduces unnecessary tests and procedures, which can result in higher healthcare costs.
- *H2O* offers a single patient record shared across all facilities. For example, a provider treating a patient at NYC Health + Hospitals/Bellevue Hospital Center can see all care provided to that same patient if previously seen at NYC Health + Hospitals/Coney Island Hospital or any other Health + Hospitals facility.

- **Improving Health Quality & Safety**

- An early alert system and real-time reports can help clinicians improve the identification of patients with sepsis, in both inpatient and emergency department settings.
- The electronic health record system also supports hospitals' ability to prevent medical errors. One such example is the use of bar-coded medication administration across the inpatient care environment. This process supports administration of the right medication, to the right patient, at the right time with the right dose.
- *H2O* has also incorporated best practice alerts to remind providers of the appropriate screenings and immunizations that may be due or the type of infection prevention protocol to follow.

- **Data Governance , Reporting & Analysis**

- In *H2O*, the single enterprise patient record drives a single source of data collection, leveraging both clinical and financial data from one system.
- *H2O* provides industry standard enterprise operational, clinical, revenue and regulatory reports with the ability to develop and maintain Health + Hospital specific reporting as needed.

- **Privacy & Security**

- Health + Hospitals maintains HIPAA (Health Insurance Portability and Accountability Act of 1996) compliance.



- To share patient health care 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 such data is authorized.
- *H2O* report writing supports Break/Touch the Glass audits.
- Health + Hospitals maintains the security measures to protect our data in use, transit, and storage which supports confidentiality, data integrity and appropriate availability.

The foundation of our IT Security program is built upon the NIST (National Institute of Standards and Technology) Cybersecurity Framework. Our information security policies and standards are aligned with HIPAA Operating Procedures and direct the implementation of security controls across our enterprise. Our risk management program conducts ongoing assessments that includes Compliance, Counsel, Supply Chain, and independent expert vendor to conduct risk assessment and network penetration testing. Information security and awareness workforce training is required annually and is supplemented with monthly newsletters, screen savers, and quarterly phishing exercises that reinforce security best practices.

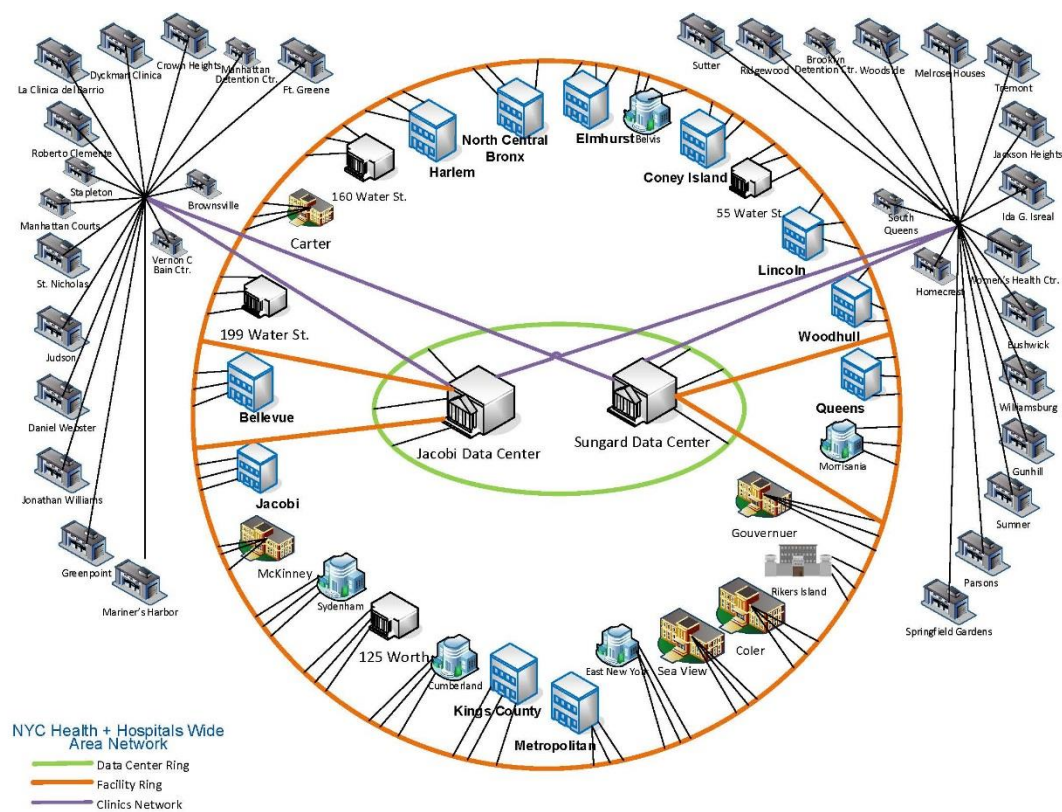
Health + Hospitals has implemented a layered security platform including intrusion prevention systems (IPS), and industry standard antivirus tools that protect our circuits, switches, servers and endpoint devices. We encrypt all endpoint devices including hard drives and USB devices and secure our mobile devices. We access *H2O* from a virtual desktop (VDI) to ensure that electronic protected health information (ePHI) will not be exposed to a local PC.

### **New IT Infrastructure, Technical and Devices**

- IT infrastructure logistics addressed Data Center refresh, Wide Area Network Circuits, new network cabling for required devices including workstations, Wi-Fi for computers-on wheels, laboratory label printers, facility based network closet construction needs for power and cooling. Consolidating and reducing 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 including:

- Cameras to take & link patient photo to their health record for patient safety;
- Electronic signature pads to capture consents and link them to the patient health record;
- Bar coded label printers to replace embossed cards for patient identification;
- Document scanners to link insurance card, ID card, and additional pertinent patient document ( e.g. Health Care Proxy) to the patient record;
- Credit card swipe machines to collect co-payments at the registration desk; and
- Patient facing kiosks enabling self-check-in and update demographic information for Women's Health Services to start with an expansion in 2020.

**Figure 5**



Updated 09/21/2018

## Future Path /Next Steps

Our EHR serves as foundational tool to drive an enterprise, standard, integrated health system.

- Supporting and aligning strategic health system prioritized initiatives;
- Ongoing sustainable training and development of staff; and
- Augment and optimize functionality based on collective clinical and operational business owner's direction.

Thank you for allowing me to testify before you today. I look forward to taking your questions.

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<sup>i</sup> Meeting all the requirements of the HITECH Act and subsequent rules. There are 8 objectives and all underlying sub-objectives for a total of over 20 defined measures such as using computer order entry, performing medication conciliation, and patients engaging with a patient portal.

<sup>ii</sup> In **December 2019**, Kings County and East New York and associated off-site clinics will go live early.

<sup>iii</sup> In **October 2018**, Epic went live at Woodhull and over 20 Gotham clinics, including Cumberland Diagnostic and Treatment Center along with the retrofit to include revenue cycle modules at Coney Island, Queens and Elmhurst hospitals.

<sup>iv</sup> In **March 2019**, Epic went live at Bellevue, Harlem, and another 18 Gotham clinics including Gouverneur and Sydenham Diagnostic and Treatment Centers.

<sup>v</sup> In **July 2019**, Epic went live at Metropolitan, Lincoln, Belvis and Morrisania Diagnostic and Treatment Centers, and associated off-site clinics.



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**ABRIDGED VERSION**

Good afternoon Chair Rivera, Chair Holden, and members of the Committee on Hospitals and the Committee on Technology. I am Kevin Lynch, Senior Vice President and Chief Information Officer for NYC Health + Hospitals (Health + Hospitals). I am joined by Dr. Michael Bouton, Chief Medical Information Officer at Health + Hospitals, and Chris Roker, Chief Executive Officer at NYC Health + Hospitals/Queens Hospital Center. Thank you for the opportunity to update you on Health + Hospitals implementation of its electronic health records (EHRs).

Health + Hospitals has submitted an official testimony for the record, which you have in front of you. I will now share with you an abridged version of that testimony.

To help clarify, an electronic health record system (EHR) is the tool that is used in every hospital or clinic to document clinical care. We all use some form of an EHR for our own patient care. We call to schedule a doctor's appointment, we are registered when we arrive, the nurse will document our height, weight, medications, along with the reason we are there for the visit. The doctor will also document findings and may order tests such as lab, radiology, or may order a procedure. We have all experienced an emergency department visit. All of these components, scheduling, registration, clinical documentation, orders, results, along with other modules like emergency department, operating room, cardiology, lab, radiology, pharmacy, medical records, coding and patient accounting all make up the collective "EHR."

Health and Hospitals has evolved over the last several decades using individual clinical systems at each of their 11 acute hospitals (please refer to figures #1 and #2 in submitted testimony). That means that patient (Kevin Lynch) could go to NYC Health + Hospitals/Jacobi Hospital Center, then go to NYC Health + Hospitals/Harlem Hospital Center, then to NYC Health + Hospitals/Bellevue Hospital Center and the provider treating Kevin Lynch would not have access to the patient records at either NYC Health + Hospitals/Jacobi Hospital Center or NYC Health + Hospitals/Harlem Hospital Center. Fast forward to today (please refer to figure #3 in submitted testimony) where we have 10 of our 11 acute care centers and 47 of our 56 Gotham Health/ambulatory care locations live on an enterprise electronic health record system. When patient Kevin Lynch goes to NYC Health + Hospitals/Jacobi Hospital Center, or NYC Health + Hospitals/Harlem Hospital Center, or NYC Health + Hospitals/Bellevue Hospital Center or NYC

Health + Hospitals/Coney Island Hospital Center, or any of the other patient care locations, the providers treating patient Kevin Lynch will have access to the complete patient record. In 16 days, all of our acute and Gotham Health /ambulatory care centers will be on the enterprise electronic health system name H<sub>2</sub>O.

Currently, we have over 45,000 users; 4.8M unique registered patients; trained over 54,700 people and over 97,000 courses completed. Revenue Cycle has improved significantly with over +20% charge capture and \$55M cash collection cumulatively for our October 2018 go live sites; +29% charge capture and \$25M cumulatively for our March 2019 go live sites; +20% charge capture for our July 2019 go live sites.

In early 2013, Health + Hospitals contracted with Epic as our enterprise electronic health record system with the intention of deploying across all acute, Gotham Health/ambulatory, along with post-acute care locations. The budgeted amount was \$764 million.

The project was initiated with the intent of implementing a standard enterprise EHR throughout Health + Hospitals for clinical care and documentation. Soarian would be used for revenue cycle which includes registration, medical records and patient accounting and would be interfaced to Epic. The timeline for completion was December 2018.

In 2016, the first facilities to go live (NYC Health+ Hospitals Queens Hospital Center & Elmhurst Hospital Center) had challenges with the training, adoption, along with the Revenue Cycle / Clinical interface. In 2017, after the third facility (NYC Health + Hospitals/Coney Island Hospital Center) went live with the enterprise Epic clinical instance interfaced to Soarian for Revenue Cycle, it was decided to utilize Epic for both clinical and revenue cycle which added \$289 million 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 Health /ambulatory sites by calendar year end 2019. We also decided to utilize separate EHRs for both Post-Acute Care and Correctional Health Services based upon the immediate need to get off

legacy clinical products. Our current version of Epic, at that time, was not a mature model for Post-Acute Care and Correctional Health Services.

Both Post-Acute Care and Correctional Health Services have successfully implemented their systems over the summer/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 Health Information Exchanges such as New York Care Information Gateway (NYCIG) and Healthix (please refer to Figure #4 in submitted testimony).

*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 health care information, with their consent, to non-Epic sites.

*Epic Care Link* supports external providers to securely log in to the Health + Hospitals instance of Epic to place referrals for their patients who are currently being treated at Health + Hospital facilities.

*Epic Care Connect* will allow the extension of Health + Hospitals Epic instance to external providers.

## **Featured Benefits and New Functionality of H2O (Epic) EHR**

### **Patient & Provider Partnership Focused**

- H2O offers a single patient record shared across all facilities.
- H2O provides alerts to providers when a similar or contraindicated medication is being ordered.
- H2O reduces unnecessary tests and procedures.
- *MyChart* is our patient portal that allows patients to access personal health information from computer, tablet, or smartphone, to view test results, communicate



directly and securely with their healthcare provider, request prescription refills, make/reschedule appointments.

- H2O reduces patient paperwork, and redundant charting.

### **Improving Health Quality & Safety**

- Early alert system which notifies providers of patients who potentially have sepsis, and guides toward evidence based treatment protocols.
- Bar-coded medication administration across the inpatient care environment ensures the right medication gets to the right patient at the right time with the right dose.
- Alerts to remind providers of the appropriate screenings, immunizations or infection prevention protocol to follow.

### **Data Governance , Reporting & Analysis**

- H2O supports a single source of truth for clinical and revenue cycle data.
- Industry standard enterprise operational, clinical, revenue and regulatory reports with the ability to develop and maintain Health + Hospital specific reporting as needed.

### **Privacy & Security**

- Health + Hospitals maintains HIPAA (Health Insurance Portability and Accountability Act of 1996) compliance.
- To share patient health care 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 such data is authorized.
- H2O reports a detailed record of access to sensitive data.
- Health + Hospitals maintains the security measures to protect our data in use, transit, and storage. This supports confidentiality, data integrity and appropriate availability. The foundation of our IT Security program is built upon the NIST (National Institute of Standards and Technology) Cybersecurity Framework. Our information security policies and standards are aligned with HIPAA Operating Procedures and direct the implementation of security controls across our enterprise.

- Our risk management program conducts ongoing assessments that includes Compliance, Counsel, Supply Chain, and independent expert vendor to conduct risk assessment and network penetration testing.
- Information security and awareness workforce training is required annually and is supplemented with monthly newsletters, screen savers, and quarterly phishing exercises that reinforce security best practices.
- H+H has implemented a layered security platform including intrusion prevention systems (IPS), and industry standard antivirus tools that protect our circuits, switches, servers and endpoint devices. We encrypt all endpoint devices including hard drives and USB devices and secure our mobile devices. We access H<sub>2</sub>O from a virtual desktop (VDI) to ensure that electronic protected health information (ePHI) will not be exposed to a local PC.

#### **New IT Infrastructure, Technical and Devices**

IT infrastructure logistics addressed Data Center refresh, Wide Area Network Circuits, new network cabling for required devices including workstations, Wi-Fi, computers-on wheels, patient facing kiosks, laboratory label printers, facility based network closet construction needs for power and cooling. Consolidating the number of network printers and the need to print physical paper (please refer to Figure #5 in submitted testimony).

- New operational devices with standard workflows were implemented to support patient registration best practices including:
  - i. Cameras to take & link patient photo to their health record for patient safety.
  - ii. eSignature pads to capture consents and link them to the patient health record.
  - iii. Bar coded label printers to replace embossed cards for patient identification.
  - iv. Document scanners to link insurance card, ID card, and additional pertinent patient document to the patient record.
  - v. Credit card swipe machines to collect co-payments at the registration desk.

## **Future Path /Next Steps**

Our EHR serves as foundational tool to drive an enterprise, standard, integrated health system.

- Support and align strategic health system prioritized initiatives;
- Provide ongoing sustainable training and development of staff;
- Augment and optimize functionality based on clinical councils and operational business owner's direction; and
- Leverage the Epic community's industry standard best practices.

Thank you for allowing me to testify before you today. I look forward to taking your questions.

## E-Health Records (EHRs) – 10 Things to Know

Advocates claim federally-certified electronic health records (EHRs) will transform health care delivery in America. However, concerns include:

### 1. Computerized medical records give government health officials easy access to private details of the confidential patient-doctor relationship.

Electronic health records (EHRs) record everything.<sup>1</sup> Requiring EHRs to be interoperable across the United States (able to work together and link together) gives outsiders and strangers easy access. Outside access is authorized under federal law. Specifically, because of the federal HIPAA<sup>2</sup> “privacy rule,” 2.2 million entities,<sup>3</sup> including state and federal government, have access to private health records without patient consent and often without patient knowledge.

### 2. The federal government is paying \$20 billion to doctors and hospitals to buy expensive government-certified online EHR systems.

Federal incentive payments<sup>4</sup> under the 2009 HITECH Act<sup>5</sup> only cover about a third<sup>6</sup> of the EHR system costs—and none of the hidden administrative, training and other costs. Beginning January 1, 2015, physicians will be penalized<sup>7</sup> by Medicare for not using certified interoperable EHRs.

### 3. To receive federal incentive payments, doctors and hospitals must demonstrative “meaningful use” of EHRs.

“Meaningful use” (MU) of EHRs for clinicians and facilities is similar but different. Professional MU includes e-prescribing, reporting “quality measures” to the federal government, implementing one “clinical decision support rule,” maintaining active medications list, and recording “smoking status.” Stage 1 and 2 MU requirements have been issued. Proposed Stage 3 is called “too harsh.”<sup>8</sup>

### 4. EHRs interfere with the practice of medicine and have harmed patients.

EHRs have been called “clunky,”<sup>9</sup> frustrating, user-unfriendly and inefficient.” The federal mandate to use computerized medical records has led to reduced<sup>10</sup> productivity, alterations in medical decision-making, at least six deaths,<sup>11</sup> 22 new medical errors,<sup>12</sup> misdiagnoses,<sup>13</sup> and doubled<sup>14</sup> pediatric fatality rates. Doctors are reduced to data clerks that engage less with patients.

### 5. “Patient engagement” gives individuals a false sense of control and encourages patients to feed more data into computerized systems.

The Personal Health Record (PHR)<sup>15</sup> or collaborative<sup>16</sup> health record has been touted<sup>17</sup> as giving patients access to their own data. However, the PHR is merely a subset of the EHR (over which patients have no control due to HIPAA). In addition, PHRs encourage patients to feed the system more private information. Meanwhile, technology allows off-site monitoring<sup>18</sup> and genetic<sup>19</sup> sequencing allows patient profiling<sup>20</sup> down to the DNA.

### 6. EHRs are part of a larger research agenda to statistically analyze everyone’s patient information and use the “findings” to rationalize health care rationing.

The HITECH modifications to HIPAA provide 2.2 million entities with patient data for study and predictive<sup>21</sup> analysis. Proponents claim algorithms can be created to theoretically “see”<sup>22</sup> things in the data that people cannot see and this will lead to “cures”<sup>23</sup> for cancer. Failure to do so would be blamed on insufficient data, and data withholding—including refusal to share genetic data—would be a crime.<sup>24</sup>

### 7. When EHR research finds “cures,” doctors may be required to provide certain treatments or face financial penalties and prosecution.

“Decision Support” (DS),<sup>25</sup> standardized treatment protocols based on data and algorithms embedded in a physician’s computer, will push doctors to prescribe one-size-fits-all treatments<sup>26</sup> rather than customized care. Not using the standards could be considered fraud, waste or abuse.<sup>27</sup> Doctors using DS are less trusted.<sup>28</sup>

### 8. EHRs have captured the interest of investors.

Private equity firms<sup>29</sup> (the kind that only acquire companies with at least \$100 million in revenue) are bidding<sup>30</sup> on EHR companies to expand their portfolios.

### 9. Congress can act to protect patients.

Repealing HITECH, defunding it, or at least repealing the penalties it imposes for failure to use interoperable EHRs would be effective<sup>31</sup> in protecting patients.

### 10. States can act to protect individuals from harm.

Blocking a state health information exchange (HIE), refusing to connect to the NHIN, refusing a state health insurance exchange (HIX), and not allowing<sup>32</sup> state data storage or analytics would protect individuals from harm.

<sup>1</sup> *After The PPACA - What Should Congress Do? Dr. Marci Cook.* [http://www.youtube.com/watch?v=JSr\\_hfH\\_YYE](http://www.youtube.com/watch?v=JSr_hfH_YYE)

<sup>2</sup> *Summary of the HIPAA Privacy Rule.* Department of Health & Human Services. <http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/index.html>

<sup>3</sup> *Modifications to the HIPAA Privacy, Security, and Enforcement Rules Under the Health Information Technology for Economic and Clinical Health Act.* Department of Health & Human Services. <https://www.federalregister.gov/articles/2010/07/14/2010-16718/modifications-to-the-hipaa-privacy-security-and-enforcement-rules-under-the-health-information>

<sup>4</sup> *Analysis of the HITECH Act's Incentives to Facilitate Adoption of Health Information Technology,"* Robert Hudock/Patricia Wagner, EpsteinBeckerGreen Health Care & Life Sciences Client Alert, 4/09.

<sup>5</sup> *HITECH Act.* CCHF. [www.cchfreedom.org/files/files/HITECH%20ACT%202009%20-%20LAW\(1\).pdf](http://www.cchfreedom.org/files/files/HITECH%20ACT%202009%20-%20LAW(1).pdf)

<sup>6</sup> *Physician Adoption of Electronic HealthRecord Systems: United States, 2011.* NCHS Data Brief, Centers for Disease Control and Prevention, July 2012. <http://www.cdc.gov/nchs/data/databriefs/db98.htm>

<sup>7</sup> *Special Report: Tackling population health management: It boils down to HIT.* MGMA Connexion magazine, October 2012. <http://www.mgma.com/WorkArea/DownloadAsset.aspx?id=1372070>

<sup>8</sup> *Proposed meaningful use stage 3 criticized as hasty and too strict.* American Medical News. <http://www.ama-assn.org/amednews/2013/01/28/gvl10128.htm>

<sup>9</sup> *A Major Glitch for Digitized Health-Care Records.* Wall Street Journal Online. [http://online.wsj.com/article/SB10000872396390443847404577627041964831020.html?mod=googlenews\\_ws](http://online.wsj.com/article/SB10000872396390443847404577627041964831020.html?mod=googlenews_ws)

<sup>10</sup> *Public comment on Stage 3 Definition of Meaningful Use of Electric Health Records.* <http://www.regulations.gov/#documentDetail;D=HHS-OS-2012-0007-0178>

<sup>11</sup> *FDA on Health IT Adverse Consequences: 44 Reported Injuries and 6 Deaths in Two Years, Probably Just 'Tip of Iceberg'.* Health Care Renewal. [http://hcrenewal.blogspot.com/2010\\_02\\_01\\_archive.html](http://hcrenewal.blogspot.com/2010_02_01_archive.html)

<sup>12</sup> *Role of computerized physician order entry systems in facilitating medication errors.* National Center for Biotechnology Information. <http://www.ncbi.nlm.nih.gov/pubmed/15755942>

<sup>13</sup> *Electronic medical records draw frequent criticisms,* Alexi Mostrous, The Washington Post, 10/25/09.

<sup>14</sup> *Unexpected Increased Mortality After Implementation of a Commercially Sold Computerized Physician Order Entry System.* American Academy of Pediatrics. <http://pediatrics.aappublications.org/content/116/6/1506.full>

<sup>15</sup> *Personal Health Record.* Wikipedia. [http://en.wikipedia.org/wiki/Personal\\_health\\_record](http://en.wikipedia.org/wiki/Personal_health_record)

<sup>16</sup> John Moore, @john\_chilmark. Twitter. [https://twitter.com/john\\_chilmark/status/275630867739713536](https://twitter.com/john_chilmark/status/275630867739713536)

<sup>17</sup> *Blue Button Provides Access to Downloadable Personal Health Data.* Office of Science and Technology Policy. <http://www.whitehouse.gov/blog/2010/10/07/blue-button-provides-access-downloadable-personal-health-data>

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## Why Electronic Health Records (EHRs) Should Not be Mandated

*"It has been my experience, in almost six years now of using EHR, that very little actually improves patient care. It has, however, added tremendously to my overhead..." – Joseph A. Anistranski, MD<sup>1</sup>*

In 2009, Congress mandated interoperable EHRs as part of the Health Information Technology for Economic and Clinical Health Act (HITECH). The penalty for this choice was a loss of Medicare dollars, starting with a 1% reduction in 2015 that increases to 5% in the coming years.

But in 2015, H.R. 2 ("Doc Fix"), repealed a longstanding (never implemented) formula for paying physicians, called the SGR (Sustainable Growth Rate) and instituted two alternative payment systems. The Merit-based Incentive Payment System (MIPS) scores doctors on four items ("quality" *(as defined by outsiders)*, "resource use" *(cost performance evaluated through administrative claims data)*, "clinical improvement activities" *(federal list)* and "promoting interoperability" *(use of interoperable EHR)*. The higher the score, the lower the pay. The scoring is arbitrary and harmful.<sup>2</sup>

Under MIPS, 15% of the physician's score is based on use of the EHR, and the maximum penalty for a low score (including for any doctor refusing to provide data) is a nine percent reduction in fees.

### Congress should repeal all EHR and interoperability requirements because:

PATIENT PRIVACY	<ul style="list-style-type: none"> <li>• <b>Gives Patients a Choice:</b> Keeping both paper and electronic charts is rare and increases liability risk.<sup>3</sup> "Universal adoption" of EHRs means most providers will maintain records <i>exclusively</i> on EHRs, as hospitals do now. <u>The opt-out choice for smaller provider groups is the only way to grant patients the choice to keep their private information out of EHRs.</u></li> <li>• <b>HIPAA Fails to Protect Privacy:</b> HIPAA's "privacy rule" allows <u>2.2 million</u> entities, plus government agencies, to access medical records without patient consent if "covered entities," who hold the data, choose to share it.<sup>4,5</sup></li> <li>• <b>Peeking at Public Figures:</b> "As long as you're a public figure, in the public eye, whether you're a local anchor, or a politician or Kim Kardashian, it [medical information] strikes an interest."<sup>6</sup> "Unauthorized peeking at patient medical records remains an unsolved problem among healthcare providers, and privacy experts contend it's just in our nature to snoop."<sup>7</sup></li> </ul>
HIGH COSTS	<ul style="list-style-type: none"> <li>• <b>MN Four-Physician Clinic:</b> \$30,000 <i>annual</i> cost for hosted Cloud System, plus <i>annual</i> \$6,500 software support fee, plus \$5,000 per interface with outside EHR systems. Would cost \$10,000 if they hooked up to state Health Information Exchange. Would cost about \$14,000 more in first year to add a new physician – plus \$2,500 more per year. <i>(As reported to CCHF)</i></li> <li>• <b>Ongoing Costs:</b> \$200 - \$700/<i>provider/month</i>. One time fees from \$2,000 to \$5,000 per provider and collection percentages in the 2% – 7% range.<sup>8</sup></li> <li>• <b>Upfront Costs:</b> \$15,000 to \$70,000 per practitioner to buy and install an EHR, including hardware, software, training, chart conversion, and implementation assistance. The latter may include the services of an IT contractor, attorney, electrician, and consultant.<sup>9</sup> - <i>HealthIT.gov</i></li> <li>• <b>Hook-ups:</b> To connect to labs, health information exchanges or the federal government: \$5,000 to \$50,000 per connection. "Sometimes additional fees are charged each time a doctor sends or receives data." - <i>Politico</i><sup>10</sup></li> </ul>

EHR COST RISKS	<ul style="list-style-type: none"> <li>• <b>Fewer Patients; More Staff:</b> "We used to see 32 patients a day with one tech, and now we struggle to see 24 patients a day with four techs. And we provide worse care."<sup>11</sup> (<i>Survey respondent</i>)</li> <li>• <b>Financial Burden:</b> In a 2014 national survey, nearly 70% of doctors said EHR is not worth it, 65% said EHRs resulted in financial losses, and 79% of practices of <i>more than 10</i> physicians said it wasn't worth "the effort, resources and cost."<sup>12</sup></li> <li>• <b>Price Shock:</b> A Maine clinic bought an EHR in 2010. The maintenance fees were \$300 a month. A few months later the EHR vendor was purchased by another vendor and fees rose to \$2,000 a month. After 10 months of arguing and no payments, the vendor cut access to patient data."<sup>13</sup></li> </ul>
LOSS OF SMALL CLINICS	<ul style="list-style-type: none"> <li>• <b>Difficult:</b> Cost of EHR mandate risks straining "small-provider finances, forcing them under or leading them to join larger health systems."<sup>14</sup> (<i>MPR</i>)</li> <li>• <b>End of Small MN Clinics:</b> "Witness the almost complete disappearance of independent, local primary care clinics in the Twin Cities. (Some call the new reality "big-box care.") Rather than go out of business, small groups have no choice but to be merged into ever-larger systems with deep pockets, systems that have far different priorities and service styles than small clinics. Some patients may prefer this, but most of us probably prefer having the option of more personal care in smaller clinics." – Dr. Richard Morris, <i>Star Tribune</i><sup>15</sup></li> </ul>
SMALLER CLINICS	<ul style="list-style-type: none"> <li>• <b>Online Risks:</b> Given cost concerns, many small providers will adopt cloud-based EHRs rather than server-based in-house systems. Cloud-based EHRs are Internet-based EHRs.<sup>16</sup></li> <li>• <b>Lack Time and Resources:</b> "Experience from the REC [Regional Extension Centers] program has shown small providers making purchasing or licensing decisions often lack the time and resources to keep up with emerging health IT trends and products."<sup>17</sup> - Office of National Coordinator</li> <li>• <b>Small vs. Large Practices:</b> "Large organizations have the resources and expertise ... [and] security team to address cyber security; however, small and mid-sized health care organizations, like other small businesses, may not have these resources and may not be able to afford them."<sup>18</sup></li> </ul>
QUESTIONABLE UTILITY	<ul style="list-style-type: none"> <li>• <b>Questions Remain:</b> "[T]here are questions about whether that transition [to EHRs] will actually improve the quality of life, in either a medical or economic sense." – Report to AHRQ/HealthIT.gov<sup>19</sup></li> <li>• <b>No Evidence:</b> "We do not have any information that supports or refutes claims that a broader adoption of EHRs can save lives." – <i>Centers for Medicare &amp; Medicaid Services</i><sup>20</sup></li> <li>• <b>Not Useful:</b> "A string of numbers containing demographic, laboratory, and other patient information...is not narrative. ... That is why an ophthalmologist told me that when he gets an EHR summary, <u>he ignores it</u>: 'It does not tell me the patient's story. It does not tell me why the patient is here, what troubles the patient, and what the referring doctor wants me to do.' – Richard Reece, MD<sup>21</sup> [<i>Emphasis added.</i>]</li> </ul>



PATIENT SAFETY	<ul style="list-style-type: none"> <li>• <b>Patient Harm:</b> "I am unwilling to participate in the program. In my Experience, EHRs harm patients more than they help." - Jeffrey Singer, MD<sup>22</sup></li> <li>• <b>Reported Incidents:</b> 74 of 100 closed safety investigations between August 2009 and May 2013 resulted from unsafe technology, such as system failures, computer glitches, false alarms or 'hidden dependencies' ... Another 25 events involved unsafe use of technology such as an input error or a misinterpretation of a display.<sup>23</sup></li> <li>• <b>New Risks:</b> "EHRs introduce new kinds of risks into an already complex health care environment where both technical and social factors must be considered. ... As health IT adoption spreads and becomes a critical component of organization infrastructure, the potential for health IT-related harm will likely increase..."<sup>24</sup> - <i>The Joint Commission</i></li> </ul>
DATA SECURITY	<ul style="list-style-type: none"> <li>• <b>Breaches Common:</b> "About 90 percent of health care organizations reported they have had at least one data breach over the last two years."<sup>25</sup> "Healthcare accounted for almost half of 2014 client breaches."<sup>26</sup></li> <li>• <b>'Wall of Shame' Grows:</b> "The US Department of Health and Human Services' (HHS) 'wall of shame' listings of large-scale health IT data breaches passed the 1,000 mark ... That number doesn't include the 116,000 breaches involving the records of fewer than 500 individuals."<sup>27</sup></li> </ul>
INTERNET-ACCESSIBLE	<ul style="list-style-type: none"> <li>• <b>All Patients at Risk:</b> As health IT systems have become increasingly connected to each other, cyber threats have concurrently increased at a significant rate. In an interoperable, interconnected health system, an intrusion in one system could allow intrusions in multiple other systems." - <i>Office of the National Coordinator for Health IT</i><sup>28</sup></li> <li>• <b>Everything is Connected:</b> "The architecture [of national EHR system] should be based on loosely coupled systems that leverage the core building blocks that have allowed the Internet to scale...The architecture will ... create a loose coupling of heterogeneous systems."<sup>29</sup> [Report at HealthIT.gov]</li> </ul>
LIABILITY COSTS	<ul style="list-style-type: none"> <li>• <b>Outside Sharing:</b> "Providers are concerned about increased liability risk when they exchange health information outside their walls...."<sup>30</sup></li> <li>• <b>Liable Even if Not at Fault:</b> "EHRs are full of legal risks." Health care providers can be held liable for system bugs, breaches, password loss, and other problems specific to EHRs.<sup>31</sup></li> <li>• <b>Fraud and Abuse:</b> EHRs can result in "serious unintended consequences" that "endanger patient safety or decrease the quality of care" and also "may increase fraud and abuse and can have serious legal implications."<sup>32</sup></li> </ul>

#### EXPERTS SPEAK:

"Healthcare used to be about patient, nurses, and doctors. Now it's about insurers, lawyers, and - most recently - IT people. Doctors' records take so much longer just to read because there's so much boilerplate garbage on them to justify coding levels." - Fred Marks, MD<sup>33</sup>

"HIPAA is often described as a privacy rule. It is not. In fact, HIPAA is a disclosure regulation, and it has effectively dismantled the long-standing moral and legal tradition of patient confidentiality." - Richard Sobel<sup>34</sup>

**"You can't force a covered entity to give your data to someone you choose, and you can't stop them from giving it to someone they choose."** – David Brailer, the first national coordinator of health IT<sup>35</sup>

**"[EHRs are] 'enterprise-wide command and control systems through which all medical transactions have to pass, controlling clinicians and clinical resources.'"** – Scot Silverstein, MD<sup>36</sup>

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Partial update by Twila Brase, RN, PHN | President and Cofounder, CCHF; Author, *BigBrotherintheExamRoom.com* | 11/19/2019



DEPARTMENT OF HEALTH & HUMAN SERVICES

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MEMORANDUM

Public Health Service  
Food and Drug Administration  
10903 New Hampshire Avenue  
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**Date:** February 23, 2010

**From:** Chuck McCullough  
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**Subject:** Health Information Technology (H-IT) Safety Issues

**To:** Jeff Shuren, MD, JD  
Director, CDRH

**Through:** Doug Wood, Associate Director, DPS/OSB/CDRH  
Marilyn Flack, Director, Division of Patient Safety Partnership

This report serves to characterize medical device reports (MDRs) in the Manufacturer and User Facility Experience (MAUDE) database, inclusive of MedSun reports, pertaining to Health Information Technology (H-IT) safety issues as requested by the Office of the Center Director, Center for Devices and Radiological Health (CDRH), in contrast to the previously submitted MedSun and Office of Compliance information.

Due to the inherent vast scope of H-IT safety issues and potential suspect devices, the current CDRH product code (procodes) list was screened to identify those procodes that would mostly likely capture the highest volume of pertinent MDRs (Table 1). The MAUDE database was then queried using these procodes and the Date Report Received "01-JAN-2008 to 18-FEB-2010." This search was further narrowed by performing a text search of 30 terms commonly utilized in H-IT safety reports (Appendix A), and then individually reviewing the MDRs to exclude unrelated reports. These combined queries yielded 257 MDRs, with identification of 3 additional procodes, highlighted in Table 1.

**Table 1. Procodes Associated with the H-IT Safety Issue Search**

Procode	Name	Count	Percent
LLZ	System, image processing, radiological	148	58
LNK	Medical computers and software	63	25
MMH	Software, blood bank, stand alone products	19	7
JQP	Calculator/data processing module, for clinical use	12	5
NSX	Software, transmission and storage, patient data	6	2
NZH	Medication management system, remote	3	1
IXW	Processor, radiographic-film, automatic	2	1
DQK	Computer, diagnostic, programmable	1	0.3
LMB	Device, digital image storage, radiological	0	
<b>Procodes Revealed Following Search</b>			
MHX	Monitor, physiological, patient (with arrhythmia detection or alarms)	1	0.3
JAK	Scanner, computed-tomography, x-ray; system, x-ray, tomography, computed	1	0.3
IWZ	Film, radiographic; film, x-ray, dental, extraoral; bitewing; film, x-ray, dental, intraoral; medical	1	0.3

Limitations of the MAUDE search and final subset of MDRs include the following:

1. Not all H-IT safety issue MDRs can be captured due to limitations of reporting practices including
  - a. Vast number of H-IT systems that interface with multiple medical devices currently assigned to multiple procodes making it difficult to identify specific procodes for H-IT safety issues;
  - b. Procode assignments are also affected by the ability of the reporter/contractor to correctly identify the event as a H-IT safety issue;
  - c. Correct identification by the reporter of the suspect device brand name is challenged by difficulties discerning the actual H-IT system versus the device it supports.
2. Due to incomplete information in the MDRs, it is difficult to unduplicate similar reports, potentially resulting in a higher number of reports than actual events.
3. Reported death and injury events may only be associated with the reported device but not necessarily attributed to the device.

4. Correct identification by the reporter of the manufacturer name is convoluted by the inability to discern the manufacturer of the actual H-IT system versus the device it supports.
5. The volume of MDR reporting to MAUDE may be impacted by a lack of understanding the reportability of H-IT safety issues and enforcement of such reporting.

The majority of the MDRs were submitted by the manufacturer (Table 2), and the primary Type of Event was Malfunction (Table 3).

**Table 2. Report Source**

Report Source	Manufacturer	User Facility	Voluntary	Distributor	
MDRs	Count	202	15	35	5
	%	78	6	14	2

**Table 3. Type of Event**

Type of Event		Death	Injury	Malfunction
MDRs	Count	6	43	208
	%	2	17	81

Review of the Device Problem Codes compared with individual review of the Event Narratives prompted the development of 12 detailed categories (Appendix C) to which the MDRs were assigned to more clearly classify the system malfunctions. These MDRs were then reassigned to more general categories, as defined in Appendix B. The majority of the events were categorized as Error of Commission (49%), with 27% as Errors of Omission and Transmission and 22% as Errors in Data Analysis (Table 4).

**Table 4. H-IT Safety Issues-General Categories**

Category	Description	Count	%
<b>Errors of Commission (EOC)</b>	Events such as accessing the wrong patient's record or overwriting one patient's information with another's	126	49
<b>Errors of Omission or Transmission (EOT)</b>	Events such as the loss or corruption of vital patient data	69	27
<b>Errors in Data Analysis (EDA)</b>	Includes medication dosing errors of several orders of magnitude	57	22
<b>Incompatibility between Multi-Vendor Software Applications or Systems (ISMA)</b>	Incompatibilities which can lead to any of the above	5	2

A review of the Top 10 Patient Problem Codes provided limited insight into the clinical impact of the reported events. This limitation may result from an absence of mandatory reporting regulations and requirements including manufacturer investigation of the event.

Individual review of the death reports resulted in 3 reports categorized as Error of Commission, 2 as Error of Omission or Transmission, and 1 as Error in Data Analysis (Table 5). Of note, the MedWatch Voluntary Reports were from the same reporter summarizing hospital-wide H-IT experience without an isolated incident or patient identified.

**Table 5: Summary and Categorization of Death Reports**

MFR	Brand	Event Summary	H-IT Safety Issue General Categories
GE Healthcare Integrated IT Solutions	Centricity RA1000	User entered wrong patient name on study image resulting in therapy administration to wrong pt	EOC
Stentor Incorporated, a Philips Medical Systems Company	ISITE PACS	Delay in network transmission of diagnostic image preventing administration of treatment prior to pt's death	EOT
Cerner Corporation	Cerner Millennium	Report sites shortfalls in hospital's implementation of CPOE system	EOT
This item removed at request of vendor			
GE Healthcare Information Technologies	Centricity Enterprise Web	User unaware that an exam had a note attached containing positive clinical findings	EOC
Cerner Corporation	Millenium	Report sites shortfalls in hospital's implementation of CPOE and EHR systems	EOC

*CPOE-Computerized Physician Order Entry; EHR-Electronic Health Records*

Memo: H-IT Safety Issues

In summary, the results of this data review suggest significant clinical implications and public safety issues surrounding Health Information Technology. The most commonly reported H-IT safety issues included wrong patient/wrong data, medication administration issues, clinical data loss/miscalculation, and unforeseen software design issues; all of which have varying impact on the patient's clinical care and outcome, which included 6 death and 43 injuries. The absence of mandatory reporting enforcement of H-IT safety issues limits the number of relevant MDRs and impedes a more comprehensive understanding of the actual problems and implications.

**Management Review –**

**Douglas Wood, Associate Director, Division of Post Market Surveillance**

After review of the information provided in this memorandum, I concur with the findings contained within this analysis.

**Management Review –**

**Marilyn Flack, Director, Division of Patient Safety Partnerships**

After review of the information provided in this memorandum, I concur with the findings contained within this analysis.



**Appendix A**  
**Text Search Terms**

<b>Keyword</b>	<b># of Records with Keyword</b>
Antivirus	0
Bar Code	1
Computer	59
Computer Virus	1
Conficker	1
CR Reader	8
Data	280
DICOM	23
Download	5
EMR	8
Health Record	0
HIS	1648
HL7	7
Information System	24
Interface	55
LAN	63
LIS	253
Malware	0
Microsoft Patch	1
Network	11
Operating System	2
PACS	277
Pharmacy Information System	2
Print	73
Re-Boot	2
Reboot	15
Software Patch	22
Transmit	31
Windows	4
Workstation	89

**Appendix B**  
**H-IT Safety Issues—Generalized Categories**

Category	Examples
<b>Errors of Commission (EOC)</b>	<p><b>Example 1:</b> An error occurred in software used to view and document patient activities. When the user documented activities in the task list for one patient and used the “previous” or “next” arrows to select another patient chart, the first patient’s task list displayed for the second patient.</p> <p><b>Example 2:</b> A nuclear medicine study was saved in the wrong patient’s file. Investigation suggested that this was due to a software error.</p> <p><b>Example 3:</b> A sleep lab’s workstation software had a confusing user interface, which led to the overwriting and replacement of one patient’s data with another patient’s study.</p>
<b>Errors of Omission or Transmission (EOT)</b>	<p><b>Example 1:</b> An EMR system was connected to a patient monitoring system to chart vital signs. The system required a hospital staff member to download the vital signs, verify them, and electronically post them in the patient’s chart. Hospital staff reported that, several times, vital signs have been downloaded, viewed, and approved, and have subsequently disappeared from the system.</p> <p><b>Example 2:</b> An operating room management software application frequently “locked up” during surgery, with no obvious indication that a “lock-up” was occurring. Operative data were lost and had to be re-entered manually, in some cases from the nurse’s recollection.</p> <p><b>Example 3:</b> An improper database configuration caused manual patient allergy data entries to be overwritten during automatic updates of patient data from the hospital information system.</p>
<b>Errors in Data Analysis (EDA)</b>	<p><b>Example 1:</b> In one system, intravenous fluid rates of greater than 1,000 mL/hr were printed as 1 mL/hr on the label that went to the nursing / drug administration area.</p> <p><b>Example 2:</b> A clinical decision support software application for checking a patient’s profile for drug allergies failed to display the allergy information properly. Investigation by the vendor determined that the error was caused by a missing codeset.</p>

Category	Examples
	<b>Example 3:</b> Mean pressure values displayed on a patient's physiological monitors did not match the mean pressures computed by the EMR system after systolic and diastolic values were entered.
<b>Incompatibility between Multi-Vendor Software Applications or Systems (ISMA)</b>	<p><b>Example 1:</b> An Emergency Department management software package interfaces with the hospital's core information system and the laboratory's laboratory information system; all three systems are from different vendors. When lab results were ordered through the ED management software package for one patient, another patient's results were returned.</p> <p><b>Example 2:</b> Images produced by a CT scanner from one vendor were presented as a mirror image by another vendor's picture archiving and communication system (PACS) web software. The PACS software vendor stipulates that something in the interface between the two products causes some images to be randomly "flipped" when displayed.</p>

**APPENDIX C**  
**H-IT Safety Issues—Detailed Categories**

Category	Description	Examples	Count (%)	H-IT Safety Issue General Categories
Wrong patient/wrong data	Event in which medical information is accessed by the healthcare provider and either the wrong patient or the wrong information is retrieved despite correct inquiry procedures.	Patient A data is requested but patient B data is received. Patient A data specific procedure data is requested, but procedure from a different date or time is provided.	100 (39)	EOC
Clinical data loss/miscalculation	Event in which medical information is either permanently or temporarily lost, deleted or overwritten, without a command to delete, or the scale of measure applied to the electronic data is inaccurate.	Patient A data is requested but no information is found. Forwarded Radiology results are not displayed in the recipient's message center. Standard uptake values for PET are incorrect when the exam is performed on another manufacturer's scanner.	19 (7)	EOC, EOT, EDA
Human factors/usability issues	Event in which the device design is confusing or likely to be misunderstood by user resulting in unanticipated, clinically-related errors.	Excessive drop down menu selections facilitating data entry error. Legibility is limiting. Device workflow is counterintuitive.	16 (6)	EOC
Unforeseen software design issues	Unforeseen event in which software design is attributed to safety issues.	System fails to return intake and output results. When an order is modified, the system displays the current and previous versions of the order.	18 (7)	EOT

Category	Description	Examples	Count (%)	H-IT Safety Issue General Categories
Image measurement/corruption issues	Event in which measurement algorithms or functions produced erroneous results or the image displays were corrupted.	Incorrect image sizing. Text misplaced over images.	13 (5)	EOT
Radiologic image misorientation	Event in which the image (e.g., x-ray, nuclear scans, etc) is labeled incorrectly or whose orientation is not correct.	Nuclear image is presented flipped (e.g., right-left reversed). Diagnostic image is flipped but the left-right markers are not.	12 (5)	EOT
Medication administration issues	Any event in which the device software design results in errors of medication administration.	Dosing errors based on calculations; duplication of orders.	20 (8)	EDA
Lab result issues	Any event in which the device software design results in erroneous lab results.	Lab results are not being tagged as "high" or "low." Critical lab results are not entered into the phone-alert cue.	17 (7)	EDA
System data versus printout data discrepancy	Event in which data printout is different from data records requested from the system.	IV fluid rates greater than 1,000ml/hr print as 1ml/hr on the label. Patient data other than what was selected printed out.	6 (2)	EDA
Charting/orders	Event in which clinical data (charting or orders) is not correctly stored, transferred, updated, or displayed in the medical records.	Automatic expiration of drug order not displayed. Inability to access expanded medication charts. Vital sign data does not populate the chart.	14 (5)	EOT

Memo: H-IT Safety Issues

Category	Description	Examples	Count (%)	H-IT Safety Issue General Categories
Medication preparation issues	Any event in which pharmaceutical system produces erroneous guidelines for preparation and distribution of medications.	Incorrect drug dosage used to prepare infusion.	10 (4)	EDA
Other	Miscellaneous safety issues	Server crashes. Networking problems. Computer virus. Incorrect system configuration by user.	12 (5)	EOC, EOT, EDA, IMSA

*EOC: Errors of Commission; EOT- Errors of Omission or Transmission; EDA- Errors in Data Analysis; IMSA- Incompatibility  
between Multi-Vendor Software Applications or Systems*



New York City Council  
Committee on Hospitals, Committee on Technology

Oversight - Electronic Health Records  
November 20, 2019

Written Testimony of  
Varoon Mathur  
Technology Fellow, AI Now Institute, New York University

Good Afternoon Chairpersons Rivera and Holden, and members of the Hospitals and Technology Committees. My name is Varoon Mathur, 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 (AI). Thank you for the opportunity to testify today on privacy and security concerns regarding electronic health records (EHRs).

At the AI Now Institute, our research on the use of AI has identified a significant and alarming uptake of AI-based tools and systems within high-stakes domains including criminal justice, education, welfare, employment, and indeed health care.<sup>1</sup> The four key concerns we examine in relation to these systems span areas of bias and inclusion, rights and liberties, labor, and safety and critical infrastructure. This work is of particular importance to the domain of health care, where AI and advanced precision medicine algorithms have been marketed as fulfilling the promise of EHRs, by using "big data" analytics to produce new clinical knowledge, and more precise and tailored diagnostics.<sup>2</sup>

The rapid development and implementation of machine learning (ML) algorithms and data sharing partnerships in the healthcare space brings new challenges around privacy, security, and patient identifiability through EHR data. Most recently, a partnership between Google and Ascension, one of the largest non-profit health systems in this country, became public after a whistleblower working on the project revealed that patient data transferred between Ascension and Google was not "de-identified".<sup>3</sup> This partnership, in which Google would provide Cloud services to help migrate Ascension's infrastructure to a Google-managed cloud

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<sup>1</sup> Whittaker, Meredith, Kate Crawford, Roel Dobbe, Genevieve Fried, Elizabeth Kaziunas, Varoon Mathur, Sarah Myers West, Rashida Richardson, Jason Schultz, and Oscar Schwartz. *AI now report 2018*. AI Now Institute at New York University, 2018. <https://ainowinstitute.org/aiareport2018.pdf>.

<sup>2</sup> Millard, Mike. 2019. "Machine Learning Will Help EHRs Fulfill Precision Medicine's Promise." Healthcare IT News. January 18, 2019. <https://www.healthcareitnews.com/news/machine-learning-will-help-ehrs-fulfill-precision-medicines-promise>; "Big Data in Healthcare: Challenges & Promise" n.d. Accessed November 19, 2019. <https://catalyst.nejm.org/big-data-healthcare>; "Scientists Outline the Promises and Pitfalls of Machine Learning in Medicine." n.d. EurekAlert! Accessed November 19, 2019. [https://www.eurekalert.org/pub\\_releases/2019-04/hms-sot040119.php](https://www.eurekalert.org/pub_releases/2019-04/hms-sot040119.php).

<sup>3</sup> "I'm the Google Whistleblower. The Medical Data of Millions of Americans Is at Risk | Anonymous | Opinion | The Guardian." n.d. Accessed November 19, 2019. <https://www.theguardian.com/commentisfree/2019/nov/14/im-the-google-whistleblower-the-medical-data-of-millions-of-americans-is-at-risk>



environment, also included Google's development of AI solutions, ostensibly to help support doctors and nurses to improve care in real time.<sup>4</sup>

Google is not the only cloud provider partnering with hospital systems to help migrate patient data and other health information technology (IT) infrastructure to cloud servers owned and managed by large tech firms. Amazon Web Services now provides the ability to subscribe to third party data, enabling healthcare professionals to aggregate data from clinical trials. Microsoft recently announced a partnership with Humana that would provide cloud and AI resources, as it is also helping power Epic Systems' predictive analytics tools for EHRs.<sup>5</sup> In fact, estimates now expect the cloud computing market for healthcare to reach nearly \$30 billion by 2026.<sup>6</sup> Meanwhile, recent polls tracking Americans' perception of their experiences with EHRs show that most patients are increasingly concerned with unauthorized access of confidential information.<sup>7</sup>

These new developments raise two key questions regarding the privacy, security, and safety of patient data: 1) how does our definition of protected health information (PHI) change in the age of AI algorithms, given their predictive capabilities which can disclose sensitive information even absent PHI, and 2) how do we assess the utility of EHRs in building more advanced algorithms for better patient care? New research suggests that the rapid deployment of clinical AI tools absent regulatory oversight leaves patients vulnerable to privacy and security breaches. Furthermore, our own research exploring the sociotechnical dynamics of EHRs suggests that these forms of data record limited information, and are unable to capture patients' lived experiences. Thus EHRs do not lend themselves to the development of clinical tools, in spite of the claims made by hospital systems and cloud providers.

Under the Health Insurance Portability and Accountability Act (HIPAA), PHI data is categorized as data that directly and uniquely ties to an individual, with examples including names, birth dates, and email addresses.<sup>8</sup> 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 more complete history of

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<sup>4</sup> "Our Partnership with Ascension." n.d. Google Cloud Blog. Accessed November 19, 2019. <https://cloud.google.com/blog/topics/inside-google-cloud/our-partnership-with-ascension/>.

<sup>5</sup> "AWS Data Exchange | Amazon Web Services." n.d. Amazon Web Services, Inc. Accessed November 19, 2019. <https://aws.amazon.com/data-exchange/>; Thorne, James. n.d. "Microsoft Lands Another Healthcare Partnership, This Time with Humana to Take Care of Aging Seniors – GeekWire." Accessed November 19, 2019. <https://www.geekwire.com/2019/microsoft-lands-another-healthcare-partnership-time-humana-take-care-aging-seniors/>; "Ochsner Health System Adopts Epic's Machine Learning Platform Powered by Microsoft Azure." n.d. Accessed November 19, 2019. <https://azure.microsoft.com/en-us/resources/videos/ochsner-health-system/>.

<sup>6</sup> Lagasse, Jeff. n.d. "Healthcare Cloud Computing Growth Due in Part to Curbing Infrastructure Costs | Healthcare Finance News." Accessed November 19, 2019. <https://www.healthcarefinancenews.com/news/healthcare-cloud-computing-growth-due-part-curbing-infrastructure-costs>.

<sup>7</sup> Muñana, Cailey, Ashley Kirzinger, and Mollyann Brodie. 2019. "Data Note: Public's Experiences With Electronic Health Records." The Henry J. Kaiser Family Foundation (blog). March 18, 2019. <https://www.kff.org/other/poll-finding/data-note-publics-experiences-with-electronic-health-records/>.

<sup>8</sup> "What Is Considered Protected Health Information Under HIPAA?" 2018. *HIPAA Journal* (blog). April 2, 2018. <https://www.hipaajournal.com/what-is-considered-protected-health-information-under-hipaa/>.

a patient without using any PHI of the patient in question.<sup>9</sup> Similarly, last month a New York Times article reported new research that showed it is possible to create a reconstruction of patients' faces using de-identified MRI images, that could then be identified using facial recognition systems.<sup>10</sup> 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. Such concerns are echoed in a recent class action complaint filed in response to the partnership between the University of Chicago Medical Center and Google, which states that Google is "uniquely able to determine the identity of almost every medical record the university released" due to its expertise and resources in AI development.<sup>11</sup>

Trading the privacy and security of individual patients in order to leverage precision clinical care incorrectly assumes that EHR data and infrastructure are inherently viable for training of machine learning models. Yet research demonstrates that this premise is misguided because it fails to consider two key challenges: (1) EHR infrastructure was originally constructed for billing and other administrative tasks, rather than clinical care; and (2) EHR data is both incomplete and flawed because it is missing important data for a variety of populations and is incapable of capturing all of the data necessary for precision clinical care. For example, a Michigan State University study showed that EHR tend to function more for administrative record keeping rather than a tool for clinical care. This is because EHR are structured to reflect the interests of political and corporate stakeholders, recording what is important to them, and not necessarily what matters to patients.<sup>12</sup> Though EHR infrastructure has evolved over time, it is still riddled by the structural flaws and presumptions that motivated its initial development. Moreover, research conducted by Dr. Elizabeth Kaziunas, a Postdoctoral Fellow at AI Now, demonstrated the ways in which the social construction of health data (how it is shaped by the interests of institutions and corporate stakeholders), along with the design limitations of our current health information systems, like EHRs, result in a failure to capture important types of health information. Specifically, gaps in the EHR can result from health disparities within communities, and can inadvertently exclude certain patient populations, as well as the under-reporting of chronic illnesses by individual patients due to associated stigmas.<sup>13</sup> The significant limitations of EHRs mean that machine learning tools informed and trained by such data are likely to be highly biased. And this suggests the urgent

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<sup>9</sup> Hejblum, Boris P., Griffin M. Weber, Katherine P. Liao, Nathan P. Palmer, Susanne Churchill, Nancy A. Shadick, Peter Szolovits, Shawn N. Murphy, Isaac S. Kohane, and Tianxi Cai. "Probabilistic record linkage of de-identified research datasets with discrepancies using diagnosis codes." *Scientific data* 6 (2019): 180298.

<sup>10</sup> Kolata, Gina. n.d. "You Got a Brain Scan at the Hospital. Someday a Computer May Use It to Identify You." - The New York Times." Accessed November 19, 2019. <https://www.nytimes.com/2019/10/23/health/brain-scans-personal-identity.html>.

<sup>11</sup> Wakabayashi, Daisuke. n.d. "Google and the University of Chicago Are Sued Over Data Sharing - The New York Times." Accessed November 19, 2019. <https://www.nytimes.com/2019/06/26/technology/google-university-chicago-data-sharing-lawsuit.html>.

<sup>12</sup> Hunt, Linda M., Hannah S. Bell, Allison M. Baker, and Heather A. Howard. "Electronic health records and the disappearing patient." *Medical anthropology quarterly* 31, no. 3 (2017): 403-42. <https://doi.org/10.1111/maq.12375>.

<sup>13</sup> G. M. Weber, W. G. Adams, E. V. Bernstam, J. P. Bickel, K. P. Fox, K. Marsolo, V. A. Raghavan, A. Turchin, X. Zhou, S. N. Murphy, and K. D. Mandl, "Biases introduced by filtering electronic health records for patients with "complete data";" *Journal of the American Medical Informatics Association : JAMIA*, vol. 24, pp. 1134–1141, Nov. 2017.; Elizabeth Kaziunas, Michael S. Klinkman, and Mark S. Ackerman. 2019. Precarious Interventions: Designing for Ecologies of Care. *Proc. ACM Hum.-Comput. Interact.* 3, *CSCW*, Article 113 (November 2019), 27 pages. DOI: <https://doi.org/10.1145/3359215>; Tiffany C Veinot, Hannah Mitchell, Jessica S Ancker, Good intentions are not enough: how informatics interventions can worsen inequality, *Journal of the American Medical Informatics Association*, Volume 25, Issue 8, August 2018, Pages 1080–1088, <https://doi.org/10.1093/jamia/ocy052>.





need for more regulatory oversight over algorithms developed within hospital systems and deployed in partnership with cloud technology companies.

Given the large number of world-class health systems in New York City that will continue to utilize more cloud services for EHR storage and integration, and continue to pursue AI development, this Committee has a unique opportunity to spearhead city-wide legislative efforts that can address the current challenges. We provide three forward-looking policy recommendations that this council should pursue.

### Policy Recommendations for New York City Council

1. **Require New York City health systems procuring AI/ML solutions, alongside Cloud server solutions, to conduct Algorithmic Impact Assessments as part of notifying and obtaining consent from patients.**<sup>14</sup>

In 2018, AI Now published the Algorithmic Impact Assessment (AIA) framework, which offers a means for assessing algorithmic systems, while also providing the public with meaningful opportunities to evaluate the potential impacts if such a system would be adopted, before an agency has committed to its use. This process fosters transparency and trust between agencies and the communities they serve, and is especially important to ensure that patients are aware of how their health records are being used, and have the opportunity to consent before their records are used for training AI models. Such measures would also ensure clear reporting on what types of data are being shared by health systems with cloud service providers.

2. **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.**

Public health agency use of social media data to identify disease outbreaks and predict epidemics before they occur raises significant concerns around surveillance, especially since such predictions are usually made without consent from patients whose data they rely on.<sup>15</sup> Such tools also raise issues regarding accuracy: there is mounting evidence that algorithms predicting health outcomes using social media data are inaccurate, and prone to significant bias.<sup>16</sup> These specific problems are compounded in the context of EHR data, and therefore clear justification must be made available through public disclosures.

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<sup>14</sup> Reisman, Dillon, Jason Schultz, Kate Crawford, and Meredith Whittaker. "Algorithmic impact assessments: A practical framework for public agency accountability." *AI Now Institute* (2018). <https://ainowinstitute.org/aiareport2018.pdf>.

<sup>15</sup> Graham Dodge, "Using Social Media as a Public Health Surveillance Tool," *Becker's Hospital Review*, March 2, 2017, <https://www.beckershospitalreview.com/population-health/using-social-media-as-a-public-health-surveillance-tool.html>; Ebele Mogo, "Social Media As A Public Health Surveillance Tool: Evidence And Prospects," *Sickweather*, [https://enterprise.sickweather.com/downloads/SW-SocialMedia\\_WhitePaper.pdf](https://enterprise.sickweather.com/downloads/SW-SocialMedia_WhitePaper.pdf).

<sup>16</sup> Shirin Ghaffary, "The Algorithms That Detect Hate Speech Online Are Biased against Black People," *Vox*, August 15, 2019, <https://www.vox.com/recode/2019/8/15/20806384/social-media-hate-speech-bias-black-african-american-facebook-twitter>.



3. **Conduct city-wide disparate impact evaluations around the current uses of EHRs in order to identify potential socioeconomic disparities arising from the use of AI/ML health solutions.**

A recent study found that an algorithm trained on patient data and used to screen for patients in need of “high-risk care management” was substantially biased against black patients.<sup>17</sup> This was due to the fact that the algorithm used health care costs as a proxy for health needs, but failed to account for the fact that disparities exist between patients and thus their ability to access care, which results specifically in black patients having fewer health care dollars spent on them. Such examples detail how EHRs and similar patient data do not fully capture the sociotechnical context of their use, and can lead to further inequity within health care systems. It also shows why disparate impact analysis must be a central component of any assessments conducted around algorithmic tools procured within the city and that is used to inform decisions around health care resource allocation.

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<sup>17</sup> Obermeyer, Ziad, Brian Powers, Christine Vogeli, and Sendhil Mullainathan. "Dissecting racial bias in an algorithm used to manage the health of populations." *Science* 366, no. 6464 (2019): 447-453.

November 20<sup>th</sup> 2019

Leah Houston, MD

Why we are here:

“Studies show that while EHR’s have improved billing processes they have yet to really improve patient health”

The council and the industry seem surprised at this conclusion, however my colleagues and I are not surprised. We are the ones who took an oath to put patients first above all else. We predicted this. We were ignored. Those who designed and implemented EMR technology did not take the concerns of the physician community into consideration, and therefore the technology is not providing a benefit. I appreciate and commend that you are giving me an opportunity to testify as a physician who has seen experience the harm caused by EMR. I urge you to take what I have to say into careful consideration in order to prevent further harm.

Since the inception of the HITECH act of 2009 we have watched in horror as this technology has forced its way into our exam room and lead to an assault on the doctor patient relationship. Medical records were historically created for communication from physician to physician in order to best coordinate care for the patient.<sup>1</sup> It later became a form of evidence for malpractice attorneys, and later as HMO’s gained market share it began to be used as a tool to capture information for billing and coding. HITECH allowed industries special interests to control the narrative around how these systems were designed, and it has been those industries that have benefited.

2019  
FALSE  
“EHR will save \$81 Billion/year”

*Rand study 2005*

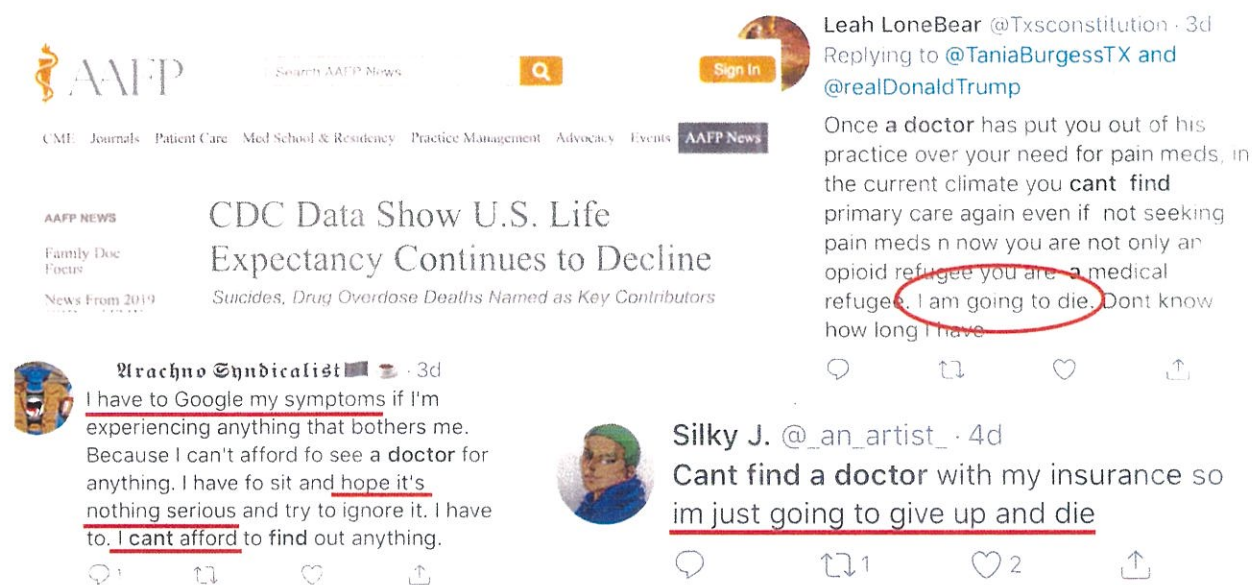
Meanwhile, the patients- the ones who should actually matter are seeing no benefit, because they were not *truly* considered. Our patients feel ignored, and we have been mandated to ignore them, or risk our jobs or our livelihoods. This is a government mandated uncompensated administrative burden that has taken 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 the EMR than they are with their patients and this is why we are frustrated and exhausted to the point that we are leaving our practice and dying by suicide at faster rates than any other profession.

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<sup>1</sup> Wikipedia: “Medical record US law and customs”



Electronic health records are inefficient, non-interoperable and an intrusion on the doctor patient relationship.<sup>2</sup> Because EMR is now mandated, health systems, insurance companies and EMR companies now have our patients protected health information, and we no longer have rights to protect it. Cerner and Epic control nearly 50% of the market.<sup>3</sup> 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 subject research experiment that never sought proper informed consent. I commend the ONC 21<sup>st</sup> Century Cures Act's acknowledgment of some of these problems, and hope they follow through on implementing interoperability and enforce the penalties for information blocking. In addition, more needs to be done to preserve patient privacy, as patients need to be assured they can be honest with their physicians in order to obtain the best care.



The screenshot shows the AAFP News website with a headline: "CDC Data Show U.S. Life Expectancy Continues to Decline" with subtext "Suicides, Drug Overdose Deaths Named as Key Contributors". Below the website, there are two social media comments. The first comment, from @Arachno Syndicalist, says: "I have to Google my symptoms if I'm experiencing anything that bothers me. Because I can't afford to see a doctor for anything. I have to sit and hope it's nothing serious and try to ignore it. I have to. I can't afford to find out anything." The second comment, from @Silky J. @\_an\_artist\_, says: "Cant find a doctor with my insurance so im just going to give up and die". Both comments have red underlines under the phrases "I have to", "I can't afford", and "give up and die".

There is one additional and unfortunately far more insidious problem occurring that I must draw your attention to that is leading to the lack of improvement in patient outcomes. Based on my experience and review of currently available information I have reason to believe that, the data we are 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 is now clear to me that we, as physicians are being forced to mine our patient's private health data for industries who seek to extract value from rather than provide value to our patients. No wonder US life expectancy has 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.

<sup>2</sup> "Why Doctors Hate Computers" The New Yorker by Atul Gawande Nov 12, 2018

<sup>3</sup> "Epic Cerner hold 50% of Hospital EHR Market Share: 8 Things to Know" By Anuja Validya: Beckers Hospital Review Tuesday May 2<sup>nd</sup> 2017 and <https://dashboard.healthit.gov/quickstats/pages/2015-edition-market-readiness-hospitals-clinicians.php>

Testimony for New York City Council  
Joint Committee hearing on Electronic Health Records

Danielle Ofri, MD, PhD, D Litt(Hon), FACP  
Attending Physician, Bellevue Hospital  
Clinical Professor of Medicine, NYU School of Medicine

November 2019

I submit the following testimony not as a researcher or scholar on medical technology, but rather as a primary care doctor who spends most of her time in direct patient care at Bellevue Hospital (in addition to supervising medical students and residents taking care of patients.)

I will preface my comments by stating upfront that I am not a Luddite. I love medical technology and would never want to be caught without it. I'm a supporter of the electronic health record (EHR) which, on balance, is better than the old paper chart. However there are distinct drawbacks to the EHR that need to be addressed urgently. The main areas that it affects negatively (which are all ultimately intertwined) are inability to practice good medicine due to overwhelming minutia and fragmented thinking, clinician burnout, impaired doctor-patient communication/connection, and jeopardized patient safety.

The EHR has had a massive impact in the daily practice of medicine, devolving it largely into data-entry. While the EHR can streamline workflow and make life easier for [specialists in some fields](#), for generalists it has skyrocketed the workload. Primary care doctors now spend an average six hours a day [doing data entry](#) (twice as much as they spend on direct patient care!) And then many routinely clock in additional hours

of charting at home. This is a [prominent contributor to burnout](#), which in turn is a [prominent contributor to medical error](#).

The demands on medical professionals have escalated relentlessly in the past few decades, without a commensurate expansion of time. By far the biggest culprit of this mushrooming workload is the EHR. There are many salutary aspects of the EHR., and no one wants to go back to the old days of chasing down lost charts, deciphering inscrutable handwriting, and mopping up spilled coffee from the pages. But the data entry is mind-numbing and voluminous. Primary-care doctors spend nearly [two hours typing into the EHR for every one hour of direct patient care](#). Most of us are now putting in hours of additional time each day for the same number of patients.

The EHR is now “conveniently available” to log into from home. Many of my colleagues devote their weekends and evenings to the spillover work. They feel they can’t sign off until they’ve documented all the critical details of their patients’ complex medical histories, followed up on all the test results, sorted out all the medication inconsistencies, and responded to all the calls and messages from patients. This does not even include the hours of compliance modules, annual mandates and administrative requirements that they are expected to complete “between patients.”

For most doctors and nurses, it is unthinkable to walk away without completing your work because dropping the ball could endanger your patients. But in a factory, if 30 percent more items were suddenly dropped onto an assembly line, the process would grind to a halt. Imagine a plumber or a lawyer doing 30 percent more work without billing for it. But in health care there seems to be a wondrous elasticity — you can keep adding work and magically it all somehow gets done.



I stop short of accusing the system of drawing up a premeditated business plan to manipulate medical professionalism into free labor. Rather, I see it as a result of administrative creep, mediated largely by the EHR. One additional task after another is piled onto the clinical staff members, who can't — and won't — say no. From an administrative perspective, all seems to be purring along just fine.

Our time feels devoted to serving the EHR rather than serving our patients. Doctors are particularly pummeled by the tyranny of the in-basket. That quaint-sounding term incongruously suggests aged brie and checkered napkins rather than iron manacles and the ceaseless labors of Sisyphus that it represents to practicing physicians. No matter how assiduously you work, you can never ever be done; the tasks pile on relentlessly—test results, prescription requests, overdue results, canceled tests, staff messages, CC'ed charts, prior authorization requests, consult responses, unfinished charts, coding concerns, patient questions, etc. Heavier loads in the in-basket [correlate with physician burnout](#), the brunt born largely by those in the primary care trenches.

Because there are so many EHR-related tasks required in every visit with a patient, there is no time to think. Patients are sicker these days. The medical complexity per patient — the number and severity of chronic conditions — [has steadily increased](#), meaning that medical encounters are becoming ever more involved. They typically include more illnesses to treat, more medications to administer, more complications to handle — all in the same-length office or hospital visit.

There are so many EHR tasks to “get through” in order to complete the visit that most doctors are racing to cover the bare minimum, sprinting in subsistence-level intellectual mode because that's all that's sustainable.

This is a set-up for diagnostic error, as well as overuse of medical tests. It's much easier and faster to order a dozen tests than to sit and reason through a complicated situation. But that's what so many of our patients' conditions require — time to think, consider, revisit, reanalyze.

From the billing-and-coding perspective, this would be supremely inefficient. There's no CPT code for contemplation. But extra time dedicated to thinking — with either longer patient visits or protected time for “panel management” — could actually be remarkably efficient. We would save money by reducing unnecessary tests and cop-out referrals. We'd make fewer diagnostic errors and avert harms from over-testing. And allowing doctors to practice medicine at the upper end of our professional standard would make a substantial dent in the demoralization of physicians today.

Keeping the doctor-patient connection from eroding in the age of the EHR is an uphill battle. We all know that the eye contact is a critical ingredient for communication and connection, but when the computer screen is so demanding of focus that the patient becomes a distraction, even an impediment—this is hopelessly elusive.

Recently, I was battling the EHR during a visit with a patient who had particularly complicated medical conditions. We hadn't seen each other in more than a year, so there was much to catch up on. Each time she raised an issue, I turned to the computer to complete the requisite documentation for that concern. In that pause, however, my patient intuited a natural turn of conversation. Thinking that it was now her turn to talk, she would bring up the next thing on her mind. But of course I wasn't finished with the last thing, so I would say, “Would you mind holding that thought for a second? I just need to finish this one thing...”

I'd turn back to the computer and fall silent to finish documenting. After a polite minute, she would apparently sense that it was again her turn in the conversation and thus begin her next thought. I was torn because I didn't want to stop her in her tracks, but we've been so admonished about the risks inherent in distracted multitasking that I wanted to focus fully on the thought I was entering into the computer. I know it's rude to cut someone off, but preserving a clinical train of thought is crucial for avoiding medical error.

My other reason for holding her off was to prevent my clinical train of thought from interrupting *her* story. We doctors are (rightfully) entreated to be mindful with our patients, to be fully present and attuned when they are speaking. It's a matter of human respect, but it's also integral for minimizing diagnostic error. Catching the subtleties of the medical history is how we increase diagnostic accuracy and avoid the sloppiness of all-you-can-order medical testing. The only way to listen fully to her was to have her wait until I completed my clinical thought.

"Just give me a minute," I'd beg of her, typing maniacally to catch up. And so it went, as we plowed through her nearly two dozen medications, her many visits to specialists, her labs, her CT scans, and recent illnesses. At every step of the way, as she brought up each of her concerns, I found myself uttering some variation of, "Hold on," "Just a sec," "Can you give me another 20 seconds?" "Sorry, don't meant to cut you off, but..." By the rules of normal conversation, cutting someone off is rude. Even if my holding her off was actually a manifestation of trying to be a good listener, it still felt boorish.

Trying to respect the dictums of avoiding multitasking and also fully focusing on listening put me in an impossible bind. I could, of course, fake it—listen with half an ear

while corralling the rest of my intellectual vigor on the 6743 fields that need to be clicked in precisely the right order to placate the EHR in all its oracular glory.

Many of us physicians muddle through our clinical encounters in this manner. We're half-listening, half-typing, half-processing what tests we'll need to order, half-chiding ourselves about an oversight from our last patient, half-ignoring the red-flag alerts that keep cropping up, half-thinking about the next three patients in the waiting room, and half-pondering whether one of the EHR buttons could do something practical like conjure up a sandwich since the EHR has decisively eradicated anything remotely resembling a lunch-break.

The only thing that's *not* diminished by half is the feeling that we're cutting corners on every front and scraping by with mediocre medical care.

So where does that leave empathy in the age of the EHR? A higher being might peek into our exam room these days and be unable to distinguish the doctor from the sphygmomanometer. The connection between doctor and patient is the foundation of empathy. How can we even *begin* to sense our patients' world if we are hardly glancing in their direction, listening with only half an ear, or cutting them off every time they try to talk because we ourselves are drowning in the EHR?

Burnout among doctors and nurses appears to be at epidemic proportions these days, with concomitant prescriptions for wellness and resilience. But in reality, most of us are not burned out in the true sense of the word: most of us love taking care of patients and want nothing more than to be able to do just that.

In response, we are told to focus on wellness and resilience. On a good day, when I almost manage to keep my head a hair's breadth above water during patient-care sessions,

these well-meaning encouragements strike me as ironic. On a bad day, when the impossible math of the system undercuts my ability to care for my patients and I see their health suffering as a result of this, these terms feel downright cynical.

*Resilience?* The doctors and nurses I see are among the most resilient people in existence. That they manage to soldier on in this soul-crushing system, mostly managing to take good care of their patients and not walk out en masse—that's resilience! *Wellness?* That's like a kindly offer of an ice pack from a mafioso after he's kneecapped you with a baseball bat.

I don't doubt that the emphasis on resilience and wellness arises from benevolent intentions. I'm sure the desire to make clinician less miserable is genuine. But they put the onus on the us to make ourselves feel better—*Take up yoga! Engage in mindfulness!*—when it's the system that has inflicted the pain and burnout. The EHR isn't all of it, but for most clinicians, it is the heavy-hitter.

Everyone who has a role in health care should work directly with patients and experience how the system—especially the EHR—thwarts efforts to do the right thing. Folks in the C-suites ought to do two mornings of clinic per month or a few weeks of ward time each year. Administrators without medical or nursing degrees should staff the front desk and the call centers. Working directly with the EHR in a high-pressured setting would surely be an eye-opening experience (and Lord knows we could all use the extra hands on deck).

If the healthcare industry is as patient-centered as it claims, then the EHR ought to be a tool that makes it *easier* for doctors and nurses to take care of their patients, not harder. It should be giving clinicians *more* time with patients, not less. And it needs to take

clinician burnout seriously. Expecting doctors and nurses to pick up the slack is not sustainable.

It's not so much whether one EHR is better than another — they all have their breathtaking assets and their snarling annoyances. What is really becoming clear to me is the uncomfortable realization that there are actually three of us in the room now: the patient, me, and the EHR.

What started out as a tool — a database to store information more efficiently than the paper chart — has inserted itself as a member of the medical team. What used to be a tango between the doctor and patient is now a troika.

But unlike the doctor or the nurse or the physical therapist, the EHR undergoes no medical training. Unlike the blood pressure cuff or the pacemaker or the MRI, it does not have to meet any federal safety standards. Unlike the cholesterol medication or the antibiotic, the EHR doesn't have to undergo any clinical trials to ensure that its harms don't exceed its benefits.

There is at least one upside to this mess, however. The aggressiveness of the EHR's incursion into the doctor-patient relationship has forced us to declare our loyalties: are we taking care of patients or are we taking care of the EHR? We all want to definitely state "Patients!" but in the day-to-day reality of the practice of medicine today, we are forced to focus on the care and feeding of the EHR.

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# GREATER NEW YORK HOSPITAL ASSOCIATION

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November

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2019

Council Member Carlina Rivera  
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RE: Statement for Hearing: Electronic Health Records

Dear Council Members Rivera and Holden:

Thank you for the opportunity to provide testimony on electronic health records (EHRs) on behalf of the more than 160 member hospitals of the Greater New York Hospital Association (GNYHA). All of GNYHA's members are either not-for-profit, charitable organizations or publicly sponsored institutions. Their services range from state-of-the art, tertiary care to the most basic primary care, given their roles as safety net providers for many of the communities they serve. The GNYHA membership includes every hospital in New York City, many others across New York State, as well as in New Jersey, Connecticut, and Rhode Island.

I spoke about this topic before the Council several years ago, at the beginning of the national effort to adopt federally certified EHRs across health care providers. In 2010, Congress had just passed the American Recovery and Reinvestment Act of 2009 (ARRA), which included an unprecedented \$17 billion investment in health information technology and a legislative mandate for the nationwide adoption of a standard, certified, and comprehensive electronic health record in hospitals and physician offices. Over the last decade, every hospital and a great majority of physician offices in New York City have met this goal. While there have been challenges, by most accounts providers would not imagine returning to a manual, paper-based environment.

## **EHR adoption in New York City is ubiquitous.**

Shortly after Congress passed ARRA with a mandate for the US Department of Health and Human Services (HHS) to define the standards and requirements for EHR adoption, the Centers for Medicare & Medicaid Services (CMS) and the Office of the National Coordinator for Health Information Technology (ONC) released their "rules of the road" for hospitals to be deemed "meaningful users" of EHRs. These



*GNYHA is a dynamic, constantly evolving center for health care advocacy and expertise, but our core mission—helping hospitals deliver the finest patient care in the most cost-effective way—never changes.*



rules were extensive, complicated, not fully tested, and tremendously prescriptive. EHR vendors had their own set of technical standards and specifications to meet in order to be certified by the Federal government and compete in the new market. And hospitals had to invest in newly certified EHRs, implement all required functionality—such as computerized order entry, reporting of clinical quality measures, and providing patients with their health information—and demonstrate successful use of these functions to collect the initial incentive dollars available. Criteria were set to demonstrate initial targets for meaningful use and were updated to increase in rigor and sophistication over time, adding requirements such as interoperability between EHRs and electronic prescribing. Importantly, the initial incentive dollars were set to convert to payment penalties beginning in 2015, threatening millions of dollars of annual Medicare payments to hospitals.

HHS recently introduced new regulations that build on the meaningful use program and aim to remove the market barriers to sharing information even more freely across the health care environment and with patients. These new regulations would penalize hospitals, EHR developers, and health information exchanges for information blocking practices that block interoperability and patient access. Once finalized, HHS will require hospitals to develop new policies and technical capabilities to share information more readily while still maintaining their rigorous privacy practices.

All New York City hospitals consistently meet the ever-evolving Federal requirements to be deemed meaningful users and avoid payment penalties. They do so while appropriately securing health information and maintaining patient privacy. Most stakeholders and experts would say the meaningful use program and provider adoption of EHRs has been beneficial to health care’s advancement of technology, documentation, and management of patients’ health. While some would also argue that Federal programs have been prescriptive and requirements have hindered innovation, most believe change takes time and that we are well on the way to optimizing technology use to derive the value we’ve sought.

### **EHRs have positively impacted patient care, population health, and access to care.**

New York is leading the way in realizing the potential of EHRs to deliver on these goals. While providers across the country have spent the eight years since the meaningful use program’s launch focusing much of their resources on meeting the Federal criteria, New York City hospitals have also established EHR and data governance workgroups, engaged frontline clinicians in identifying and optimizing day-to-day use of EHRs. They have developed linkages between their EHR and other health system technology to maximize the value of data residing in their networks. And now they are developing reports, dashboards, and targeted clinical decision support tools to place that data in the hands of clinicians to inform population health initiatives, public health initiatives, and individual patient care.

Hospitals in New York are reaching beyond their four walls and deploying technology that connects them to health care providers throughout the City to better manage the care of their patients, particularly those with chronic illnesses and special needs. All New York City hospitals are connected to the Statewide Health Information Network for New York (SHIN-NY). Many are also connected to national networks through their powerful EHR systems. These health information exchange platforms allow clinicians and health systems to view patient health information, and are designed to prevent intrusions, protect patient data, and track consent so that, with the appropriate permissions, patient information is shared to coordinate care across providers.

New York hospitals are also expanding patients' access to health care through their EHR telehealth module. With improvements in coverage for telehealth services in Medicaid, Medicare, and commercial health plans, hospitals are implementing novel uses for telehealth technology in primary and specialty care services. Patients are increasingly able to remain home for follow-up and check-in visits, and providers can extend their reach to patients who may avoid seeking health care they need.

### **Hospitals are balancing privacy, patient access, and interoperability.**

New York hospitals are committed to safeguarding their patients' privacy and the security of their health information. Like all hospitals, they are guided by the general framework of the Health Insurance Portability and Accountability Act (HIPAA), which permits hospitals to share patients' protected health information (PHI) without consent only for certain purposes, such as treatment and payment. Many hospitals perform audits of logs showing who has accessed and modified the PHI in their records

What sets New York hospitals apart from hospitals elsewhere is New York State law. New York State law—and the Department of Health's longstanding interpretation of this law—are more stringent than HIPAA and require consent for almost all forms of information sharing, including general PHI. New York State law also restricts the sharing of information related to specialized populations, such as behavioral health and HIV. Further, SHIN-NY policies and procedures for the sharing of health information across providers are in some respects more stringent than HIPAA and require patient consent for accessing data shared by other providers. Finally, hospitals also follow 42 CFR Part 2, which restricts the sharing of substance use disorder information to very limited circumstances and under tight constraints.

### **Conclusion**

GNYHA and its members believe in the promise of technology and EHRs to support better health care and empower patients. While short-term improvements have been made in population health and in improving and expanding care to patients, EHRs will continue to demonstrate their value as hospitals and clinicians gain experience over the next several years. We stand ready to support our members and patients through these exciting innovations.

If you have any questions, please contact Zeynep Sumer-King ([zsumer@gnyha.org](mailto:zsumer@gnyha.org)), Andrew Title ([atitle@gnyha.org](mailto:atitle@gnyha.org)), or David Labdon ([dlabdon@gnyha.org](mailto:dlabdon@gnyha.org)).

Sincerely,



Zeynep Sumer King  
Vice President, Regulatory and Professional Affairs

**Testimony of Planned Parenthood of New York City  
Before The New York City Council Committees on Technology and Hospitals Regarding  
Electronic Health Records**

November 20th, 2019

Good afternoon, my name is Rashmi Kashyap and I am the Associate Vice President of Clinical Informatics at Planned Parenthood of New York City. I would like to thank Committee Chairs Council Members Carlina Rivera and Robert Holden for holding this important oversight hearing on the use of electronic records by health care providers in New York City.

Planned Parenthood of New York City (PPNYC) has been a leading provider of sexual and reproductive health services in New York City for more than 100 years, conducting over 90,000 patient visits per year. PPNYC provides a wide range of health services including access to birth control; emergency contraception; gynecological care; cervical and breast cancer screenings; colposcopies; male sexual health exams; testing, counseling, and treatment for sexually transmitted infections; the HPV vaccine; HIV testing and counseling; and pregnancy testing, options counseling and abortion. We also provide PrEP and PEP, transgender hormone therapy, vasectomies, and menopausal hormonal therapy. We are a trusted name in health care because of our commitment to comprehensive, inclusive care.

In addition to our clinical services, PPNYC has a robust education department, reaching more than 26,000 youth, adults and professionals across New York City annually. Our programs provide tools to help our participants make informed decisions and lead healthy and safe lives. Our education programs reach young people and caring adults in the communities they live.

At PPNYC, our patients trust that the care we provide is not only comprehensive but also confidential. The use of electronic health records (EHRs) allows us to engage with patients in more meaningful ways while ensuring the information they provide is secure. In 2008, PPNYC launched our electronic health records systems and I joined as the Director of Electronic Health Records and Practice Management Systems and managed system implementation. Since then, I have rolled out several other health IT-related projects such as a bi-directional lab interface, patient portal, ultrasound interface, reporting tools, check in kiosks, and an integrated e-payment system. In 2017, I became the Director of Clinical Informatics and worked to build PPNYC's data warehouse and DASH (Data Analytics and Strategy Hub). In my current capacity, my team of clinical analysts and I work on clinical reporting and analytics for the organization.

In my time at PPNYC, I have seen how EHRs have allowed the care we provide to our patients be more streamlined. Currently, EHRs allow us to schedule patient appointments, maintain higher quality patient records, institute better billing and coding practices for reimbursements, and more easily engage with insurance companies. Additionally, we have a robust patient portal where our patients can access their lab results, get refills for their medication, and share

information with providers of their choice in a secure way. Through our website and EHR app, patients can upload information about their medical history and get care instructions prior to appointments at our centers that allow for more streamlined visits.

EHR systems have been adopted by many health systems throughout the country. In New York City, it was recently announced that Health + Hospitals, the nation's largest public health system, 19 patient care locations adopted EHRs, bringing the total up to 50 locations with over 19,000 users in the system.<sup>1</sup> Health + Hospitals projects that the expansion of EHR will lead to increased revenue collection, streamlined access to medical records for patients, and better health outcomes.<sup>2</sup> Advantages of adopting EHR include: coordinated and efficient care for patients, effective patient diagnoses and reduced medical errors, promotion of documentation completion in a timely manner, and providing accurate and up-to-date patient information.<sup>3</sup> Additionally, EHR allows providers to meet business goals more effectively, enhance privacy and security, and promote better work-life balance.<sup>4</sup>

With the better care coordination that EHRs provide, there are many challenges and opportunities to make the systems more efficient. As more providers adopt EHR systems, it is important to address issues around interoperability that make it difficult to share information amongst providers. Some providers have different EHR within their systems and on average, health systems have 18 different EHR vendors within their provider network.<sup>5</sup> Coordinating care with these different EHR vendors can become difficult. Interoperability challenges include the high cost of integrating the various systems, lack of communication between EHR platforms, and limited participation of payers in information sharing.<sup>6</sup>

The outdated mechanisms in which EHR collect patient data must also be addressed. Many EHR systems do not allow for flexibility in collecting information on patient identities and gender expression. For trans and gender nonconforming individuals, they are often limited to choosing from binary “male” and “female” gender categories. Also, they are forced to answer to names and identities they no longer use because there is no sustainable mechanisms for providers to collect current names and pronouns and share that information with insurance companies,

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<sup>1</sup> New Electronic Health Record System Now Live at 50 Patient Care Locations. (2019, April 16). Retrieved November 19, 2019, from <https://www.nychealthandhospitals.org/pressrelease/new-electronic-health-record-system-now-live-at-50-patient-care-locations/>.

<sup>2</sup> New Electronic Health Record System Now Live at 50 Patient Care Locations. (2019, April 16). Retrieved November 19, 2019, from <https://www.nychealthandhospitals.org/pressrelease/new-electronic-health-record-system-now-live-at-50-patient-care-locations/>.

<sup>3</sup> What are the advantages of electronic health records? (2019, May 16). Retrieved November 19, 2019, from <https://www.healthit.gov/faq/what-are-advantages-electronic-health-records>.

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<sup>6</sup> Barrick, G. (2019, June 17). 4 Reasons Why EHR Interoperability is a Mess (and How to Fix It). Retrieved November 19, 2019, from <https://datatica.com/blog/reasons-ehr-interoperability-is-a-mess-and-how-to-fix-it/>.

leading to painful experiences for many individuals and decreased trust between provider and patient.

The adoption of EHR systems is a great step toward ensuring individuals throughout New York City have access to quality and comprehensive care. These systems have allowed for greater communication between patients and providers and ultimately, better health outcomes. However, there are many challenges that need to be addressed. We applaud the City Council for its efforts to explore the use of EHRs in health systems in New York City and ensuring these systems are effective. PPNYC looks forward to working with the City Council on this matter and we are hopeful that collectively, we can work to make our health systems more equitable and comprehensive for all. Thank you.

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*Since 1916, Planned Parenthood of New York City (PPNYC) has been an advocate for and provider of sexual and reproductive health services and education for New Yorkers. Through a clinical services, education, and advocacy, PPNYC is bringing better health and more fulfilling lives to each new generation of New Yorkers. As a voice for sexual and reproductive health equity, PPNYC supports legislation and policies to ensure that all New Yorkers will have access to the full range of sexual and reproductive health care services and information*

**Testimony of Planned Parenthood of New York City  
Before the New York City Council Committee on Justice Systems and the Committee on  
Gender Equity  
Regarding the Efficacy and Efficiency of Batterer Intervention Programs.**

November 20, 2019

Good Afternoon. My name is Sarah Sanchala and I am the Director of Government Relations at Planned Parenthood of New York City. I would like to thank Chairs Lancman and Rosenthal, the Committee on Justice System, the Committee on Women and Gender Equality for jointly holding this oversight hearing on the efficacy of batterer intervention programs in New York City.

Planned Parenthood of New York City (PPNYC) has been a leading provider of sexual and reproductive health services in New York City for more than 100 years, conducting over 90,000 patient visits per year. PPNYC provides a wide range of health services including access to birth control; emergency contraception; gynecological care; cervical and breast cancer screenings; colposcopies; sexual health exams for all genders; testing, counseling, and treatment for sexually transmitted infections; the HPV vaccine; HIV testing and counseling; and pregnancy testing, options counseling and abortion.

In addition to these services, we also have highly experienced social workers. Our social service team sees many patients who have experienced sexual assault or intimate partner violence (IPV). After the initial meeting with our social workers, our team provides patients with referrals to organizations that specialize in intimate partner violence, help create connections to outside programs, and increase access to vital care. We work to ensure that our referral networks are reliable and effective and can address the specific needs of any individual who seeks help at any of our five health centers. Additionally, our education team facilitates a wide range of comprehensive sex education workshops, including workshops for adults at domestic violence shelters and senior centers. As with all comprehensive sex education curricula, these workshops teach about healthy relationships and consent.

Batterer intervention programs address intimate partner violence by providing resources and education for the perpetrators of abuse. We know that many of our patients delay accessing health care due to IPV. We work with patients to ensure they have access, and can afford the care, even if that means that they don't use their insurance to avoid a "summary of benefits" being sent to the house. This includes understanding the cultural influences that may affect a person's decision to stay in an unhealthy relationship-- including emotional attachment, religious or spiritual beliefs that perpetuate notions of what a relationship should be, language and communication barriers, and fear of deportation due to immigration status.

In addition to ensuring that programs are culturally competent and accessible, PPNYC believes that education is a crucial part of prevention. We strongly encourage the implementation and



integration of violence prevention and education programs, such as comprehensive sex education, in medical settings, schools, and prisons, to ensure that people are able to understand the importance of healthy relationships and how to navigate harmful and violent relationships.

Planned Parenthood also strongly recommends collaboration with law enforcement and social services programs that are presently assisting survivors of IPV. Given the fact that law enforcement officials play a tremendous role in the outcomes of intimate partner violence instances, it is imperative that batterer intervention programs incorporate trauma-informed training for law enforcement to ensure that intimate partner relationships are met with responses that are adequate and sensitive to the parties involved.<sup>1</sup> Additionally, social service programs like Sanctuary for Families, Safe Horizon, SAVI of Mt. Sinai, Crime Victims Treatment Center, Beth Israel Medical Center Victim Services, STEPS, and Family Justice Center are already supporting survivors and addressing intimate partner violence and may be able to offer guidance or recommendations for batterer intervention programs that both address the needs of survivors and of batterers.

At PPNYC, we witness the effects of violence on our patients and believe that safeguards must be placed to address the harm that survivors experience. We are hopeful that NYC agencies can collaborate with law enforcement officials, experts in the field and social service organizations to ensure that batterer intervention programs are adequate and efficient at reducing cases of intimate partner violence.

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<sup>1</sup> <https://onlinelibrary.wiley.com/doi/abs/10.1111/1745-9133.12365>

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I represent: HPSC, Inc

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☐ in favor ☐ in opposition

Date: 11.20.19

(PLEASE PRINT)

Name: Michael Bouton M.D.

Address: Chief Medical Information Officer

I represent: NYC Health + Hospitals

Address: \_\_\_\_\_

Please complete this card and return to the Sergeant-at-Arms



**THE COUNCIL  
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. \_\_\_\_\_ Res. No. \_\_\_\_\_

☐ in favor ☐ in opposition

Date: 11.20.19

(PLEASE PRINT)

Name: Kevin Lynch, Chief Information Officer

Address: \_\_\_\_\_

I represent: N.Y.C. Health + Hospitals

Address: \_\_\_\_\_

**THE COUNCIL  
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. \_\_\_\_\_ Res. No. \_\_\_\_\_

☐ in favor ☐ in opposition

Date: \_\_\_\_\_

(PLEASE PRINT)

Name: VAROON MATHUR

Address: 53 Division St, 10002, New York, New York

I represent: AI Now Institute

Address: \_\_\_\_\_

**THE COUNCIL  
THE CITY OF NEW YORK**

Appearance Card

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☐ in favor ☐ in opposition

Date: 11/20/19

(PLEASE PRINT)

Name: Dr. Judith Thompson

Address: 590 Smith Falls Rd Laguna Tx 78155

I represent: Practicing Physicians of America

Address: 876 Loop 337 Bldg 101 New Braunfels Tx 78130

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