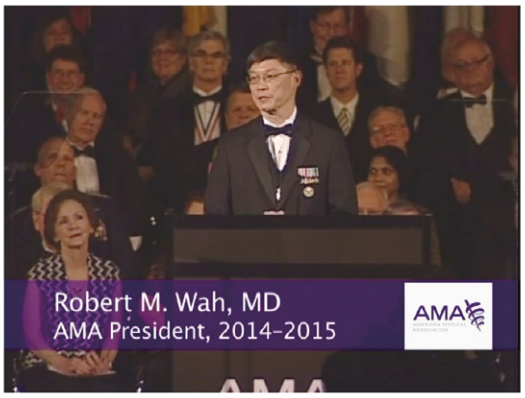
Healthcare IT and Healthcare Databases*1

Robert WAH[1]



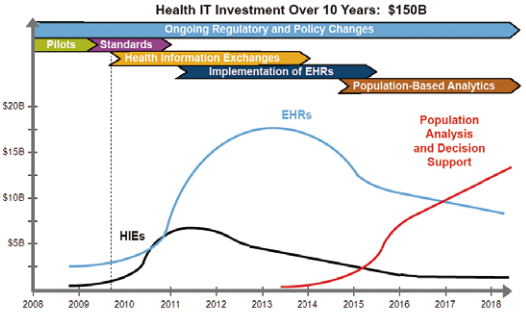
https://www.youtube.com/watch?v=wyzXoxvAt2s

Transforming Healthcare with Better Information for Better Decisions

Quality of care is improved with better information — saving lives and money

- Patients make better decisions about their care, their physicians, and their health
- Physicians make better decisions for their patients
- Government makes better decisions about quality of care, biosurveillance, Medicare utilization and integrity, and transparency
- Payers make better decisions about benefits, features and services to offer plan members, promoting wellness and better care, controlling costs, and developing new outcomes-based reimbursement models
- Life Science workers make better decisions to produce more useful clinical trials and laboratory findings

Three Waves of Health IT Investment: Health Information Exchanges (HIEs), Electronic Health Records (EHRs) and Tools for Health Analytics



*1 This article is a list of the PPT slides which were used by the author in his Keynote Speech at the 29th CMAAO General Assembly and 50th Council Meeting, Manila, the Philippines, on September 24-26, 2014.

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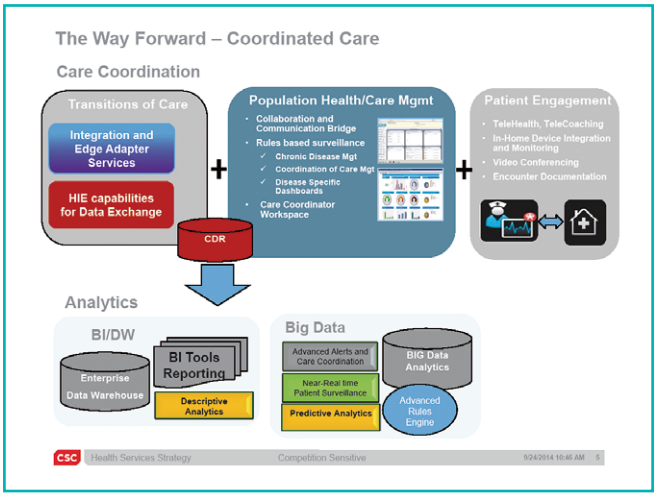
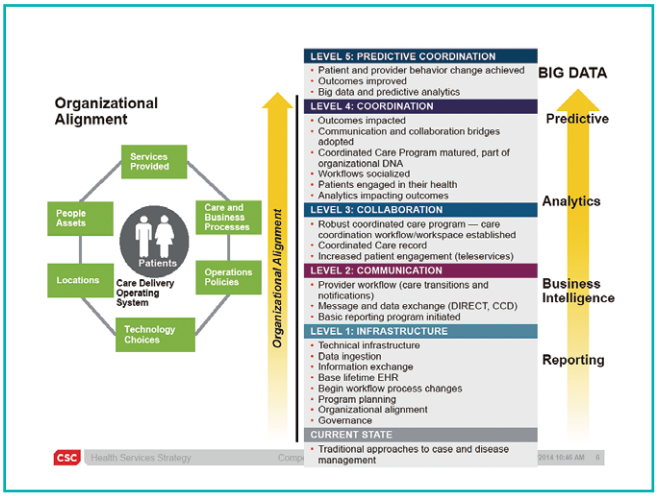
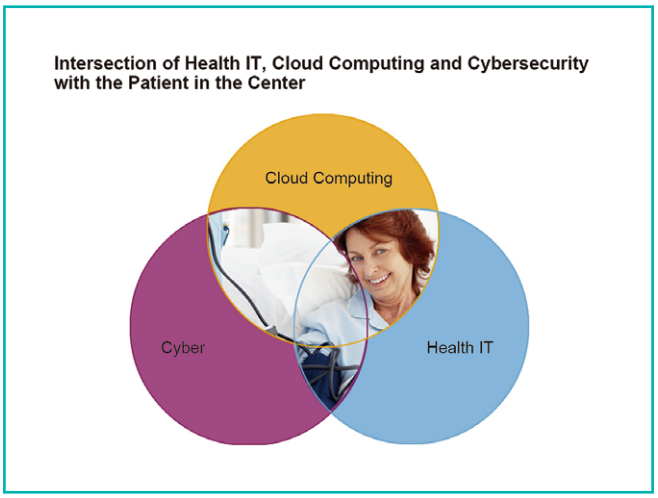
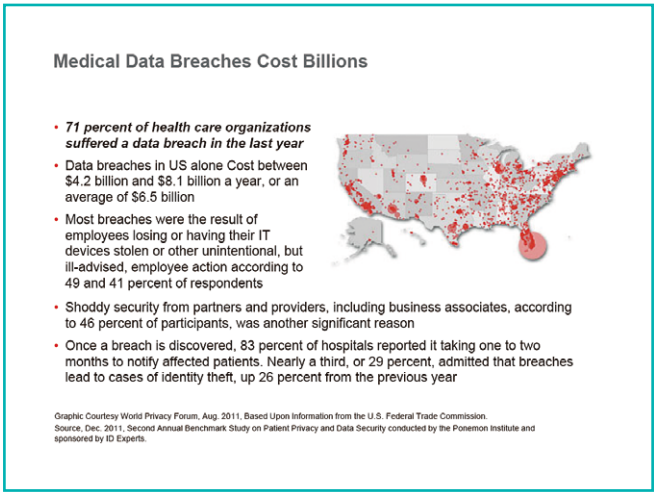

The Way Forward – Coordinated Care
Care Coordination
Transitions of Care
Integration and Edge Adapter Services
HIE capabilities for Data Exchange
CDR
Population Health/Care Mgmt
Collaboration and Communication Bridge
Rules based surveillance
Chronic Disease Mgt
Coordination of Care Mgt
Disease Specific Dashboards
Care Coordinator Workspace
Patient Engagement
TeleHealth, TeleCoaching
In-Home Device Integration and Monitoring
Video Conferencing
Encounter Documentation
Analytics
BI/DW
Enterprise Data Warehouse
BI Tools Reporting
Descriptive Analytics
Big Data
Advanced Alerts and Care Coordination
Near-Real time Patient Surveillance
Predictive Analytics
BIG Data Analytics
Advanced Rules Engine
CSC
Health Services Strategy
Competition Sensitive


Organizational Alignment
Services Provided
People Assets
Care and Business Processes
Patients
Locations
Care Delivery Operating System
Operations Policies
Technology Choices
Organizational Alignment
LEVEL 5: PREDICTIVE COORDINATION
Patient and provider behavior change achieved
Outcomes improved
Big data and predictive analytics
LEVEL 4: COORDINATION
Outcomes impacted
Communication and collaboration bridges adopted
Coordinated Care Program matured, part of organizational DNA
Workflows socialized
Patients engaged in their health
Analytics impacting outcomes
LEVEL 3: COLLABORATION
Robust coordinated care program — care coordination workflow/workspace established
Coordinated Care record
Increased patient engagement (teleservices)
LEVEL 2: COMMUNICATION
Provider workflow (care transitions and notifications)
Message and data exchange (DIRECT, CCD)
Basic reporting program initiated
LEVEL 1: INFRASTRUCTURE
Technical infrastructure
Data ingestion
Information exchange
Base lifetime EHR
Begin workflow process changes
Program planning
Organizational alignment
Governance
CURRENT STATE
Traditional approaches to case and disease management
BIG DATA
Predictive
Analytics
Business Intelligence
Reporting
CSC
Health Services Strategy


Intersection of Health IT, Cloud Computing and Cybersecurity with the Patient in the Center
Cloud Computing
Cyber
Health IT

Desktop
Windows 7
Virtual Desktop
Desktop Management
Bring Your Own Device
Application Management
Access functionality from Any Place, Any Time and Any Device
Stop thinking of the mobile as a device, and begin thinking of it as a means to Access a Service
At home
At Aunt Edna's
In the office
In the hotel or at the airport
On the move
As you move between devices and/or locations, your functionality is always available

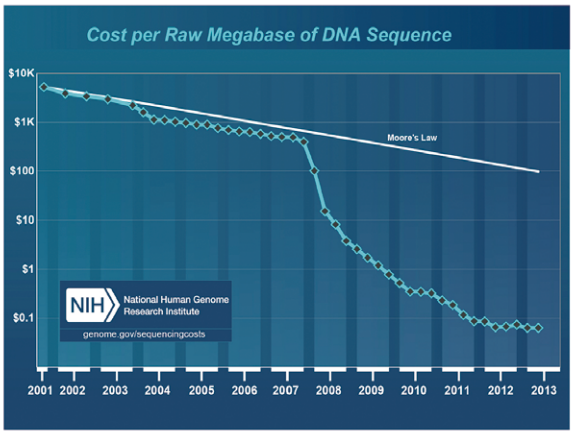

Medical Data Breaches Cost Billions
71 percent of health care organizations suffered a data breach in the last year
Data breaches in US alone Cost between $4.2 billion and $8.1 billion a year, or an average of $6.5 billion
Most breaches were the result of employees losing or having their IT devices stolen or other unintentional, but ill-advised, employee action according to 49 and 41 percent of respondents
Shoddy security from partners and providers, including business associates, according to 46 percent of participants, was another significant reason
Once a breach is discovered, 83 percent of hospitals reported it taking one to two months to notify affected patients. Nearly a third, or 29 percent, admitted that breaches lead to cases of identity theft, up 26 percent from the previous year
Graphic Courtesy World Privacy Forum, Aug. 2011, Based Upon Information from the U.S. Federal Trade Commission.
Source, Dec. 2011, Second Annual Benchmark Study on Patient Privacy and Data Security conducted by the Ponemon Institute and sponsored by ID Experts.

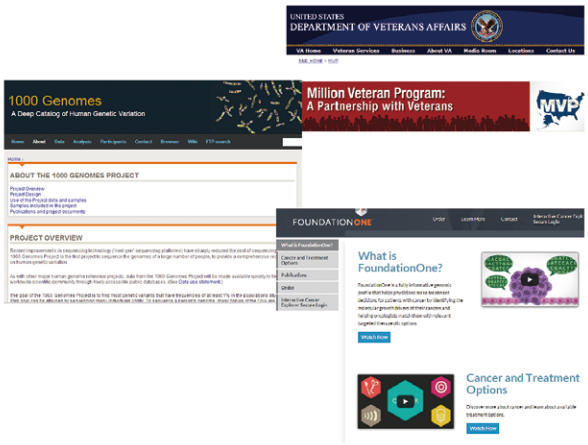
Health Care Industry Is A Primary Target for Thieves and Regulators
Represents one of the largest global repositories of sensitive personal information
All services targeted
Health Care Providers
Health Services
Life Sciences
Health Insurance
Regulators require
Controlling access to patient medical and personal data
Transaction accountability

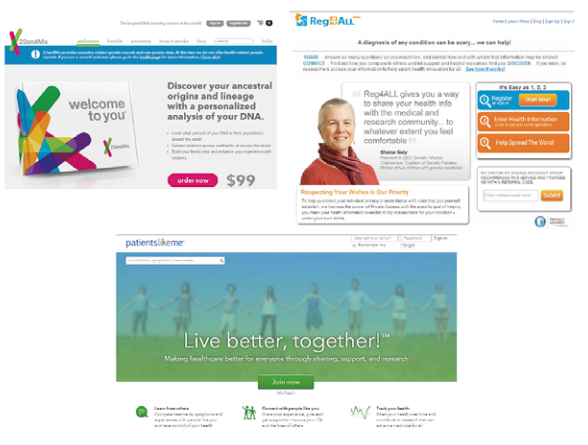
Security Enables Healthcare

Increasingly Healthcare Companies Are Viewing Security and Privacy as Technologies that Enable Better Patient Outcomes

- Security enables integration
- Security enables information analysis
- Security enables interoperability
  - With other institutions
  - With pharmacies and pharmaceutical manufacturers
  - With payment systems
  - With regulators and licensors
- Security enables mobility
- Security enables patient access
- Security enables regulatory compliance
- **Security is NOT just a cost**







WMA Workgroup on Healthcare Databases and Bio-banks

- Updating 2002 Declaration
- Make distinction between ongoing Clinical use and Research use of information and bio materials
- Hold Patient's rights and Physician's Duty of Confidentiality paramount
- Cite the essential role for Research Committees
- Need for governance in use of data and tissue
- Important to have physician engagement and leadership in this important area

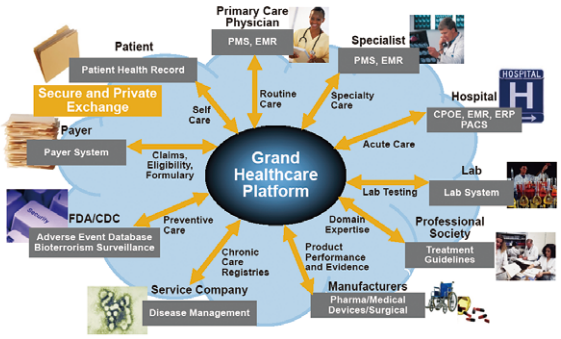
AMA Policy on Genetic and Genomics

- D-460.971 Genome Analysis and Variant Identification Our AMA: (1) encourages payers, regulators and providers to make clinical variant data and their interpretation publicly available through a system that assures patient and provider privacy protection; and (2) encourages laboratories to place all clinical variants and the clinical data that was used to assess the clinical significance of these results, into the public domain which would allow appropriate interpretation and surveillance for these variations that can impact the public's health. (Res. 519, A-13)
- H-65.969 Genetic Discrimination and the Genetic Information Nondiscrimination Act Our AMA: (1) strongly opposes discrimination based on an individual's genetic information; (2) will pursue and support legislation intended to provide robust and comprehensive protections against genetic discrimination and misuse of genetic information; and (3) supports education for health care providers and patients on the protections against genetic discrimination currently afforded by federal and state laws. (CSAPH Rep. 7, A-13)

AMA Policy (Continued)

- H-460.905 Clinical Application of Next Generation Genomic Sequencing 1. Our AMA recognizes the utility of next-generation sequencing (NGS)-based technologies as tools to assist in diagnosis, prognosis, and management, and acknowledges their potential to improve health outcomes. 2. Our AMA encourages the development of standards for appropriate clinical use of NGS-based technologies and best practices for laboratories performing such tests. 3. Our AMA will monitor research on and implementation of NGS-based technologies in clinical care, and will work to inform and educate physicians and physicians-in-training on the clinical uses of such technologies. 4. Our AMA will support regulatory policy that protects patient rights and confidentiality, and enables physicians to access and use diagnostic tools, such as NGS-based technologies, that they believe are clinically appropriate. 5. Our AMA will continue to enhance its process for development of CPT codes for evolving molecular diagnostic services, such as those that are based on NGS; serve as a convener of stakeholders; and maintain its transparent, independent, and evidence-based process. (CSAPH Rep. 4, I-12)

The Future
Interconnected, Private, Secure Health Information Exchange



Questions?

Thank You!

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