Chapter 11
E–Health Service Model for Asian Developing Countries: A Case of Emergency Medical Service for Elderly People in Thailand

Vatcharapong Sukkird
Thammasat University, Thailand

Kunio Shirahada
Japan Advanced Institute of Science and Technology, Japan

ABSTRACT
Electronic healthcare (eHealth) in Asian developing countries is required to support trends of the aging population through lack of resources in health system. Health services for elderly people are required to support primary care and communicate with caregivers in community health. Challenges of eHealth development in Asian developing countries are preparation health system with basic communication technology on resource limitation. There is a need to adapt Emergency Medical Service (EMS) with eHealth service through smart phones to enhance a primary health service for elderly people. This research aims to promote an eHealth service model to face with elderly patient demands in aging societies of Asian developing countries. The researchers use systematic reviews to identify components of health situation and EMS structure. A conceptual service modeling approach is adopted in the eHealth service model development with value co-creation concept. EMS eHealth service model is a point of healthcare service transformation in many countries through the advancement of ICT.

INTRODUCTION
Electronic healthcare (eHealth) is an application of information technology in healthcare services, which supports health information in medical team or in healthcare service systems. eHealth is applied for communications in healthcare practices of medical centers. It is also applicable to healthcare communications between providers and patients. It is an alternative topic for policy makers in developing countries to overcome lack of resource in health systems (Petrovic, 2013; Kishimoto, et.al, 2013). eHealth requires integration of information and communications technology (ICT), skill workforces, and technical sup-


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port in health service systems, which integration can increase the effectiveness of healthcare systems. Although applications of eHealth have been applied in developed countries for over 10 years, by basic information management to online health services, it has not been broadly applied in health systems of developing countries that are different in terms of e-commerce and internet-banking (Plaza, et.al, 2011; Mendonca, et.al, 2004; Liu, et.al, 2011). eHealth is an essential service concept that enhances healthcare communication system by means of technology and skilled participators to deal with limited resources and time.

Advancement of mobile technologies is a key factor of healthcare service management in many developed countries. Mobile technologies enable self-service functions on patient health monitoring to online medical by physician. Therefore, the technologies are considered as an alternative implication for developing countries. Healthcare service development for elderly people in Asia has transformed with the influence of technology investment and service management to sustain increasing demand of elderly care. Asian countries are different in terms of many factors, including cultures, health systems, health policies, and quality of services. Those countries need to arrange the factors to support increasing of aging population that is projected to be 30% on average in 2050. Primary healthcare service is one of the basic factors that are imperative for population well-being, since it depends on health policies and standards of each country. Therefore provision of effective healthcare service requires cooperation of providers in healthcare services and communities. Principle healthcare services for elderly people involve, for example, health monitoring, Emergency Medical Service (EMS), health management plan, and nursing at home. The effectiveness of the provided services is influenced by levels of quality and cost of service available in healthcare market in the way to support basic services and communicate to caregivers. To emphasize, alternatives of EMS for elderly people should be well prepared and available with reasonable price to meet the needs of patients and caregivers.

Implications of ICT to support healthcare services in developing countries are important issues for policy makers and governments, especially in mobile technologies and internet applications (Junhua, et.al, 2013). Public health providers are required to develop an elderly care system for both inpatient of hospitals and community health on the basis of quality of service that complies with the World Health Organization (WHO) guidelines. The system serves an essential mechanism for the well-being implemented through perspectives of physical, mental and social healthcare service (Niehaves, 2011; Stockdale & MacLeod, 2013). Accordingly, it is essential to apply mobile technologies to support healthcare services through the involvement and participation of healthcare providers, communities, families, and elderly people. Facing with the increase of elderly population, it is highly important to rethink about the importance of stakeholder collaboration in healthcare service through mobile technologies which directly affect to healthcare market and quality of services.

This research aims to promote an eHealth service model for Asian developing countries that have rapid growth in mobile phone market. The authors mainly focus on services that support EMS activities and external hospital services relating to elderly care at homes or elderly care centers in remote areas. A conceptual service modeling approach is adopted to represent the relationships among patients, families, caregivers, hospitals, ICT providers, and insurance providers. The eHealth service model is designed to cooperate in EMS for elderly patients through the internet based devices that are able to contact with family members, caregivers, and hospitals. Stakeholders in eHealth service systems are classified based on their co-created activities and participants that are involved in elderly healthcare service provision through ICT applications. The eHealth service model is expected to support Asian developing countries that have been facing with the increasing demand of EMS and primary care services for elderly people.
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