An Organizational Risk Approach to Current and Emerging Healthcare Threats and Opportunities

Safeguarding Health Information: Building Assurance through HIPAA Security
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Objectives

• Who is Henry Ford Health System?

• What is our Organizational Risk Approach to privacy and security?

• Which current and emerging health care threats and opportunities are we prioritizing?
Henry Ford Health System

• Founded in 1915 by auto pioneer Henry Ford, Henry Ford Health System is comprised of hospitals, medical centers and one of the nation's largest group practices, the Henry Ford Medical Group

• Health Alliance Plan (HAP), a wholly-owned nonprofit subsidiary, provides health insurance coverage to individuals, companies and organizations
Hospitals

Henry Ford Hospital
- 877-bed flagship hospital
- Level I trauma center

Henry Ford Allegiance Health
- 475-bed acute care hospital
- Level II trauma center

Henry Ford Wyandotte Hospital
- 401 bed acute care hospital
- Level II trauma center
Hospitals

- **Henry Ford Macomb Hospital**
  - 361-bed acute care hospital
  - Level II trauma center

- **Henry Ford West Bloomfield Hospital**
  - 191-bed acute care hospital
  - Level III trauma center

- **Kingswood Hospital**
  - 100-bed inpatient psychiatric hospital
  - 24 hour intake
By the Numbers

- **Human Resources**
  - 32,000 team members; 10,000 in City of Detroit
  - 1,900 employed physicians
  - 6,200 nurses, including 550 from Canada
  - 4,600 allied health professionals

- **Financial**
  - $5.8 billion annual revenue
  - $86.8 million net income
  - $456 million uncompensated care

- **Healthcare Services**
  - 115,000 inpatient admissions
  - 3.7 million outpatient visits
  - 76,000 surgical procedures

- **Health Alliance Plan**
  - 570,000 HAP members
  - 27,000 participating providers in Michigan
IPSO Functions

At a glance

Governance, Risk & Compliance
- Gap, compliance, security and risk assessments
- Maturity assessments
- 3rd party risk
- Control library, efficacy monitoring
- Security & privacy consulting
- Exception & risk management
- Mapping laws, rules, reg to policies, procedures, requirements, controls and assets
- Governmental and industry entity relationship management (Homeland Security, OCR, CMS)

Privacy & Security Operations
- Vulnerability Management
- Configuration management
- Privacy case management
- RPA, consent, notifications & disclosures
- Forensics
- Control execution
- Cyber & Information Security
- Incident response
- Identity & access management
- Red team + Blue team

Program Management
- Training
- KRI, SLA, health & compliance metrics
- Voice of the customer
- Stakeholder management
- Roadmap development, execution & management
- Threat intelligence & hunting
- Architecture/secure design authority
- New capabilities, Mobile device security, application security
- Automation roadmap & execution
Pace of Change?

Easter morning 1900: 5th Ave, New York City. Spot the automobile.

Easter morning 1913: 5th Ave, New York City. Spot the horse.

Source: US National Archives.

Source: George Grantham Bain Collection.
Health Care Innovations

- Henry Ford Innovation Institute
- International Programs
- Virtual Care
Henry Ford Innovation Institute

• Operating philosophy: Use innovation to improve healthcare and the patient experience.
  – Organized as an independent scientific research and educational entity
  – All inventions are welcome
  – Inventions assessed on potential impact on healthcare, economic potential and aligned costs to deploy, and related intellectual property attributes
Henry Ford Allegiance Health has new tool for robot-assisted spinal surgery

Posted Jan 25, 2018

Henry Ford Allegiance Health neurosurgeons Dr. Azam Basheer, left, and Dr. Amritraj Loganathan, pose with the ExcelciusGPS robot. (Henry Ford Allegiance Health)
International Programs

– Medical Tourism
  ➢ International visitors

– Licensing to New & Existing Hospitals
  ➢ License “know how” and technology to start ups and existing hospitals

– Medical Partnerships
  ➢ Telemedicine, “colleague to colleague” access, remote specialty expertise and second opinions, “virtual” specialty clinics

– Innovation Program Development
  ➢ Technology commercialization, validation of new technologies and adaptation for western markets
Virtual Care Projections

"THE FUTURE OF HEALTHCARE IS VIRTUAL"
"Tomorrow's office visit will increasingly take place everywhere but the office"

Projected number of office visits: 2015 - 2025

Office Visits vs. Virtual Visits

Source: Fortune, Ray Dorsey / Eric Topol - http://fortune.com/2013/05/02/brainstorm-health-2013
Virtual Care – Disruptive Innovation

- **68%** of Americans own a smartphone
  - **90%** of the world’s population own smartphone by 2020

- **77%** of consumers start their search for health care services online
  - **64%** of patients are willing to see a doctor via video

- Virtual healthcare market is expected to reach
  - visits of more then **105 million** by **2022**
  - revenues of more than **$3.5 billion** by **2022**
Virtual Visit Capabilities

Variations:
- MyCare On Demand Video Visits
- Exam Enabled Video Visits

*Some insurance payers will reimburse for these services
HFHS Virtual Care by the numbers

7,532+
Virtual patient encounters in 2018
- 9,102+ in 2019 YTD
  - 5,043 Video
  - 4,059 Store and forward

39+
Specialty services and growing

575+
HFHS available specialists

104,550 (134+ Days)
Patient Miles Saved in 2018

2,890 (12+ Clinic Days)
Provider Miles Saved in 2018

As of August 2019

1,787+
New Installs in 2018
- +668 New Installs in 2019 YTD
- +29,181 Encounter in 2019 YTD

23,067+
Tele-Radiology Readings in 2018
- +13,019 in 2019 YTD

9,102+ in 2019 YTD

5,043 Video
4,059 Store and forward
Organizational Risk Approach

• Organizational Risk – led by SVP & General Counsel

• System-wide leadership of and accountability for five divisions:
  – Office of General Counsel (Legal)
  – Information Privacy & Security Office (IPSO)
  – Business Integrity (Compliance)
  – Risk Finance & Insurance Services (Risk)
  – Corporate Governance (Governance)
Organizational Risk Approach

**Information Privacy & Security Office (IPSQ)**
- Promotes prevention, detection, and resolution of non-compliance through: Policy, Training, Incentives, Auditing/Monitoring, Corrective Action, Metrics
- Enable the business to operate, grow and transform while protecting information in accordance with established regulatory and commercial obligations. Key activities of this department include:
  - Establishing and maintaining policy and procedures
  - Drive awareness (everybody has a role in HFHS meeting our privacy and security requirements)
  - Risk and security assessments
  - Security controls
  - IT audit
  - Incident Response
  - Business Associate Agreement (BAA) and other 3rd party agreements (language to ensure privacy and security compliance)
  - Privacy case management and other local privacy support activities

**Business Integrity**
- Purpose is to help ensure that the organization follows good business practices that will protect it from any potential:
  - Violation of laws, regulations, rules, conflicts of interests or unethical behavior
  - Including maintaining appropriate financial or operational controls to mitigate risk
  - This is achieved through education/monitoring/testing activities of the organization

**Corporate Governance**
- The function of Corporate Governance includes:
  - Activities of the HFHS fiduciary and non-fiduciary boards and committees to ensure the organization is directed, controlled and governed in the best interest of all stakeholders
  - Organization’s governance framework to ensure adherence to procedures, processes, and authority structures to ensure transparency and accountability
  - Support for the board, committees and the executive management with implementing and maintaining governance and risk practices throughout the organization

**Risk Finance & Insurance Services**
- The function of Risk Finance & Insurance includes:
  - Integration of system insurance and risk finance program
  - Claims for professional and general liability, workers compensation and commercial insurance
  - Claims data and reports
  - Risk and crisis issues
  - Risk education

**Office of General Counsel**
- The function of the Office of General Counsel includes:
  - Day to day legal and regulatory questions
  - Contracts and transactions
  - Legal risk analysis and mitigation
Organizational Risk Approach

• Regularly partner with:
  – Information Technology
  – Health Information Management
  – Clinical Divisions
  – Virtual Care
  – Supply Chain Management
While technology will play a role in the success of all strategic themes, the primary focus of our technology efforts will be in creating a differentiated experience, every time. Key technology focus areas will include:

**Continuing the evolution of our Customer Relationship Management capabilities and Web Presence** to attract customers to our businesses – advanced SEO, digital marketing, market analytics, predictive modeling, …

**Deploying ‘self serve’ capabilities (self triage, self scheduling, pricing visibility, pre-service forms, payment, etc.)** that allow customers to interact with us on their terms - however they want, whenever they want, from wherever they want. Become the Netflix (vs Blockbuster) of healthcare – mobile, web, next generation contact center, IoT, …

**Extending our clinical expertise** beyond our physical footprint by bringing care to the patient rather than bringing the patient to the care – telemedicine, virtual visits, remote monitoring, …

**Making it easier** for doctors, nurses, and other caregivers to do their work efficiently thereby reducing clinician burnout – EMR simplification, voice-driven documentation, secure messaging, …

**Automating operations and hardwiring best practices** wherever possible to improve customer service, reduce cost, and decrease dependency on labor – robotic process automation, AI, IoT, analytics, …

**Using data, analytics, and predictive modeling in all parts of the organization** to guide decision-making in the best interests of our customers
Data Explosion and Analytics

• More data has been created in the last two years than in entire previous history of mankind

• By the year 2020, about 1.7 megabytes of new information will be created every second for every human on the planet

• Currently, less than 0.5% of data is ever analyzed and used
Analytics Maturity Model – A Never Ending Journey

Level 8: Per Unit of Health Payment & Prescriptive Analytics
- Contracting for & managing health. Tailoring patient care based on population outcomes.
- Diagnosis-based financial reimbursement & managing risk proactively

Level 7: Per Capita Payment & Predictive Analytics
- Procedure-based financial risk and applying “closed loop” analytics at the point of care
- Measuring & managing evidence based care

Level 6: Per Case Payment & The Triple Aim
- Efficient, consistent production & agility
- Efficient, consistent production

Level 5: Clinical Effectiveness & Accountable Care
- Relating and organizing the core data
- Foundation of data and technology

Level 4: Automated External Reporting
- Inefficient, inconsistent versions of the truth

Level 3: Automated Internal Reporting

Level 2: Standardized Vocabulary & Patient Registries

Level 1: Integrated, Enterprise Data Warehouse

Level 0: Fragmented Point Solutions

- Improving Health and Reducing Total Cost of Care
- Reducing Variation and Waste
- Improving Efficiency
Infrastructure Futures

Internet of Things (IoT) connected devices installed base worldwide from 2015 to 2025 (in billions)

Connected devices in billions

Source
IHS
© Statista 2018

Additional Information:
Worldwide; IHS; 2015 to 2016
“Alexa... ask Henry Ford Health if urgent care is open.”
Technology Strategy ➔ Value Over Time

- What do we need to do to realize Path A?
- What do we need to do to avoid Path C?
- How can we do both within the context of:
  - Our organizational strategy?
  - Realistic expectations re maturity and value of technologies?
  - Our execution parameters (cost, talent, people, culture, etc.)?
Cybersecurity Risks

Risks

• Patient safety
• Business operations interruption
• Reputational damage
• Revenue loss
• Non-compliance fees
• Business recovery expenses
• Litigation
• Loss of competitive advantage
• National security

Risk Drivers

• Data integrity attacks
• Medical device security
• Ransomware
• Enemy hacking programs
• Human error
Key Concepts

• Two Way Street

• Interesting / Valuable

• Pace of Change

• Simplicity as a Goal

“We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten. Don’t let yourself be lulled into inaction.”

HFHS Formally Chartered Governance & Collaboration

- Board of Directors
- Audit and Compliance subcommittee of the Board
- Executive Council
- System Planning and Performance Council
- Cybersecurity Steering Committee
- Digital Steering Committee
- Compliance Committee
HFHS Collaboration Processes

- Emergency Preparedness Committee
- Social Media Advisory Team
- Voice of the Customer Community
- Weekly legal and privacy collaboration meetings
- Third party risk assessments
- Privacy and security risk management transformative approach
Intentional Stakeholder Management

Stakeholder Assessment – Commitment and Contribution Map – Cybersecurity Program

Commitment

Critical

Desirable

Non-essential

Disagree (Prevent from happening)

Neutral (Let it happen)

Supportive (Help it happen)

Committed (Make it happen)

CTO Engagement Plan

CTO

CTO

COO Engagement Plan

COO

COO

CFO Engagement Plan

CFO

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