Care delivery frame: A home telehealth system

Y-C. HUANG, Y-L. HSU. ***Care delivery frame: A home telehealth system based on social networking.*** *Gerontechnology 2014;13(2):215;* doi:10.4017/gt.2014.13.02.312.00 **Purpose** Home telehealth systems generally focus on building connections between home environments and home telehealth service providers and place technical emphasis on establishing an information platform for health data transmission, storage, and analysis. Although useful vital sign monitoring equipment and information communication technologies are readily available, many researchers and businesses are still attempting to expand coverage, and expectations for widespread adoption of home telehealth services have not been realized in Taiwan. Lack of user motivation is the key. This research suggests a paradigm shift in home telehealth systems from provision of telehealth care to enhancing older adults' interpersonal communication and social participation. **Method** The core of the system is a tablet on which the CDF (Core Delivery Frame) App is installed (*Figure 1*). Vital sign measurement data from various devices, are transmitted via Bluetooth to the tablet. Under the SSL and HTTPS data transmission security of Facebook, data are encrypted and then posted to the elderly adult's Facebook timeline by using the one touch data-upload button on the CDF App interface. Facebook also becomes the 'user interface' of CDF for younger persons and family members who are 'Facebook friends' of the elderly adult. Under Facebook privacy settings, children and family members can browse the elderly adult's vital sign measurement data and also post caring messages, photos, and videos using the regular Facebook App. The elderly adult is able to read these messages from Facebook displayed in the simplified user interface of the CDF App on the tablet. The professional caregiver, who is a 'Facebook friend' of the elderly adult, is allowed to use the 'Comm & Care' App installed on a smartphone to retrieve vital sign data stored in Facebook. The 'Comm & Care' App provides standard home telehealth functions, such as multiple user management, graphical display, data analysis and export, event alert, etc. In addition, data can be permanently deleted from the Facebook server, as indicated in an official announcement from Facebook. A total of ten elderly adults, age 55-79, who are not living with their children, participated in a user evaluation of CDF. Only one participant had experience with computers. Nine participants suffer hypertension and diabetes. The other has diabetes but not hypertension. The average number of interactions for the participants through CDF were collected for more than five months. This research used Qualitative Content Analysis (QCA) to obtain complete and straightforward user feedback. **Results & Discussion** During the evaluation period, each participant had 1.79 to 3.50 CDF interactions per day in Facebook. CDF was well received by the elderly participants and their children as indicated by the increased motivation due to the inclusion of the elderly into social networking. Implementing telehealth functions in CDF consists of installing Apps only. Cost is minimal. CDF delivered tracking vital signs, providing health-care, and forming a small 'family social network'.

Keywords: communication & governance, home telehealth system, social networking

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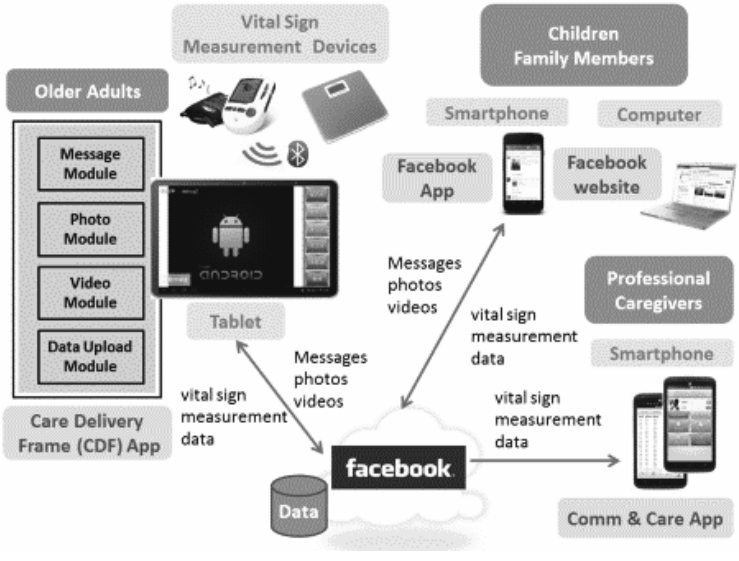

Figure 1. CDF (Care Deliver Frame) system structure