

30 Boost Regional Medical and Long-Term Care Collaboration Through Greater Use of Healthcare IT

Situation

With the massive growth of the elderly population, coupled with serious shortage of doctors, uneven distribution of specialized physicians and regional gaps in healthcare distribution, Japan must consider a fundamental change in how healthcare services are delivered to its citizens. In such circumstances, healthcare information technology (IT) will be at the core of this change, providing improved efficiency, better outcomes, and a higher quality of life. Many governments of other countries are investing heavily in healthcare IT, and are already gaining tangible benefits. The aftermath of the 2011 Great Eastern Earthquake highlighted the importance of electronic healthcare records (EHR), storage of health information, disaster preparedness, service continuity, and regional medical and long-term care collaboration. Based on this experience, and as the world's leading IT economy, Japan has the potential to innovate and to become the global leader in healthcare IT.

Since the introduction of the IT Basic Law in 2000, healthcare IT has been a priority for the government of Japan. As a result, 97 percent of large hospitals have implemented the so-called electronic receipt system, a nationwide electronic billing system. However, the current process still requires some manual operations between organizations, and does not provide the full benefits of electronic throughput. Meanwhile, EHR penetration in hospitals has increased to 21.7 percent,¹ but utilization varies between different sizes of hospitals and, remains low among old clinics, and interoperability remains a challenge. Despite various government-sponsored pilot projects for telemedicine, implementation has been relatively slow due to the lack of appropriate inventive models and guidelines.

For that purpose, healthcare IT systems should be designed not only for individual hospitals, but with the idea of connecting all hospitals (i.e., as a secondary “medical region”), to function as a

component of the broader social infrastructure. For example, a holistic IT system among multiple medical and long-term care facilities and care providers that encompasses not only acute care but the whole pathway of prevention, long-term hospital stay and homecare, is required. Information systems should be interoperable and comprehensive (text, image, sensing data), providing availability and scalability that can be shared in real time both internally and externally between facilities. In addition, such infrastructure will not be sustainable if supplementary funding is limited to initial costs and does not cover running costs for maintenance, if productivity is not improved and if incentives are not provided through medical and long-term care reimbursement. Both the installation and the sustainable management of systems should be achieved.

Furthermore, the Japanese government should actively promote standardization of Japan's healthcare IT based on the experience and merits of global standards, with an eye to the continued introduction of global best practices into Japan. The need for efficiency and flexibility of large-scale systems that can be supported by many players in regional collaboration should also be taken into consideration.

The government should introduce a comprehensive and holistic policy for the implementation and management of a sustainable IT infrastructure that promotes adoption of global standards and incorporation of best practices from many players in an independent and prompt manner.

Current Policy

While the “Regional Health Revitalization Fund,” introduced in 2009, will be terminated, the Japanese Government has enacted a comprehensive new law that aims to maintain and promote regional medical and long-term care (the “Comprehensive Medical and Long-term Care Promotion Law”). As a result, funds

from the increased consumption tax now support the new fund. At the same time, local governments are required to create a “regional health vision” that describes the future of regional health provision.

In order to build a mechanism for functional distribution and collaboration of healthcare, envisioned by the Medical and Long-term Care Promotion Law, accelerated utilization of ICT is required. A system that enables information sharing of EHR and regional medical and long-term care data, with telemedicine capability, will become a part of Japan’s health care critical infrastructure. By analyzing big data using cloud technology, improvements are expected in acute care, early diagnosis, control of noncommunicable disease, home care, clinical decision support, research, and evidence based medicine.

Similarly in 2014, the new Medical Device Law was enacted, and medical software can now be regulated independently from the hardware. In addition, various health software applications that can be used in a clinical setting, as well as for personal health, are available in the market. While some software may not be regulated by the Medical Device Law, the industry is working on a self-guideline that takes into account its intended use and risk. With the greater use of ICT in healthcare, increasing awareness among developers and users will become more and more important.

Recommendations

- Make strategic investment plans for EHR, medical imaging information systems, and regional healthcare collaboration.
- Build incentive models to facilitate IT investment through medical and long-term care reimbursement and funding.
- Ensure interoperability based on global standards to facilitate regional medical and long-term care collaboration.
- Promote telemedicine.
- Promote external storage of healthcare information based on cloud computing, with adequate rules for privacy and security.
- Develop a national database to be used for evidence-based medicine.
- Encourage data mining and secondary use of healthcare data.
- Cultivate understanding and agreement on use of data, including comprehensive consent.
- Raise awareness, among healthcare providers and the members of the general public, regarding the benefits of using healthcare IT.
- Continue to develop and evaluate new rules on medical software that promote the healthcare industry as well as public health.
- Introduce a legal framework for medical information, and Medical IDs based on global standards that take into account the balance between adequate protection and effective utilization of medical information.

Reference

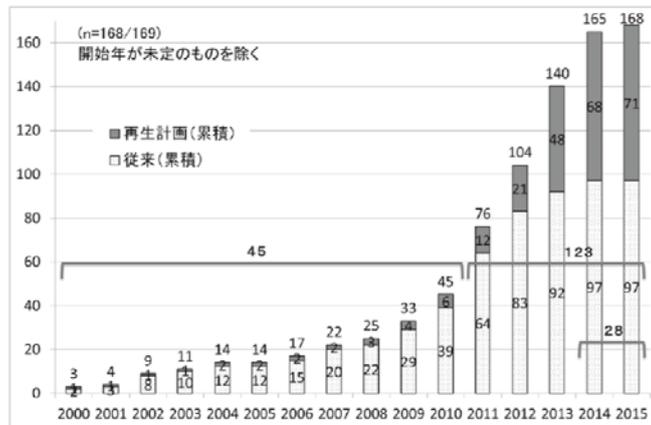
1. Japanese Association of Healthcare Information Systems Industry
The Report on EHR Penetration 2013 (in Japanese)
http://www.jahis.jp/members/data_list/data0204/

30. Regional Medical and Long-Term Care Collaboration Through IT (1)

Drivers

- Building regional care toward 2025
- Collect information from the full care continuum, including prevention, acute care, recovery, homecare and prescription, to provide adequate care
- Use IT as a tool to communicate among various medical and care professionals.

図 2.1-1 全国地域医療連携数の推移 (予定含む)



出典：日医総研ワーキングペーパー「ITを利用した地域医療連携の概況」（2013年度版）、2014年7月発行

Challenge

- Management sustainability
- How to measure outcome vs cost
- Agree on level and standard and format of the data to be shared
- Define and optimize patient ID, user authentication, and security

30. Regional Medical and Long-Term Care Collaboration Through IT (2)

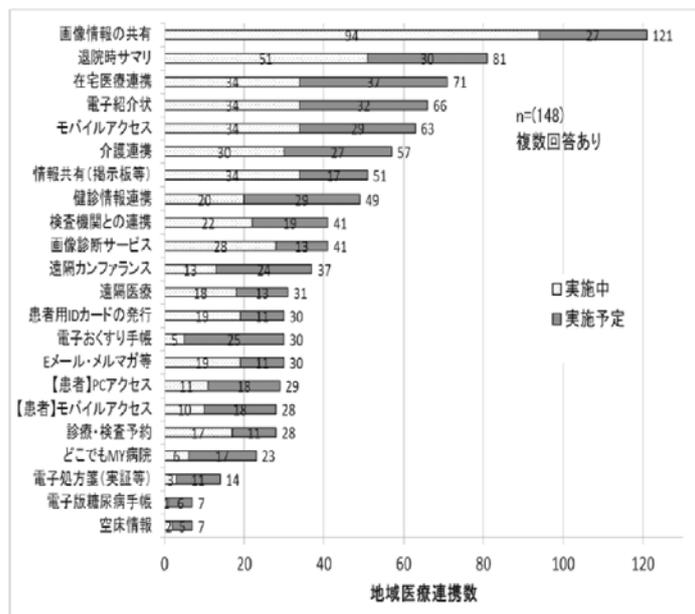
Use of IT

- To facilitate smooth transition of patients among hospital and clinics, information should include not only summary of discharge but also imaging data.
- IT can potentially fill the regional and professional gaps between medical and long-term care providers.

Challenges

- Patient consent
- Procedures for secondary use such as analysis of data, standardization of data format, and communication protocol.

図 2.7-2 提供しているサービスの状況 (予定含む)



出所：日医総研ワーキングペーパー「ITを利用した地域医療連携の概況」（2013年度版）、2014年7月発行