Healthcare providers' perceptions of barriers in implementing of home telecare in Taiwan: A qualitative study

Kuei-Feng Chiang [a,b], Hsiu-Hung Wang [a,*], I.-Kuang Chien [c], Jhao-Kun Liou [d], Chung-Lieh Hung [e], Chien-Min Huang [f], Feng-Yueh Yang [c]

[a] College of Nursing, Kaohsiung Medical University, Kaohsiung, Taiwan
[b] Tainan Sin-Lau Hospital, Tainan, Taiwan
[c] Kaohsiung Medical University Hospital, Kaohsiung, Taiwan
[d] Changhua Christian Hospital, Changhua, Taiwan
[e] MacKay Memorial Hospital, Taipei, Taiwan
[f] Kaohsiung Municipal Hsiao-Kang Hospital, Kaohsiung, Taiwan

ARTICLE INFO

ABSTRACT

Objectives: Telecare has not only brought down medical expenses, but has also become an important tool to address healthcare needs. In recent years, the Taiwanese government has been concerned about this healthcare issue. However, only a few hospitals provide telecare. This study aims at investigating the barriers that healthcare providers face while implementing home telecare in Taiwan.

Methods: A qualitative research design was employed in this study, with semi-structured in-depth interviews. The sample was obtained from five hospitals, including three medical centers and two regional hospitals. A total of 31 healthcare providers were interviewed, including case managers ($n = 11$), administrators ($n = 7$), physicians ($n = 7$), and nurses ($n = 6$).

Results: The results were summarized into five themes, including: (1) unsuitable laws and vague policies, (2) the policy implementation fails to meet public needs, (3) lack of organizational support, (4) lack of quality and convenience of the system, and (5) inadequate public perception and attitudes.

Conclusions: Obstacles in policy and regulations are the most fundamental difficulties for telecare implementation, therefore the government should provide a clear direction by planning policies, legislate appropriate regulations, and incorporate telecare into the scope of medical insurance, in order to improve the environment and stimulate the telecare service market. In order to improve the success rate of telecare, administrators should be able to identify an appropriate cost-benefit model to build a humane system to satisfy public needs and to provide staff with resources and support.

© 2015 Published by Elsevier Ireland Ltd.

* Corresponding author. Tel.: +886 7 312 1101x2624; fax: +886 7 321 8364.
   E-mail addresses: slh98@sinlau.org.tw (K.-F. Chiang), hhwang@kmu.edu.tw, wang2624@gmail.com (H.-H. Wang), ikchien@kmu.edu.tw (I.-K. Chien), 146080@cch.org.tw (J.-K. Liou), jotaro3791@yahoo.com.tw (C.-L. Hung), 0890321@kmhk.org.tw (C.-M. Huang), 970559@ms.kmuh.org.tw (F.-Y. Yang).

1.   Introduction

Similar to some other countries, Taiwan is facing a serious impact of an aging society. In 2013, the elderly population, specifically those aged 65 and over, accounted for 11.53% of the overall population in Taiwan, which was estimated to reach 20% in 2020. The population is gradually undergoing negative growth, bringing significant changes to the social structure [1]. Previous studies showed that as they age, most of the elderly choose to stay at home, thus making provision of appropriate care for the elderly at home an important aspect of policy planning [2–4]. Since it was launched in 1995, the National Health Insurance in Taiwan has managed to provide coverage to 99.6% of the citizens. However, although the healthcare system is supported by a majority of the people, the medical revenue still cannot balance the high medical expenses, which continue to grow rapidly [5]. With the development of the information industry, communication technology has been more and more widely applied in medical care and preventive healthcare related services. Telecare is a combination of healthcare, electronic medical equipment, and communication technology that allows people to receive preventive care and healthcare services in the community and home environments. Many studies have pointed out that telecare can reduce healthcare costs and the number of emergency hospitalizations, as well as improve the quality of life and satisfaction levels of the patients [6–9]. Evidence for enhancing integrated care, clinical outcomes, chronic human disease self-management, and medical care quality has resulted [10–12]. Unlike traditional care services, telecare has more value in business benefits and promotes cross-industry alliance and integration [13]. In recent years, telecare has become one of the key strategies to address healthcare needs. Many executives of healthcare institutes are developing ideas about how to use information and communications technology to create competitive advantages [14,15]. It is Taiwanese government policy to respond to these challenges.

The Taiwan government started the telemedicine project in remote areas in 1995, including medical consultation and discussion between medical centers and remote medical units [16]. Along with the increasing demand for long-term care and to achieve the goals of aging in place, the Industrial Technology Strategy was proposed in 2003, and the Telecare Pilot Project began to be promoted in 2007[16]. Hospitals were commissioned to set up telecare centers to replicate and diffuse services by divided regions. The Taiwan government built two kinds of telecare service models, including home/community-based and institution-based, and provided physiological monitoring, health management, emergency medical resource referrals, health education instruction, and counseling services for chronic cases. The government expected to lead private medical institutions to introduce information and communications technology into the field of medical care to provide relevant telecare services. Moreover, the Taiwan government also built telehealth information platforms to link a variety of health care models, facilitate information interfacing, and to integrate and link health care information to the health care system to provide continuity of care services for the people. In this interdisciplinary

cooperation model, hospital organizations, healthcare systems, medical equipment manufacturers, information and communications technology operators, or network service providers formed a telecare eco-system that led to the development of a digital health industry, taking into account both the welfare and social and economic industry demand. Currently, telecare service projects in Taiwan are mainly based on the government grants program. There are few private hospitals through cross-industry alliances to provide needed health care services at their own expense [16].

There is considerable difference between the environments of telecare development in Taiwan and the EU countries or the U.S. Unlike the EU countries and the U.S., which cover a vast and extensive territory, Taiwan has a dense population concentrated on a small land, with an area of only 36,000 square kilometers (14,400 square miles) [17], and a population of 23,162,000. A total of 502 hospitals and 20,935 clinics provide highly accessible and convenient medical care [18], as a result, people can easily acquire emergency and specific medical services. However, until today, the development and expansion of home telecare continues to be quite slow. Previous studies have indicated that the success of telecare is related to its implementation strategy and to specific environments [19–21]. Complexity factors of policy, organization, equipment, technology, and healthcare providers' attitudes and perceptions are important factors in affected hospitals' development of telecare services [22,23]. However, telecare is a complex mechanism; optimizing the use of telecare and providing integrated care to form telecare policy remains to be assessed [10]. In order to guide future development of telecare, it is necessary to conduct in-depth analyses of the implementation issues in Taiwan, and to provide appropriate recommendations for the government and hospitals, with reference to policy implementation and execution.

Healthcare providers are responsible for telecare implementation and practice. The failure to fully understand and overcome the difficulties they are facing, will strongly affect the efficiency and effectiveness of the promotion of telecare [24–28]. However, exploring the nature of these problems is necessary to find valuable advice and countermeasures from the viewpoint of clinical practice staff. This knowledge and search context is suitable to describe and discuss with qualitative research methods. Therefore, this study aims at identifying the obstacles encountered by healthcare providers in the implementation of home telecare, to recommend appropriate program improvement strategies to the policy makers.

2.   Methods

2.1.   Design

In this qualitative study, data were collected through semi-structured and in-depth interviews. This technique gives participants to express their opinions and perceptions freely about all the topics on the guide [29], and to ensure the researchers obtain a more in-depth understanding of healthcare providers' perceptions of barriers in implementing home telecare. This research was approved by the Institutional