



Educating Students in Healthcare Information Technology: Is Community Barriers, Challenges, and Paths Forward

Presented by

Dr. Samir Chatterjee

Professor & Fletcher Jones Chair of Technology Management

School of Information Systems & Technology

Claremont Graduate University

profsamir1@gmail.com

Director, Innovations Design Empowerment Applications Laboratory IDEA Labs

<http://www.idea-labs.net/>

Associate Editor, MIS Quarterly, Health Systems, IJBDCN

Member: IEEE (senior), ACM (senior), AIS, AMIA

Objectives

- Present an overview of the paper
 - S. Chatterjee, C. Lerouge and M. C. Tremblay, “Educating Students in Health Information Technology: IS Community Barriers, Challenges and Paths Forward” Communications of the Association for Information Systems, Vol. 33, 2013.
- Investigate three important questions:
 1. Does IS have a role in HIT?
 2. Where does an IS educator look to begin with HIT education?
 3. How do IS educators frame their vision for HIT curricula leveraging the discipline’s strengths?

Definition

- **Healthcare Information Technology** (also referred to as *healthcare* or *medical informatics*) is an emerging and growing discipline that deals with biomedical information, data, and knowledge, including their storage, retrieval, and optimal use for problem solving and decision making [[Shortliffe and Cimino, 2006](#)].
- In **medical informatics**, we develop and assess methods and systems for the acquisition, processing, and interpretation of patient data with the help of knowledge that is obtained in scientific research.

The Need?

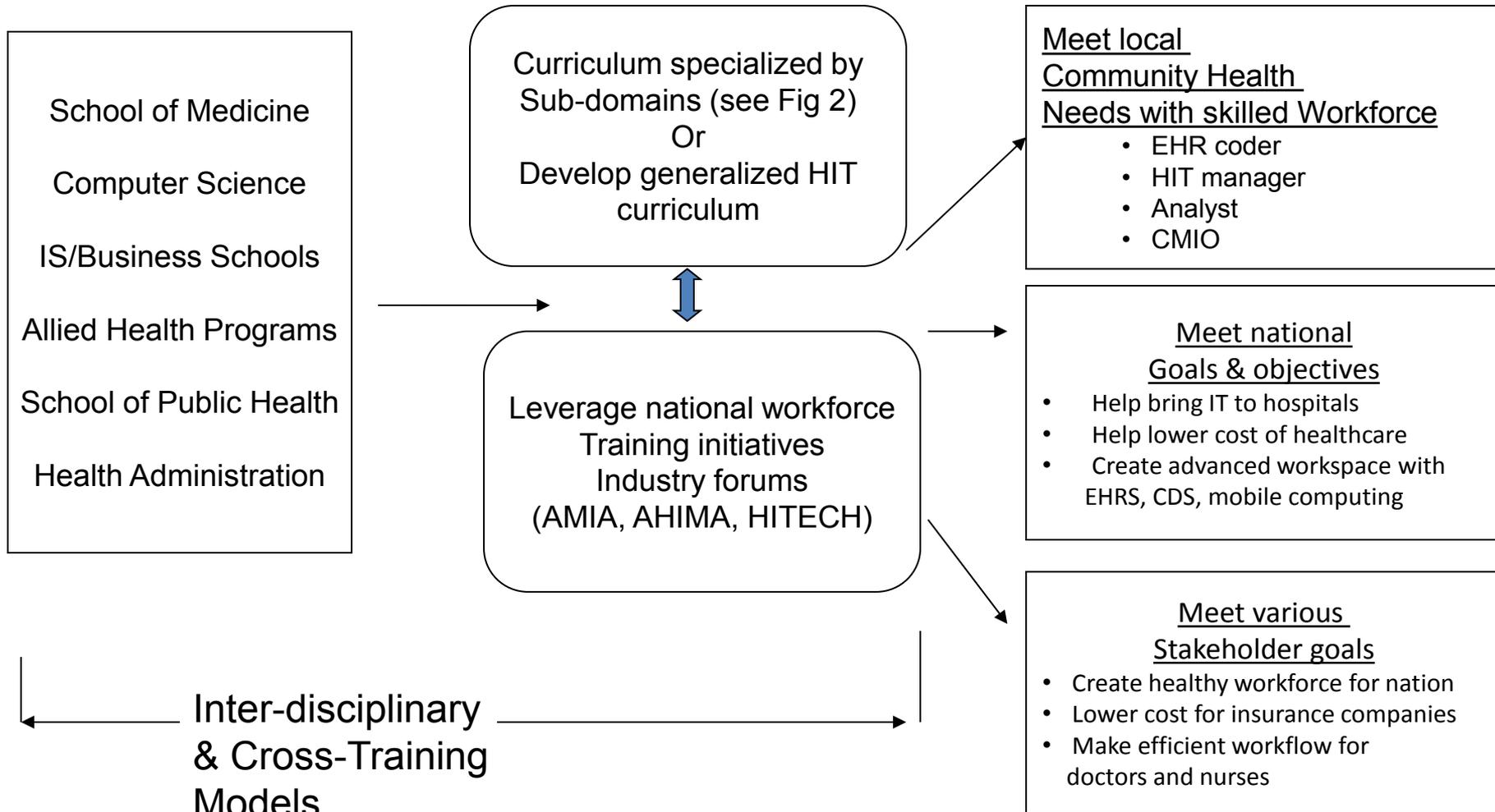
- Healthcare is one of the biggest sectors of Gross Domestic Product (GDP) for many countries. In 2006 alone, the U.S. spent nearly 2.3 trillion dollars on healthcare.
- President Obama signed the American Recovery and Reinvestment Act (ARRA) of 2009. One section of ARRA is called the “Health Information Technology for Economic and Clinical Health Act” or the “HITECH Act.” It is a \$36 Billion investment.
- Increasing reliance on IT in healthcare raises demand for trained workers. The HITECH investment has not only spanned activities in practice and research, but also activities to develop courses and programs to educate and train those that might pursue health IT career paths.

Healthcare IT Education Framework

Input/Genesis

Design Curriculum

Output



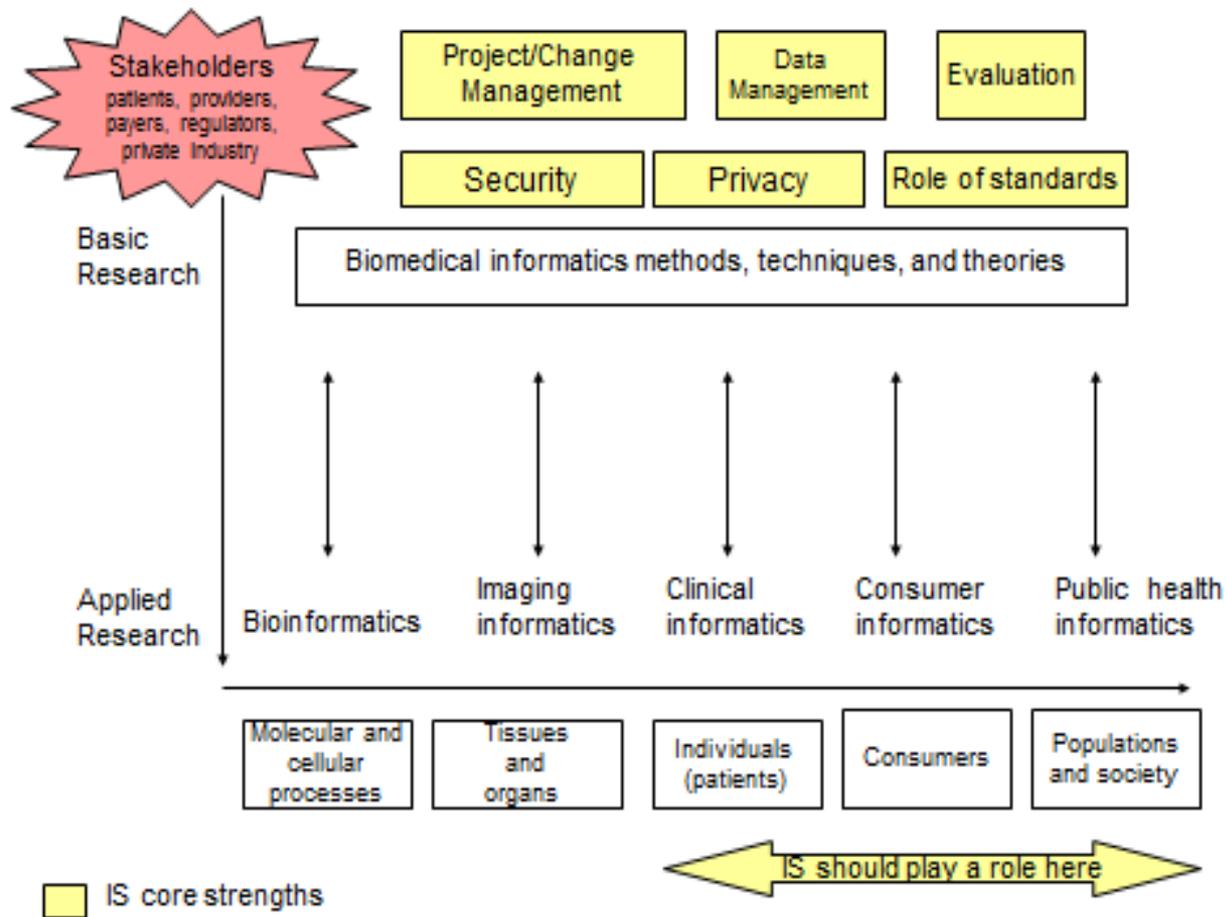


Figure 2. A Framework to Understand HIT (adapted from Shortliffe, 2006)

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Healthcare >

Medical Records and Health Information Technicians

EN ESPAÑOL

Summary What They Do Work Environment How to Become One Pay **Job Outlook** Similar Occupations More Info

Job Outlook

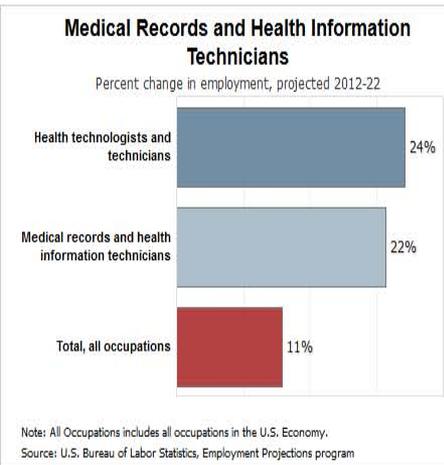
About this section ?

Employment of health information technicians is projected to grow 22 percent from 2012 to 2022, much faster than the average for all occupations. The demand for health services is expected to increase as the population ages. An aging population will need more medical tests, treatments, and procedures. This will mean more claims for reimbursement from insurance companies. Additional records, coupled with widespread use of electronic health records (EHRs) by all types of healthcare providers, could lead to an increased need for technicians to organize and manage the associated information in all areas of the healthcare industry.

Cancer registrars are expected to continue to be in high demand. As the population ages, there will likely be more types of special purpose registries because many illnesses are detected and treated later in life.

Job Prospects

Prospects will be best for those with a certification in health information, such as the RHIT or the CTR. As EHR systems continue to become more common, health information technicians with computer skills will be needed to use them.



Employment projections data for medical records and health information technicians, 2012-22

Occupational Title	SOC Code	Employment, 2012	Projected Employment, 2022	Change, 2012-22		Employment by Industry
				Percent	Numeric	
Medical records and health information technicians	29-2071	186,300	227,500	22	41,100	[XLS]

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

<- Pay

Similar Occupations ->

Resources for IS Educator for HIT

- Through the HIT Workforce Program, the ONC has awarded \$10 million to Curriculum Development Centers, which are institutions of higher education (or consortia thereof) that will support HIT curriculum development (see <http://healthit.hhs.gov/portal/server.pt?open=512&objID=1808&mode=2>).
- One of the awardees under this program, Oregon Health and Science University (OHSU), received additional funding to serve as the National Training and Dissemination Center (NTDC)
- Organizations such as the
 - American Medical Informatics Association (AMIA, <http://www.amia.org/>),
 - American Health Information Management Association (AHIMA, <http://www.ahima.org/>),
 - Health Information Management Systems Society (HIMSS, <http://www.himss.org/>) and
 - Association for Information Systems (AIS; this organization has an active Special Interest Group for HIT, SIG-Health, which can be accessed at <http://www.aissighealth.com>), recognize the growing interest in applied informatics and provide sources of training and information.

Leveraging Enrollments

- Community colleges are beginning to offer RHIT and RHIA certificates
 - IS schools can think of them as feeder channels for their bachelor's and master's degree programs
- Most existing programs in HIT attract students with a few specific profiles: (1) those who have IT backgrounds and are currently working, but looking to change careers to find a better-paying job; (2) those who have health backgrounds (e.g., nurses, allied health professionals, and sometimes even physicians), but see the need to upgrade their IT skills; and (3) recent undergraduates looking for graduate programs that will give them access to jobs and a future.
- An online or hybrid HIT or HIM degree program may be the best approach to initially attract students who wish to remain in their current work contexts, but who want to add to their career mobility.

How do you start?

- Begin with 1 HIT course championed by a faculty member
- Expand to a concentration or track (3 or 4 HIT courses)
- Collaborate with other colleges or programs (likely in allied health, public health, medicine, or nursing) and jointly create such a concentration track
- With time and experience gained, collaborators may decide to offer a HIT undergraduate or master's degree program.

Challenges

- Internal university politics – who wants ownership?
- Difficulty in specifying curriculum requirements (particularly if trying to work from existing courses)
- Difficulty finding the right faculty to teach HIT classes or IS classes that will include an HIT student representation
- Accommodating students that may want varying educational formats (distance-based, part-time outside of medical working hours, executive programs, etc.)
- Handling a mixed student audience (e.g., MBA and HIT students)
- Meeting the standards of accreditation boards.

CAHIIM

- Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) is the independent accrediting organization whose mission is to serve the public interest by establishing and enforcing quality Accreditation Standards for Health Informatics and Health Information Management (HIM) educational programs
- A sample list of the core competency domains and skill sets required to earn a master's degree in HIT can be found at [http://www.cahiim.org/applyaccred HI grad.html](http://www.cahiim.org/applyaccred_HI_grad.html).
- Detailed curriculum maps can be found on the CAHIIM website (<http://www.cahiim.org>), for the three academic levels of HIT and the master's degree level in health informatics.

CGU MHIM – First Masters Program in California

- **Six Core Courses - 24 units**
 - HIM 350 - Introduction to Health Informatics
 - IST 302 - Databases
 - IST 303 - Software Development
 - IST 304 - Communications and Networking
 - HIM 351 - Project Management for Health Informatics
 - CGH 301 - Statistics for Health Informatics/Biostatistics
- **Four Elective Courses – 16 units**

Example elective courses that students choose from include:

 - IST 311 Introduction to Persuasive Technology
 - HIM 378 Telemedicine
 - HIM 376 EHR & PHR
 - CGH 303 - Health Services in the US and Abroad
 - CGH 302 – Epidemiology
 - IST 381 – Data Mining
- **1 Clinical Immersion – 4 units**

Accredited by CAHIIM in 2009