

## Better Information, Better Decisions, Better Care

### ABSTRACT-----

#### *Translating Advances in Health Information Technologies into Improved Care for Populations, Patients and Families*

In this session presenters will share their experience in fields ranging from personal health records, biosurveillance, disease management, hospital quality data, genomics and data supporting quality improvement. The aim of the session will be to consider the contribution that such developments are making to enhancing care for individuals, families and populations.

### BIOGRAPHY-----

#### **John D. Halamka, MD, MS**

Chief Information Officer  
Harvard Medical School

Chief Information Officer  
Beth Israel Deaconess Medical Center

John D. Halamka, MD, MS, is Chief Information Officer of Beth Israel Deaconess Medical Center, Chief Information Officer of Harvard Medical School, Chairman of the New England Health Electronic Data Interchange Network (NEHEN), CEO of MA-SHARE (a Regional Health Information Organization), Chair of the US Healthcare Information Technology Standards Panel (HITSP), and a practicing Emergency Physician.



As Chief Information Officer of Beth Israel Deaconess Medical Center, he is responsible for all clinical, financial, administrative and academic information technology serving 3000 doctors, 14000 employees and two million patients. As Chief Information Officer of Harvard Medical School, he oversees all educational, research and administrative computing for 18000 faculty and 3000 students. As Chairman of NEHEN he oversees the administrative data exchange in Massachusetts. As CEO of MA-SHARE he oversees the clinical data exchange efforts in Massachusetts. As Chair of HITSP he coordinates the process of electronic standards harmonization among stakeholders nationwide.

#### **Kenneth D. Mandl, M.D., M.P.H.**

Associate Professor  
Harvard Medical School

Director of the Intelligent Health Laboratory  
Children's Hospital Informatics Program

Kenneth D. Mandl, M.D., M.P.H. is an Associate Professor at Harvard Medical School and Director of the Intelligent Health



Laboratory at the Children's Hospital Informatics Program in Boston Massachusetts.

A pioneer in both consumer informatics and population health monitoring, Dr. Mandl has innovated and published extensively in the areas of personally controlled health records, disease outbreak detection, public health surveillance, and national health information infrastructure.

Recognized for his teaching and research, he has received the Barger Award for Excellence in Mentoring at Harvard Medical School and the Presidential Early Career Award for Scientists and Engineers, the highest honor bestowed by the United States government to outstanding scientists and engineers. Mandl co-directs a CDC Center of Excellence in Public Health Informatics. He is working to translate biosurveillance approaches to pharmacosurveillance. He is a member of the Advisory Committee to the Director of the CDC. He is also a faculty member of the Harvard Medical School Center for Biomedical Informatics and affiliated faculty at the Harvard-MIT Division of Health Sciences and Technology.

## Connecting Patients, Providers, and Payers

John D. Halamka MD  
CIO, Beth Israel Deaconess and Harvard Medical  
School

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## The 8 Focus Areas

- Privacy/Security/Confidentiality
- Infrastructure
- Utilization
- Accounting for Disclosure
- Quality
- Security for Breach Notification
- Collection of Demographic data
- Vulnerable Populations

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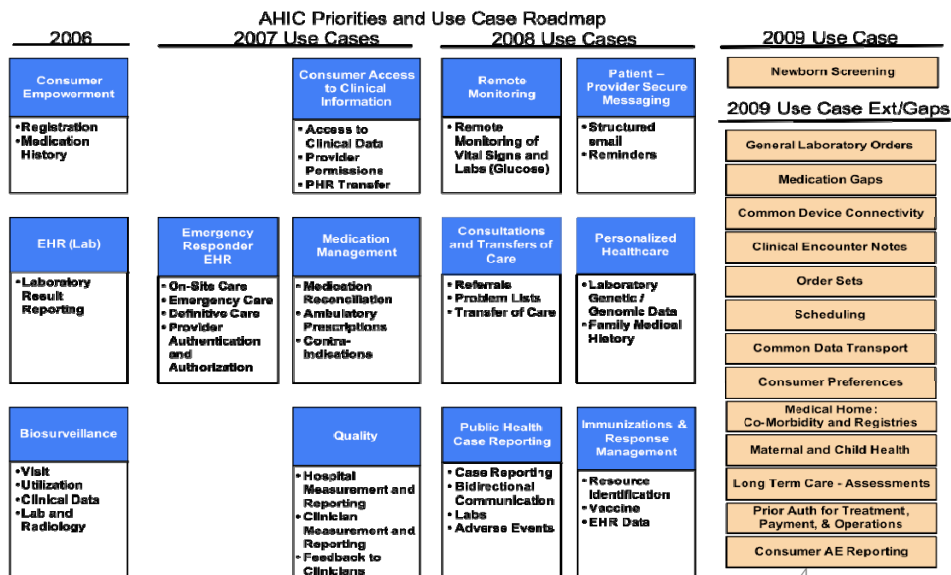
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## The Organizations

- The National Coordinator
- HIT Policy Committee
- HIT Standards Committee
- Standards Harmonization
- NIST
- Certification
- Regional Healthcare IT Extension Centers

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### Standards Harmonization Roadmap



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## Current Use in the US

Depending on the definition of an EHR, adoption varies from 2% to 20%

Regulations now enable hospitals to subsidize 85% of implementation costs

Pay for Performance, Medicare Part D incentives, and the stimulus will accelerate adoption

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## Electronic Health Records for the Boston Community

The Motivation

The Applications

The Infrastructure

The Services

The Economics

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# Best Practices

Documentation of Problems, Medications, Allergies, Visits, Notes, Reports, Labs, Screening Sheets

e-Prescribing

Referral Workflow

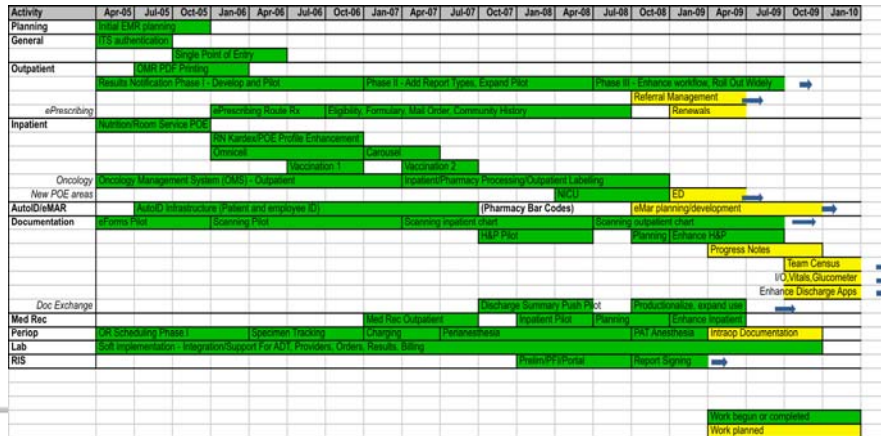
Order Sets with full decision support

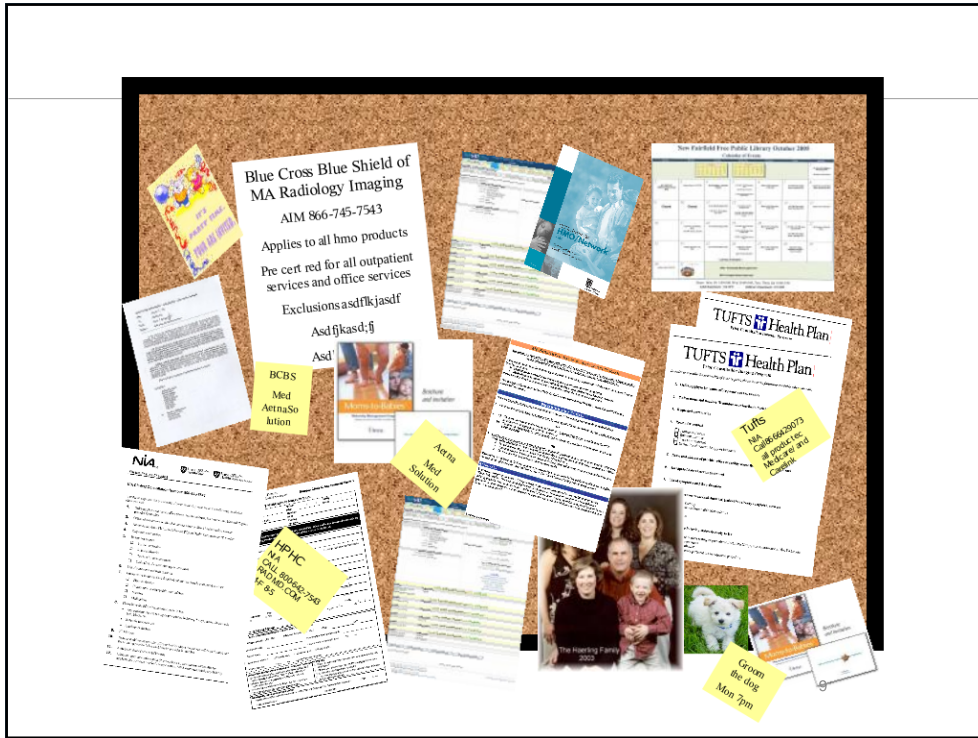
Alerts/Reminders

Community Data Sharing

Personal Health Records

# Clinical Systems Plan

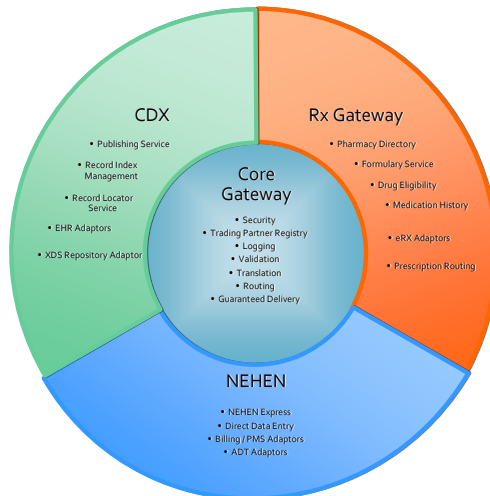




## The NEHEN Appliance

Built on a common messaging gateway framework

Placed on the network of each participating institution



## Approach to Data Sharing

Doctor to Doctor

Doctor to Hospital/Hospital to Doctor

Community to Community

Quality Warehouse

Provider to Patient

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## Personal Health Records

Google Health

Microsoft Health Vault

Dossia/Indivo

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## PatientSite

Patientsite over the past 7 years

2.5 million transactions and 40,000 monthly patient users

All the worries about provider and patient information overload have not occurred

## Patient Access to Records

- What should they see?
- When should they see it?
- Who else should have access?
- How should we present it?

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## Messaging Volume

- Clinical messages: 27.8\*
- Prescription renewals: 3.1\*
- Referrals: 2.1\*
- Appointment requests: 2.6\*

*\*monthly volume per 100 patients*

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**Beth Israel Deaconess Medical Center PatientSite**  
Your Health. Online.

Welcome to the Personal Health Website of John D Halamka • Sign Out

**Google Health** Help

### PatientSite and Google Health Connection

You can upload your personal health information from PatientSite to your Google Health profile. Currently, you can upload medications, allergies and diagnoses. We will make options for uploading other health information available in the future. You always have complete control over whether and when information is uploaded to your Google Health profile. You can deactivate your PatientSite and Google Health Connection at any time.

To upload your health information, please select one or more options and then click the **Upload** button below.

Diagnoses  Medications  Allergies **Upload**

To view your health information in Google Health, please click the **Google Health** link below.

[Google Health](#)

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To deactivate your PatientSite and Google Health Connection, please click the **Deactivate** button below.

**Deactivate**

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Firefox File Edit View History Bookmarks Tools Window Help

Google Health

https://www.google.com/health/p/#profile%2Fid%3DXMnTNE8ZEI4

Life as a Healthcar... jdhalamka@gmail.com | Settings | Help | Sign out

**Google Health** Read about health topics >

**jdhalamka** Profile summary Print

Notices

[Drug interactions](#)

[Profile details](#)

[Age, sex, height...](#)

[Conditions](#)

[Medications](#)

[Allergies](#)

[Procedures](#)

[Test results](#)

[Immunizations](#)

[Add to this profile](#)

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[Explore health services](#)

[Medical contacts](#)

[Find a doctor](#)

[Create a new profile](#)

**Add to this Google Health profile**  
Learn about your health issues and find helpful resources

**Import medical records**  
Copy and get automatic updates of your records

**Explore online health services**  
Find online tools for managing your health

**Find a doctor**  
Search by name, location, and specialty

**Beth Israel Deaconess Medical Center**

[Make an Appointment](#)

[Email Your Doctor](#)

[Request a Refill](#)

**Profile summary**

[Age, sex, height...](#)  
170 pounds  
6 feet 2 inches  
21.82 body mass index (BMI)

**Conditions**  
[Arrhythmia](#) [Reference](#)  
Vegan

**Medications**  
Centrum Silver Tablet  
Vitamin D 1,000 unit Capsule

**Allergies**  
Penicillins - Unknown

**Procedures**  
RFID Implant

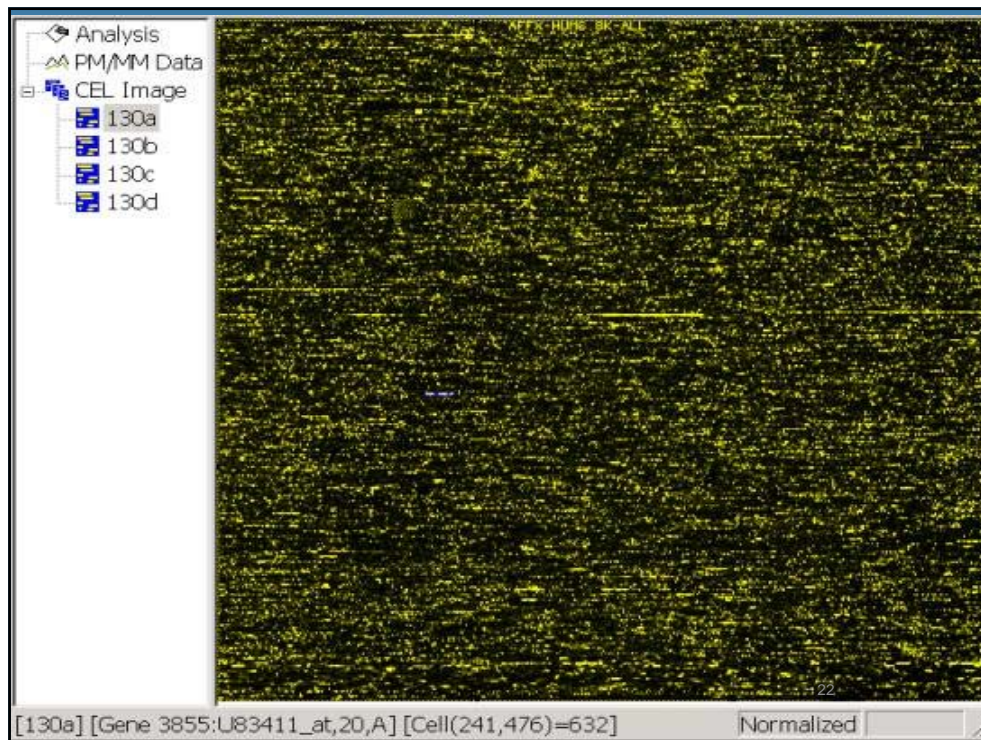
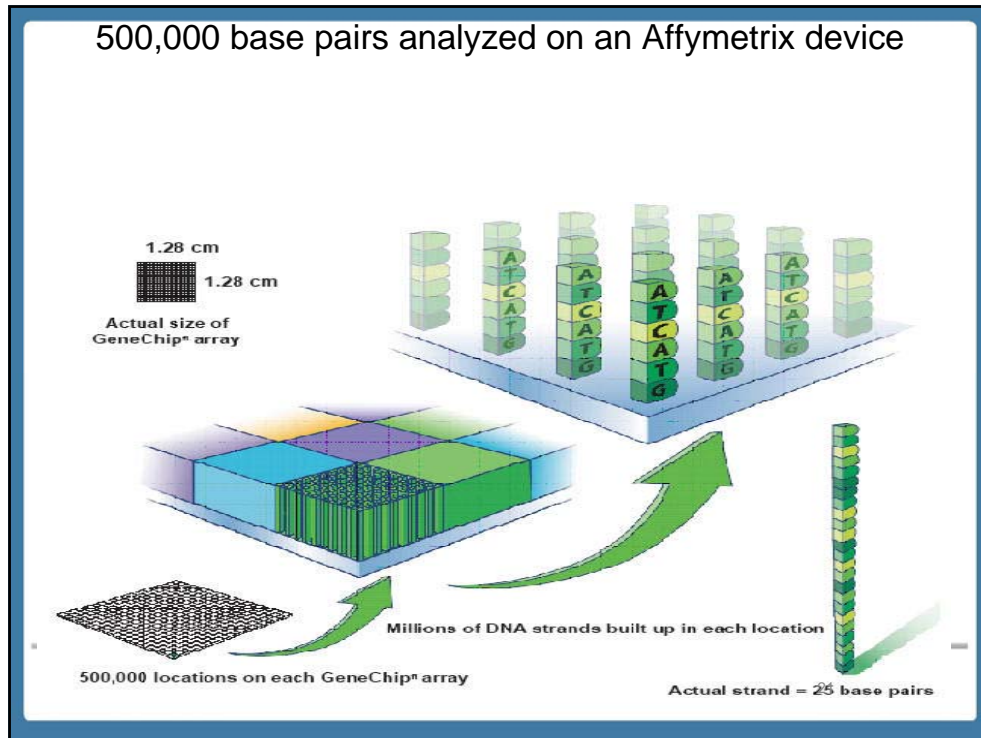
**Test results**  
**25-Hydroxy Vitamin D - 16 ng/ml**

**Immunizations**  
Hepatitis A Vaccine, Adult  
Tetanus/Diphtheria (Td) Toxoids, Older Children and Adults

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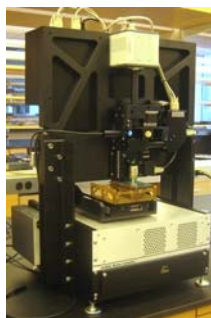
The screenshot shows a web browser window displaying the PatientSite interface. At the top left is the PatientSite logo with the tagline "Your Health. Online." and the text "Beth Israel Deaconess Medical Center". The main header area says "Welcome to the Personal Health Website of Frog Kermit4" and includes a "Sign Out" link. Below the header is a navigation menu with categories: "Services" (Mail, Prescriptions, Appointments, Referrals, Google Health, HealthVault, Links, Account Statement), "About Me" (Records, Personal Profile), "Support" (Tech Support, FAQ/Tutorial, Surveys), and "Privacy Policy". The "HealthVault" option is highlighted. The main content area is titled "Microsoft HealthVault" and "PatientSite and HealthVault Connection". It contains the following text: "You can upload your personal health information from PatientSite to your HealthVault record. Currently, you can upload medications, allergies and diagnoses. We will make options for uploading other health information available in the future. You always have complete control over whether and when information is uploaded to your HealthVault record. You can deactivate your PatientSite and HealthVault Connection (PHVC) at any time." Below this is a form with checkboxes for "Medications" and "Allergies", and an "Upload" button. A "Deactivate" button is located at the bottom of the form. A list of five steps for deactivating the PHVC is provided at the bottom of the page. The page number "19" is visible in the bottom right corner.







## Full Sequencing



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## My Genome

Hereditary Motor and  
Sensory Neuropathy  
Severe Combined  
Immunodeficiency Carrier  
Prostate Cancer Risk  
Susceptibility to Tuberculosis  
Negative Kell Antigen

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# Questions?

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<http://geekdoctor.blogspot.com>