

## Curriculum Vitae

Date Prepared: 09/2001

### **PART I: General Information**

**Name:** John D. Halamka, M.D., M.S.

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**Place of Birth:** Des Moines, Iowa

### **Education:**

1984 B.S. Stanford University (Medical Microbiology with distinction)  
1984 B.A. Stanford University (Public Policy with honors and distinction)  
1986-1989 University of California Berkeley (Bioengineering graduate program)  
1993 M.D. University of California San Francisco (Medical Scientist Training Program)  
1997 M.S. Harvard/MIT Health Sciences and Technology (Medical Informatics)  
1997 Harvard School of Public Health (Clinical Effectiveness Program)

### **Postdoctoral Training:**

#### *Internships and Residencies:*

1993-1994 Intern in Emergency Medicine, Harbor-UCLA, Los Angeles  
1994-1996 Resident in Emergency Medicine, Harbor-UCLA, Los Angeles

#### *Clinical and Research Fellowships:*

1996-1997 Douglas P. Porter Informatics Fellow, Center for Clinical Computing,  
Harvard Medical School, Boston, MA

### **Licensure and Certification:**

1994 California License Registration  
1996 Massachusetts License Registration  
1997 Board Certified in Emergency Medicine

### **Academic Appointments:**

1996-1999 Instructor in Medicine, Harvard Medical School  
2000- Assistant Professor of Medicine, Harvard Medical School

### **Hospital or Affiliated Institution Appointments:**

1996- Associate in Medicine, Beth Israel Deaconess Medical Center, Boston

### **Other Professional Positions and Major Visiting Appointments:**

1981-1992 Chief Executive Officer, Ibis Research Labs  
1984-1987 Technical Editor, Computer Language Magazine, San Francisco

### **Hospital and Health Care Organization Clinical Responsibilities:**

1996- Attending Physician, Division of Emergency Medicine, Beth Israel Deaconess Medical Center, Boston

### **Major Administrative Responsibilities:**

1997-1999 Executive Director, CareGroup Center for Quality and Value  
1998- Chief Information Officer, CareGroup  
1999- Chairman, New England Health Electronic Data Interchange Network  
2000- Associate Dean for Educational Technology, Harvard Medical School  
2001- Chief Information Officer, Harvard Clinical Research Institute

### **Major Committee Assignments**

#### *National*

1996 Centers for Disease Control and Prevention National Working Group on the Electronic Emergency Department Record, Member  
1997 Tri-State Technical Advisory Group on Clinical Data Security and Confidentiality (Robert Wood Johnson), Advisor  
1998-2000 Medical Intranet Forum, Co-Chair

#### *State*

1997 Massachusetts Health Data Consortium, Clinical Data Working Group, Member  
1998- Massachusetts Health Data Consortium, CIO Forum

#### *Beth Israel Deaconess Medical Center*

1996-1997 CareGroup Emergency Medicine Computing Group, Member  
1997-1998 Emergency Department Quality Improvement Task Force, Co-chair

#### *Harbor-UCLA Medical Center*

1993-1996 Physician Computer Committee, Co-chair  
1993-1994 Adult Emergency Department Council, Member

#### *Stanford University*

1980-1984 Stanford University Research Committee, Member

## **Professional Societies**

- 1993- American College of Emergency Physicians  
Chair, Section on Emergency Medicine Informatics
- 1996- Society for Academic Emergency Medicine

## **Awards and Honors:**

- 1980 National Merit Scholarship from California Medical Association
- 1983 Phi Beta Kappa
- 1984 Sigma Pi Alpha
- 1996 County of Los Angeles Board of Supervisors Commendation for Service
- 1997 National Library of Medicine, Best Presentation Award
- 1997 American Medical Informatics Association Martin J. Epstein Award
- 1998 PC Week Best Practices Technology Innovation Award
- 1999 Information Week eBusiness 100
- 2000 Information Week Technology 500 (120th)
- 2001 Cap Gemini/Ernst and Young Most Innovative Companies in America (7th)
- 2001 Information Week Technology 500 (#1 in Hospitals/Health Systems)

## **PART II: Research, Teaching, and Clinical Contributions**

### **A. Narrative Report**

The effective delivery of emergency care requires information. Unfortunately, patient medical records are often scattered in geographically dispersed hospitals, clinics and laboratories. Internet technologies can be used to retrieve this heterogeneous information and create a virtual electronic medical record at the point of care. Security considerations make implementation of such a system difficult at the present time. My focus has been teaching the national and international community how to overcome the barriers of sharing medical records using internet technologies. I implemented such a system, CareWeb, an intranet-based medical record which currently links the electronic medical records of CareGroup. Additionally, I serve as the chairman of the New England Health Electronic Data Interchange Network (NEHEN) which is responsible for interconnecting all the payers and providers in the state of Massachusetts for administrative transactions. Finally, I continue to lecture at both Harvard and MIT on issues of patient confidentiality and security, informing clinicians and technical professionals about the requirements of the upcoming Health Insurance Portability and Accountability Act (HIPAA).

In addition to providing clinical information at the point of care, I have pursued the creation of decision support systems for clinicians. The effective management of care requires knowledge about quality, outcomes and utilization. As Executive Director of the Center, I created the infrastructure to support the research effort, obtained funding and implemented the Executive Information System which delivers the research results to clinicians and administrators. The CQV web systems currently display the results of over 100 metrics including automated measures of surgical site infection rates, pneumonia mortality, patient satisfaction and financial performance.

As an Emergency Physician at Beth Israel Deaconess Medical Center, I divided each shift between providing direct patient care and teaching medical, surgical and emergency department residents. During my shifts, I emphasized evidence-based medicine, guidelines, and techniques for insuring patient satisfaction by carefully managing patient flow.

As the Chief Medical Information Officer for CareGroup, I oversee all clinical, financial, administrative and academic information technology at CareGroup. I have used the position to enhance appropriate access to clinical information, establish the infrastructure needed to standardize patient identification and enrollment in clinical research trials and to provide the electronic teaching resources necessary to educate the next generation of medical professionals.

As Associate Dean for Educational Technology at Harvard Medical School, I oversee the creation of tools to create courseware on the web, manage electronic representations of medical knowledge and evaluate the faculty and students. As part of these efforts we are implementing advanced technologies such as wireless networking and hand held applications providing decision support at the point of care.

As Chief Information Officer of the Harvard Clinical Research Institute, I am responsible for the infrastructure and applications supporting the entire clinical trials process from case report form generation to final report production.

**B. Research Funding Information**

1997 Harvard Medical School Faculty Collaborative Research Grant

**C. Report of Current Research Activities (bench research, clinical trials, outcome studies, efficiency studies as applicable)**

<u>Dates</u>	<u>Project</u>	<u>Role</u>
<u>1997</u>	<u>Intranet Security Architectures</u>	<u>Principal Investigator</u>
<u>1998</u>	<u>Bone and Joint Outcomes Study</u>	<u>Co-Principal Investigator</u>

**D. Report of Teaching**

*American Medical Informatics Association (invited)*

10/26/97 Components of a Clinical Computing System  
10/26/97 Barriers to implementing medical records on the Internet  
10/29/97 Clinical Computing at Beth Israel Deaconess Medical Center  
11/07/98 Clinical Computing Overview Course  
11/10/98 Managing Care via Intranets  
11/07/99 Clinical Computing Overview Course  
11/05/00 Clinical Computing Overview Course

*Association of American Medical Colleges*

7/15-7/18 eHealth Course  
10/27/00 Connecting Payers, Providers and Patients in Academic Medical Centers

*Babson College*

12/9/99 State of the art in e-health  
11/9/00 eBusiness

*BANIC*

09/15/00 Nursing Informatics

*Bank Boston Ventures*

3/31/00

*Beth Israel Deaconess Medical Center*

09/17/98 Grand Rounds – Best Practices in the use of Intranet Technologies  
09/23/98 Sharing Clinical Information via Intranets  
04/04/00 Capturing Point of Care Information  
04/26/00 Surgical Grand Rounds  
8/10/00 Building Large Databases  
09/06/00 HIPAA and Compliance for the physician  
12/15/00 Update in Internal Medicine

*Boston Bar Association*

09/29/99 Legal aspects of e-commerce  
10/20/99 Convergence of Healthcare and the Internet

*Boston University*

11/27/00 eBusiness Management

*Brigham & Women's Hospital*

10/23/00 Decision Systems

*CareGroup*

07/09/99 Leadership in Action Seminar  
09/17/99 Web programming course  
09/21/99 Web programming course  
10/15/99 Leadership in Action Seminar  
12/16/99 Internet Sites for nurses and physicians  
04/26/00 Overview of CareGroup Web technology  
04/06/00 IT approaches to medication reliability  
10/06/00 The future of eBusiness  
12/08/00 HIPAA Strategies for Payer organizations

*Centers for Disease Control*

1/05/99 Epidemiologic data acquisition via the Internet (invited)

*Deaconess Glover Hospital*

10/26/98 Grand Rounds Physician Resources on the Internet  
10/27/99 Grand Rounds – CareGroup Intranet Resources  
12/6/00 Grand Rounds - Medical Intranets

*Deaconess Waltham Hospital*

3/27/00 Enhancing Medication Reliability with Information Technology

*Fenway Health*

12/27/00 Community Physician Computing

*Harvard Business School*

4/18/00 Connecting Payers, Providers and Patients  
9/23/00 eBusiness in New England

*Harvard Medical School*

07/23/96 Mushroom Toxicology (1.5 hour seminar, 10 residents/medical students)  
09/18/96 Internet-based Medical Education (1 hour lecture, 10 residents)  
09/26/96 Medical Resources on the Internet (1.5 hour seminar, 100 physicians)  
11/25/96 Internet-based Medical Records (2 hour seminar, 30 physicians)  
01/16/97 HMS ACLS Course (3 hour seminar, 60 medical students)  
01/17/97 HMS Trauma Course (2 hour seminar, 1 resident)  
02/10/97 Building Interactive Web Pages I (2 hour seminar, 20 physicians/nurses)  
02/24/97 Building Interactive Web Pages II (2 hour seminar, 20 physicians/nurses)  
02/25/97 Java vs. ActiveX Web technologies (2 hour seminar, 20 physicians)  
03/26/97 New Frontiers in Medical Informatics (1 hour seminar, 10 residents)  
04/10/97 Informatics and Advanced Technology (1 hour seminar, 20 physicians)  
05/01/97 Virtual Integration of the BIDMC (1 hour, 10 managers)  
05/05/97 Fundamentals of Cryptography (1 hour seminar, 20 physicians)  
05/12/97 Health Object Architectures (1 hour seminar, 20 information professionals)  
05/16/97 Integrating Health Care Delivery Systems (1 hour seminar, 100 programmers)

06/10/97 Urological emergencies (2 hour seminar, 20 nurses)  
06/20/97 Legacy System Interfacing (2 hour seminar, 20 programmers)  
08/27/97 Reengineering Emergency Department flow (1 hour seminar, 20 clinicians)  
09/09/97 Mushroom Toxicology (1.5 hour seminar, 10 residents/medical students)  
09/27/97 Medical Records on the Internet (1 hour seminar, 100 physicians)  
06/24/99 Using data to evaluate performance in healthcare (1 hour seminar, 50 students)  
03/23/00 HST 921@ MEC  
03/23/00 Linking providers, payers and patients via the web (1 hour seminar, 25 students)  
06/01/00 Harvard Internet and Society

*Harvard School of Public Health*

12/02/98 QCARE (1 hour seminar, 100 students)  
12/12/98 Connecting providers and patients with the internet (2 hour lecture, 20 students)  
01/13/99 Administrative Simplification via the Web  
02/29/00 QCARE (1 hour seminar, 100 students)  
03/09/00 Internet approaches to public health data collection  
10/24/00 Improving health care quality via the internet

*HBSI Physician Leadership Forum (invited)*

11/4/99 Physician Report Cards on the Web

*Health Care in the Era Consumerism*

11/17/00 Quality and Consumerism in an Era of the Internet

*HFMA*

5/19/00 The business case for HIPAA

*IHI*

12/07/00 Offering patients access to their own records via the web

*Israeli Association of Emergency Medicine (invited)*

03/09/98 Electronic Medical Record Infrastructure for Emergency Medicine

*Mass Health Data Consortium*

09/22/99 Linking providers, payers and patients via the internet  
02/16/00 Intranets for Integrated Delivery Systems

*Massachusetts Division of Health*

03/15/00 Task Force on Administrative Simplification in Mass. Health Care Industry  
05/03/00 Jerry O'Keefe, Mass Div. of Health Care Finance and Policy

*Massachusetts Institute of Technology*

02/27/97 Building Interactive Web Pages III (2 hour seminar, 20 fellows)  
05/07/98 Implementing a National Security Architecture (2 hour seminar, 10 grad students)  
04/22/99 HIPAA and emerging technologies (2 hour seminar, 15 grad students)  
03/20/00 Security implications of provider and consumer web portals (2 hours seminar 25 grad students)

*Massachusetts Medical Society (invited)*

11/10/99 The Internet and Your Practice

*Massachusetts Rate Setting Commission (invited)*

03/16/00 Risk adjusted Quality, Performance and Outcomes measurement via the web

*MedInfo '98 Seoul, Korea*

8/15/98 Building healthcare intranets (invited)

*Merrill Lynch*

9/8/00 HIPAA solutions for Massachusetts

*National Heart Attack Alert Program*

04/15/98 Use of the Internet for transmission of critical clinical information (invited)

*New England Baptist*

3/10/00 Occupation Health Business Plan

*Picker Institute Symposium*

7/15/99 Improving Quality via the Internet (invited)

4/17/00 Picker conference

7/13/00 Picker Institute 6th Annual Symposium 'Strategic Internet Solutions to Outcomes, Performance & Quality Measures'

*Pri-Med*

09/15/00 An Overview of Medical Information on the Web

*Security Dynamics, Inc.*

04/08/97 Building Secure Web-based Medical Records (2 hour seminar, 20 managers)

*Society for Academic Emergency Medicine*

05/20/97 The Internet for Emergency Physicians (1 hour seminar, 250 physicians)

05/17/98 Emerging Internet Technologies for Physicians

05/19/98 Medical Informatics and Emergency Medicine

*Sun Microsystems*

11/15/98 Healthcare Intranet Symposium (co-chair)

*Towards and Electronic Patient Record (TEPR)*

8/29/00 Connecting Payers, Providers and Patients

### **PART III: Bibliography**

#### *Original Articles*

Halamka J, Gray JW, Gledhill BL, Lake S, Wyrobek AJ Estimation of the frequency of malformed sperm by slit scan flow cytometry. *Cytometry* 1984 Jul; 5:333-8

Halamka JD, Safran C Virtual consolidation of Boston's Beth Israel and New England Deaconess Hospitals via the World Wide Web. *Proc AMIA Annu Fall Symp* 1997; :349-53

Halamka JD, Szolovits P, Rind D, Safran C A WWW implementation of national recommendations for protecting electronic health information. *J Am Med Inform Assoc* 1997 Nov-Dec; 4:458-64

Halamka JD, Safran C CareWeb, a web-based medical record for an integrated healthcare delivery system. *Medinfo* 1998; 9 Pt 1:36-9

Halamka JD, Hughes M, Mack J, Hurwitz M, Davis F, Wood D, Borten K, Saal AK Managing care in an integrated delivery system via an Intranet. *Proc AMIA Symp* 1998; :401-5

Bourie PQ, Ferrenberg VA, McKay M, Halamka JD, Safran C Implementation of an on-line Emergency Unit nursing system. *Proc AMIA Symp* 1998; :330-3

O'Hehir J, Miller M, Halamka JD, McCutcheon J, Geehr E Will medical intranets smooth the rocky road to the future? Panel discussion. *Med Netw Strategy Rep* 1998 Jul; 7:8-9

Halamka JD Web technology for emergency medicine and secure transmission of electronic patient records. *MD Comput* 1998 Jul-Aug; 15:232-7

Halamka JD, Osterland C, Safran C CareWeb, a web-based medical record for an integrated healthcare delivery system. *Int J Med Inf* 1999 Apr; 54:1-8

Iseron KV, Adams J, Cordell WH, Graff L, Halamka J, Ling L, Peacock WF 4th, Sklar D, Stair T Academic emergency medicine's future. The SAEM Task Force on Emergency Medicine's Future. Society for Academic Emergency Medicine [see comments] *Acad Emerg Med* 1999 Feb; 6:137-44

Halamka J, Inside a virtual nursery, *Health Technol* 2001 Jun;22(6):37-8.

Halamka J, A fix for data overload. CareGroup, Boston. *Healthc Inform* 2000 Oct;17(10):115-6.

### *Reviews, Chapters, and Editorials*

Halamka J. Healthcare Intranet Security. In 1998 Guide to Intranets in Healthcare, Faulkner and Gray. 1998: 207-218.

Halamka J. Data Warehouses on Intranets. in 1999 Guide to Intranets in Healthcare, Faulkner and Gray. 1999: 137-150.

Halamka J. Provider and Consumer Internet Portals. in 2000 Guide to Enterprise Networks in Healthcare, Faulkner and Gray. 2000: 95-109.

### *Books, Monographs, and Textbooks*

Halamka J. Real World UNIX, Berkeley, Sybex, 1983.

Halamka J. Best of CP/M, Berkeley, Sybex , 1983.

Halamka J. Espionage in the Silicon Valley, Berkeley, Sybex, 1984.

Halamka J. A Guide to Financial and Community Resources for the Patients of Los Angeles County. County of Los Angeles. March 1994

Halamka J. A Guide to the Medical Information Systems of Los Angeles County. County of Los Angeles. August 1994

### *Books, Monographs, and Textbooks (continued)*

Halamka J. A Guide to the Medical Information Systems of the Veterans Administration Hospitals. County of Los Angeles. February 1995

### *Patents*

4,951,203 August 21, 1990 Patents the process of multimedia delivery of personalized messages with video and synchronized audio.

4,965,727 October 23, 1990 Extends the above process to delivery over wide area networks.

### *Nonprint Materials*

Halamka J. Time Series Processor (TSP), McGraw Hill. July 1983

Halamka J. UCSF Cardiology Modeling Language. July 1986

Halamka J. Harbor-UCLA Emergency Department Automated Discharge System. July 1994

Halamka J. Harbor-UCLA Knowledgebase. July 1995

Halamka J. Harbor-UCLA Hospital Information System User Interface. July 1995

Halamka J. Harbor-UCLA Emergency Department Quality Improvement Database. August 1995

Halamka J. Harbor-UCLA Emergency Department Clinical Experience Tracking System. September 1995

Halamka J. Harbor-UCLA Automated Patient Data Extraction System (APEX). October 1995

Halamka J. CareWeb™, Virtual Integration of the Beth Israel and Deaconess Hospitals. December 1996

Halamka J. Massachusetts Health Data Consortium Pilot Project. April 1997

Halamka J. Bili Light, Exchange of pre-natal, mother and neonatal data. May 1997

**References for  
John D. Halamka, MD, MS**

*Intradepartmental References*

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*External Departmental References*

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*Outside Harvard*

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