

Round table discussion

The Future of Health IT in the US and Japan



December 11 , 2013



Supported by :  HBS Healthcare Alumni Association
HARVARD | BUSINESS | SCHOOL

About HGPI

Since its establishment in 2004, the Health and Global Policy Institute (HGPI) has been working to help interested citizens shape health policies by generating policy options and bringing stakeholders together as a nonpartisan think tank. HGPI's mission is to improve civic and individual well-being and to foster a sustainable healthy community by shaping ideas and values, reaching out to global needs, and catalyzing society for impact. HGPI commits to activities that bring together relevant players in different fields to provide innovative and practical solutions and help interested citizens understand choices and benefits in a global, long-term perspective. HGPI promotes a Global Citizen Nation by building a society for people with various backgrounds and different values. It aims to achieve a sustainable, healthy, and more prosperous world.

About HBS Healthcare Initiative

Launched in 2005, Harvard Business School Health Care Initiative is a gateway for health care research, educational programs, and entrepreneurial projects across a variety of health care sectors. At Harvard Business School Health Care Initiative, management skills and entrepreneurial and innovative ways of thinking are viewed as fundamental to reforming the complex health care industry. Alongside students, alumni, and professors from institutions like Harvard University, we are working to build effective health care solutions.

1. Opening Remarks.....	1
2. Opening Remarks 2.....	2
3. Opening Remarks 3.....	2
4. Presentation 1	3
5. Presentation 2	4
6. Comments	5
7. Discussion	6
8. Closing	8

Overview

On December 11, 2013, the Health and Global Policy Institute in cooperation with Harvard Business School Health Care Initiative held a roundtable discussion titled, The Future of Health IT in the US and Japan. The event coincided with a visit to Japan by the Governor of Massachusetts, Deval Patrick.

In the United States, the Obama Administration is promoting health care IT in order to achieve “connected health care” as a part of health care reform. The US state of Massachusetts, in particular, is advancing health care IT aggressively, and benefits from a cluster of teaching hospitals, including those affiliated with Harvard Medical School, and leading state public policies around health care IT adoption. In Japan, health care IT is gaining attention due to its potential to impact both quality and cost of care. In addition, the Japanese government plans to implement a disease prevention plan that utilizes big data during the 2014 fiscal year.

In this roundtable, American and Japanese experts from a variety of fields gathered to share their experiences and knowledge on health care IT, to discuss the concept of “connected health care,” and to explore innovative solutions to shared challenges, such as aging and the rising cost of health care.



Opening Remarks



Kiyoshi Kurokawa
Chairman, Health and Global
Policy Institute

Information technology (IT) is a rapidly developing, yet unpredictable field that has changed the way people access information drastically changing the surrounding business environment. IT is developing globally and it is critical that we foster cross-national cooperation to best utilize this technology. Therefore, gatherings like this of experts from the US and Japan to discuss solutions and exchange views on IT health care are extremely important.

Opening Remarks 2



Deval Patrick
Governor of Massachusetts

Deval Patrick was reelected to a second term as Governor of the Commonwealth of Massachusetts in November 2010. Governor Patrick funded public education at the highest level and its school reform initiatives earned Massachusetts the top spot in the national Race to the Top competition. Governor Patrick has positioned the state as a global leader in biotech, bio pharmaceuticals and IT, and clean energy. Governor Patrick committed the state to renewing its aging and neglected infrastructure and oversaw the expansion of affordable health care insurance to over 98% of Massachusetts' residents. The Patrick administration also accomplished major reforms that had eluded decades of other elected leadership, reforming the state's pension systems, ethics laws, and transportation bureaucracy. Governor Patrick is a graduate of Harvard Law School. After clerking for a federal judge, he led a successful career in the private sector as an attorney and business executive, rising to a senior executive at both Texaco and Coca-Cola. In 1994, President Clinton appointed Patrick as Assistant Attorney General for Civil Rights, the nation's top civil rights post.

Japan is one of Massachusetts' most important partners. Over 130 Japanese companies employ over 10,000 people in Massachusetts and there are about 13,000 Japanese nationals currently living in Massachusetts. Similar to Prime Minister Abe's third arrow, Massachusetts' growth strategy focuses on investing in education, innovation, and infrastructure which has resulted in strong economic growth. In addition to achieving a record high bond rating, Massachusetts ranks at the top in health care coverage, entrepreneurial activity, economic competitiveness, and energy efficiency.

The potential of eHealth innovation is critical to this strategy. We have surpassed California's per capita IT investment by 30% as a result of our highly talented technology workforce and our various medical, research, and educational institutions that give us a competitive advantage in R&D and business. At the same time, health care costs in Massachusetts and throughout the country remain high requiring new models that utilize the potential of IT. Against this backdrop, we launched the

Massachusetts eHealth Institute to expand the adoption of health technologies that improve health care safety, quality and efficiency and support the growth of private eHealth firms in our state. Today, we have the leading eHealth economy in the US, and 14 of the top 100 health care informatics companies in the US are headquartered in Massachusetts.

We believe health care is a public good and everyone deserves access to affordable quality care, and eHealth plays a pivotal role in achieving this. As was mentioned, there is much we can accomplish by working together and, indeed, it is critical that we seek solutions from various sources. We are eager to build new global relationships as well as strengthen existing ones. Knowledge, capital, and talent are more globalized than ever, and it is important for us to collaborate with innovators, inventors, and investors from outside of our state. We are looking forward to enhancing the ties of cooperation between Japan and Massachusetts through this roundtable discussion. anyone know what this is referencing? Laurance, is this accurate?

Opening Remarks 3



Yuji Kuroiwa
Governor of Kanagawa
Prefecture

Bold reform is urgently needed to build sustainable systems to address the needs of today's super aging society. Simply treating diseases will no longer do. In this super aging society, preventative medicine is needed. To this end, IT has great potential. Disease prevention measures can take place without hospital visits through the monitoring of daily activities using sensors and

other technologies. This could result in personalized medicine, which is health care and prevention customized to the individual. Governor Patrick and I seem to agree on this topic, and I am encouraged to hear that he believes we should be working together in various areas. I am very pleased that we can deepen our relationship through this roundtable.

「Health Care IT in Massachusetts – Coordinated Care through Interoperable Electronic Health Records」

Massachusetts Technology Collaborative (MassTech) is a public entity that supports economic growth within the Massachusetts technology sector by working with industry leaders, researchers, and government officials to build collaborations that help our state's technology economy thrive. Specifically, we identify and support emerging technology industry clusters; drive the adoption and use of key eHealth and broadband technologies; implement public policies that support students and start-up entrepreneurs; support and retain strong talent pipelines; and support unique, collaborative growth strategies in specific regions. eHealth is one priority area for us. We believe that eHealth can have a transformative impact by helping address spiraling costs, improving care delivery, and improving public health. Through collaborating with the health care community, industry and public officials, Massachusetts has become a leading figure in the development, usage, and growth of eHealth technologies. Massachusetts was the first US state to pass legislation requiring all physicians to utilize electronic health records (EHR) and creating the Mass HIway, a statewide health information exchange for secure information sharing. This law requires that all physicians and health care providers record and share health information

electronically by 2017. Already nearly 80% of physicians and over 90% of acute care hospitals are using EHR. Moving forward, we must work to ensure that EHR continues to be used to the benefit of patients. By establishing Massachusetts eHealth Institute (MeHI) within MassTech, we are assisting health care providers to adopt EHR and share information securely via the Mass HIway.

The multifaceted measures we taking to support the eHealth industry has made Massachusetts an incubator and innovation center for eHealth businesses. Today, there are more than 200 eHealth companies with well over 5,000 employees in Massachusetts engaging in EHR, tele-health, mobile health, and big data health solutions. With an estimated \$8 billion in annual corporate revenue in this sector, Massachusetts has the leading eHealth economy in the United States.

These efforts become stronger when we make global connections like we are doing at this roundtable today. As technology and innovation change and transform the global economy in new ways every day, these partnerships can strengthen our long-standing ties and result in healthier populations and better care for all.



Pamela Goldberg
Massachusetts eHealth
Institute/Massachusetts Technology
Collaborative, CEO

Ms. Goldberg is the CEO of the Massachusetts Technology Collaborative (MassTech). An experienced leader, Ms. Goldberg has an extensive background in entrepreneurship, innovation and finance, and is the first woman to lead the agency in its 30 year history. Ms. Goldberg received her BA from Tufts University and MBA from Stanford University. Prior to her current position as the CEO of Massachusetts Technology Collaborative, Ms. Goldberg served most recently as the Director of the Center for Entrepreneurial Leadership at Tufts University where she launched a program to drive innovation for the university. Through Goldberg's leadership, the program expanded from 40 to over 500 students per year, and supported the start of over 50 businesses in Massachusetts. As director, Ms. Goldberg received the National Teaching Award for Entrepreneurship and established the school's nationally recognized business plan competition. MassTech is currently advancing technology-based solutions that improve the health care system, expand high-speed Internet access and strengthen the growth and development of the state's technology sector.

「Health Care IT in Japan: Addressing the Aging Population」



Shinsuke Muto
President, You Home Clinic
Chairman, Leading Aging
Society Forum

A doctor of medicine and certified internal medicine specialist and cardiologist, he has passed the US medical licensing examination and holds both a US CPA and MBA. He graduated from the Faculty of Medicine at the University of Tokyo in 1996, receiving his doctorate from the Graduate School of Medicine in 2002. After engaging in cardiovascular internal medicine and emergency medicine, he served as a court physician in the Imperial Household Agency. After spending time at McKinsey & Company, in January 2010 he launched You Home Clinic as a specialist home healthcare provider, and in September 2011 he established and continues to run a clinic to provide remote treatment and home healthcare in the disaster-damaged city of Ishinomaki, Miyagi Prefecture. He also serves as president of the NPO Institute for Healthcare Leadership. Currently, he is a member of the Health & Healthcare Subcommittee of the Promotion of New Strategy Expert Committee at the Cabinet Secretariat's IT Strategic Headquarters, the Ministry of Health, Labour and Welfare's Study Group for Promotion of Palliative Care, and the Ministry of Internal Affairs and Communications' ICT Super-Aging Society Design Council.

As the population in Japan continues to age rapidly, homecare and nursing care will become increasingly important due to social demographics, public financing issues, and personal preferences regarding death and dying. About 1.1 million people die each year. In the next few decades, the annual number of deaths is estimated to reach 1.6 million. Currently, 80% of deaths occur in a hospital. However, due to hospital capacity issues, in the future more end of life care will have to take place outside of hospitals. Additionally, a sharp rise in social security costs poses a major public financing challenge. It is estimated that between now and 2025 social security spending will increase by 35 trillion yen reaching a total of 85 trillion yen. Home-based end of life care is about one third the cost of hospitalized end of life care making homecare a highly significant health care cost reduction tool. In addition, when considering that 60% of the population wishes to die at home, this becomes a response to the public's needs as well.

However, from a broader perspective of health promotion policy in Japan, improving homecare alone does not suffice. There should be support for older persons as they progress through old age, from life as an active senior to a senior with health issues to a senior using homecare. There are an increasing number of healthy older persons and instead of simply prolonging life we must support them to live a healthy, disease-free life. Therefore, we must encourage them to actively participate in society. For those seniors with health issues, restoring and sustaining physical and cognitive functions is vital. Once seniors enter the homecare setting, it is important to focus on quality of death and how the individual wants to spend his or her last days. As such, we should provide health care, nursing care, and life support services that meet the needs of senior citizens in each distinctive phase.

Collaboration between health care and nursing care is vital to homecare. We have started a program to support the use of homecare that enables doctors and nurses to immediately share comprehensive patient information including the patient's medical record and other health related information. We have also built a system for care teams that allows families of

patients to contribute to the information network in order to improve patient quality of life. Additionally, we have established a platform to provide comprehensive support for health and daily life issues because an important aspect of care for older persons is daily life support. Older persons need not only health care and nursing care, but also help with things such as meals, managing the home, and legal matters. Such support should be provided together with information services using IT as an extended part of health care and nursing care. In other words, what we need is a community based system to support older persons. For example, parcel deliverers can conduct simple assessments during their visits and upload the information to a database similar to Life Cloud, so that appropriate services can be offered. Wearable sensors and remote image diagnosis are useful; however, for those who do not leave their homes regularly, visits are essential to adjust services to the patient needs.

Finally, I would like to share information about our activities in Ishinomaki, an area affected by the recent disasters. After opening a clinic in Ishinomaki, we saw that many people were continuing to live on the second floor of homes with major tsunami damage to the first floor. We visited 20,000 such houses to conduct assessments. Using the data gathered, we built a database and carried out detailed analyses that allowed us to provide services appropriate to the needs of those we were serving. As the result of these activities, we realized the importance of IT-based operations and information database construction. It allows us to analyze information making our case to policy makers much more persuasive. In addition, this type of information gathering helps disaster survivors feel connected to their community by showing the way in which residents are inter-related.

In addition to applying IT to the hospital setting, our goal is to use IT systems to link homecare and nursing care and to support community-based services. Using this model, I believe we can lay the foundations for a country that is strong and resilient in the face of disaster or any other unexpected events. I hope our knowledge and experiences, together with those of the US, will be useful for the entire world.



John D. Halamka
Chief Information Officer,
Harvard Medical School
Vice Chair, Health IT
Standards Committee,
Office of the National
Coordinator for Health IT

John D. Halamka, MD, MS, is a Professor of Medicine at Harvard Medical School, Chief Information Officer of Beth Israel Deaconess Medical Center, Chairman of the New England Healthcare Exchange Network (NEHEN), co-Chair of the national HIT (Health IT) Standards Committee, co-Chair of the Massachusetts HIT Advisory Committee 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 3,000 doctors, 14,000 employees and two million patients. As Chairman of NEHEN he oversees clinical and administrative data exchange in Eastern Massachusetts. As co-Chair of the HIT Standards Committee he facilitates the process of electronic standards harmonization among stakeholders nationwide. As co-Chair of the Massachusetts HIT Advisory Committee, he engages the stakeholders of the Commonwealth to guide the development of a statewide health information exchange.

Japan has universal health care, and as Dr. Muto introduced, it has extensive experience with home health care and long-term care. Japan has a strong wireless network and IT infrastructure. Additionally, Japan has high-quality, affordable health care. Japanese people recognize the importance of public health and self managed health. As Dr. Muto mentioned, the earthquake in Tohoku reaffirmed the importance and the challenges of disaster health care.

Massachusetts has 15 years of experience with electronic health record sharing. During this time, we have pursued safe, high quality, and efficient health care. We are experienced in privacy policies as we have dealt with a variety of issues related to the Internet and, as an eHealth leader, we are knowledgeable about services that utilize cloud computing. Dr. Muto emphasized the power of cloud computing in disaster settings, and in the US cloud based health care is growing with several US companies offering cloud based EHR services. For the last 20 years, we have been studying the best way to utilize the Internet to maintain family connections through increased involvement in medical decisions that reflect the individual's wishes, especially when it comes to end of life care. Seven months ago my father passed away and through the use of personal health records (PHR), he was able to receive treatment according to his wishes until the end.

In order to further accelerate progress like this, Massachusetts mandated that all the hospitals in Massachusetts institute EHRs by 2017, as Pamela explained previously.

Both Japan and Massachusetts very carefully approach security risks. When we dealt with the tragic bombing at the Boston Marathon, the system allowed for the immediate sharing of medical information while maintaining patient privacy. It was very fortunate that each patient who received medical attention survived.

The Health and Global Policy Institute, which organized this roundtable discussion, is strong in the field of public policy and MassTech, represented by Pamela, is strong in the field of technology. I believe it is essential to leverage the knowledge that both sides bring and work together toward a next step in order to make the most of these strengths. I shared a white paper with Dr. Kurokawa and Dr. Murakami about the lessons learned in the US during the implementation of eHealth. I hope policy makers can use this. Massachusetts' eHealth professionals are looking forward to partnering with Japan and I believe that technologies developed in Massachusetts can be utilized in Japan especially in the area of confidential electronic medical information, which is likely to grow over time. I believe we can call ourselves great partners as we have complementary knowledge and shared values.

Governor Patrick: I was very touched by Dr. Muto's presentation. Our discussion has focused on the importance of health care cooperation and maintaining high quality care while containing costs is an element that cannot be left out. Also, I feel that there is not enough discussion in the US about the important concept of holistic care. It is very important to realize that, in addition to health, community and lifestyle influence an individual's happiness.

Ms. Goldberg: I have been focusing on how big data influences health care. As EHR becomes more commonplace, I hope that advancements in data anonymity and data analysis can contribute to the treatment of disease.

Governor Patrick: When new technology is brought in, its safety and efficacy should be tested similar to the way pharmaceuticals are developed. I wonder how we can best balance safety and efficacy while constructing and implementing new technology.



Dr. Muto: It is not only the advancement of medical IT and the introduction of new technologies that can bring innovation to homecare. Innovative homecare means implementing existing

technologies and aiming for higher quality end of life care. New technology like that of robotic technology should be evaluated for effectiveness in research institutes and hospitals prior to be introduced into homecare. The purpose of introducing new technology into homecare is to help construct positive relationships between patients and their families while improving quality of death.

Dr. Halamka: There are several great examples where cloud technology was put to use in the disaster affected areas of the Tohoku region. Privacy protection is of course very important and cloud based information management can be more secure than paper based information management in times of emergency. Many companies, medical practitioners, and researchers are testing the potential of IT applications to reduce medical costs and improve health care quality.

Dr. Toshio Miyata (Executive Director, HGPI): Moving forward, human resources are also important. In order to combat non-communicable diseases (NCDs) efficiently, we must utilize human resources effectively to ensure high quality medical care. IT infrastructure can be resourceful in achieving that. For instance, an innovative device that enables remote medical care is now being used in Aomori Prefecture. Sharing this type of innovation between the United States and Japan is a great thing. It is difficult for one country to combating NCDs; therefore, open innovation on an international scale is needed.

Mr. Tsutomu Tomioka (Member, House of Representatives): Japan is trying to maintain its universal health care system, yet in order to address health care costs Japan needs an IT strategy. In 2016, an individual number system will be implemented, and I wonder what Dr. Muto's thoughts are on this plan. Also, what are your thoughts on the Social Security Number system in the United States?

Dr. Muto: An individual number system is very crucial. Using one number for one person will allow for coordination across various systems. In Japan, parents maintain their children's health data using a small notebook, called *boshi-techo*. Because this data collection custom already exists, the use of IT in this arena is possible. However, people in Japan can be sensitive about privacy issues, so we will need to use caution when implementing this system. It is important to emphasize that using an individual number system in the health care context is about empowering people to receive services that they are entitled to rather than a social obligation. I hope Japan will continue with the integration of an individual number system into the health care system while explaining to people the benefits of this system.



Discussion

Dr. Halamka : When President Clinton proposed the use of a national health care identifier, privacy was a huge concern. For that reason, the proposal was not implemented. Instead, we use information such as patient name, gender, date of birth and address to coordinate care and develop appropriate treatment plans while maintaining privacy. Currently, there is not a national health information management system that utilizes numbers to coordinate medical care, but there are on-going discussions about the issues associated with such a system.

Audience member : I am interested in legislation to introduce EHR. What obstacles arise when introducing such technology?

Ms. Goldberg : The key to introducing an EHR system is to divide the implementation into stages. It is important to start with primary care doctors and the medical education system. As role models, they can facilitate the introduction of the system. There were several challenges that arose while introducing this system, but by providing additional support it was able to continue.

Governor Patrick : It has been seven years since Massachusetts introduced universal health coverage. However, providing everyone with access to medical care does not address the issue of cost control. Many believe eHealth is the key to controlling cost and this is the one of the reasons why medical practitioners are so enthusiastically joining the eHealth network.



Dr. Halamka : Doctors in Massachusetts believe in a system that focuses on maintaining health rather than curing illness and disease. By introducing technology, health data can be shared smoothly and we can measure quality of care in order to be able to uncover evidence and examples of success. Big data is useful not in terms of its size, but it is an indispensable tool in bringing forth quality improvement.



Dr. Kiyoshi Kurokawa

Chairman, Health and Global Policy Institute

I am very glad that we were able to exchange our opinions and share experiences in this roundtable discussion. As Dr. Muto mentioned, he has been working to increase the use of IT to improve quality of health care while doctors and nurses transition their focus toward patients' homes. Soon after the recent disaster, Dr. Muto moved to Ishinomaki where he connected with the local people and was able to gain the trust of both the local and medical communities through his new model of care. As a result, various companies, NGOs, and students have been drawn to Ishinomaki and his activities have created a ripple effect. As this example shows, digital technology, similar to innovators like Dr. Muto, contributes greatly to the creation of new societal values.

In this era of digital technology, instead of centralized policy making, localized policy making at the state, prefecture, or community level will result in the creation of innovative services. Implementing innovative policies is often challenging, and open discussions, like this roundtable discussion, that allow for community collaboration, information exchange, and the sharing of experiences are especially necessary.



Health and Global Policy Institute; HGPI
1-11-28, Nagatacho, Chiyoda-ku, Tokyo, 100-0014, Japan
Tel: +81-3-5511-8521 Fax: +81-3-5511-8523
E-mail: info@hgpi.org Web: www.hgpi.org



HGPI

Health and Global Policy Institute