

Chapter 24

IT Applications for Medical Services in Japan

Susumu Yamamoto

Ritsumeikan Asia Pacific University, Japan

ABSTRACT

The Information Technology (IT) application for medical services has developed in line with two major national level factors. One was the “E-Japan Project” which was proposed and implemented to revitalise the Japanese economy by introducing IT to a wide range of industries and sectors of the society and by promoting establishment of so-called IT infrastructure. The other was serious concern over the fast rising healthcare expenses in the country in the face of the coming aging society. First, the major efforts were, therefore, made for productivity improvement and cost reduction in the health insurance bill claiming procedure and other related fields. These initiatives were followed by construction of medical information sharing and processing system first, and then developed further for regional collaborations among medical institutions. Other examples of the IT applications in the medical services can be found telemedicine to cope with the serious shortage of medical doctors.

INTRODUCTION

IT applications for the medical services in Japan have been developed, by and large, in line with the government’s initiatives in this field. The reasons behind this process are:

1. IT applications, by nature, require so-called IT infrastructure, such as high speed digital communication networks
2. The medical services are principally covered by the national health insurance scheme where digitisation of medical services and payments have been required
3. In the face of aging society in Japan, fast improvements in technology and productivity

DOI: 10.4018/978-1-60566-266-4.ch024

of the industry have become urgent agenda for the government

This chapter introduces an overview of IT applications in the medical field in Japan. Therefore, we need to start our discussion on the brief history of the IT revolution and government initiatives in the IT field in that Country.

THE IT REVOLUTION AND JAPANESE GOVERNMENT INITIATIVES

The 1990s was the beginning of the IT revolution in Japan. The Internet became a household name during this decade, while offices were transformed by the “server-client” environment. The old system, called the “legacy system” before the IT revolution, was made by a large host computer or a mainframe and many terminals which had only limited capability. In principle, all the data processing was undertaken by the host computer. This central control system was not only very expensive but also often suffered from a long processing time. Development of microprocessors and personal computers (PC) changed this in a short period. The server-client environment, a system where most of data processing is undertaken by PCs offered an excellent solution to problems with the legacy system. It was much cheaper and often faster than the legacy system. These made the server-client environment extremely popular not only in big businesses but also among a wide range of smaller firms. In addition, the use of the internet made it possible to acquire, exchange and transmit various information without any physical restriction.

The US government noticed the significance of this historical change, later often referred to as “the IT revolution”. Vice President Al Gore was one of the leading figures who championed “the Information Superhighway Plan” in the early 1990s. Many other countries followed the US

lead and Japan was not an exception. In the early 1990s, the Japanese economy was in the middle of stagnation after the collapse of the so-called bubble economy. Reinforced by a declining birth rate and an aging population, pessimistic views on Japan’s future dominated the entire atmosphere. The newly formed socialist party led coalition government of this time brought “IT (Information Technology)” into the policy discussion and established an “Advanced Information and Telecommunication Society Promotion Headquarters (hereinafter referred to as the Promotion Headquarters)” within the Cabinet. However, this fragile coalition government had a short life of less than two years and could not achieve any noteworthy result.

In July 2000, “IT Strategy Headquarters” was established within the Cabinet under the Mori administration of the LDP (Liberal Democratic Party). Under the IT Strategy Headquarters (hereinafter referred to as the Headquarters) Cabinet Ministers were assigned to be the members and the Prime Minister chaired the IT Strategy Council (hereinafter referred to as the Council). This Council was established with expert members invited from industry and the universities to undertake policy research and discussion at the same time. The Council worked out a “Basic IT Strategy” for the Country and unveiled it on 27 November 2000 (IT Strategy Council, 2000). The Basic IT Strategy emphasised that Japan needed to transform herself to a “knowledge-emergent society” to achieve higher added value in the era of the aging society. Acknowledging the aging society, the report predicted that the Japanese population would start to decline shortly. This population decline would inevitably bring about GDP decrease unless productivity is improved and capital accumulation proceeds. Therefore, the Basic Strategy proposed to “establish a national infrastructure, including legal frameworks and information infrastructures, suitable for a new society where information and knowledge are the sources of added value” (IT Strategy Council, 2000:1).

8 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/applications-medical-services-japan/42618

Related Content

Searching Bioinformatics Information Strategies for Effective Use of Search Engine

Viveka Vardhan Jumpala (2018). *Biomedical Engineering: Concepts, Methodologies, Tools, and Applications* (pp. 742-748).

www.irma-international.org/chapter/searching-bioinformatics-information-strategies-for-effective-use-of-search-engine/186704

A New Tool for Supporting Innovation in Biotech Co-Innovation and the Role of Economic Developers

Marina Frangioni (2017). *Comparative Approaches to Biotechnology Development and Use in Developed and Emerging Nations* (pp. 238-250).

www.irma-international.org/chapter/a-new-tool-for-supporting-innovation-in-biotech-co-innovation-and-the-role-of-economic-developers/169519

Diagnosis Rule Extraction from Patient Data for Chronic Kidney Disease Using Machine Learning

Alexander Arman Serpen (2016). *International Journal of Biomedical and Clinical Engineering* (pp. 64-72).

www.irma-international.org/article/diagnosis-rule-extraction-from-patient-data-for-chronic-kidney-disease-using-machine-learning/170462

Accessible Interface for Context Awareness in Mobile Devices for Users With Memory Impairment

Iyad Abu Abu Doushand Sanaa Jarrah (2019). *International Journal of Biomedical and Clinical Engineering* (pp. 1-30).

www.irma-international.org/article/accessible-interface-for-context-awareness-in-mobile-devices-for-users-with-memory-impairment/233540

Study of Fetal Anatomy using Ultrasound Images: A Systematic Conceptual Review

Sandeep Kumar E.and N. Siraam (2014). *International Journal of Biomedical and Clinical Engineering* (pp. 1-13).

www.irma-international.org/article/study-of-fetal-anatomy-using-ultrasound-images/127395