KORT, H.S.M. (Convener). ***Expanding e-health knowledge.*** *Gerontechnology 2012;11(2):126;* doi:10.4017/gt.2012.11.02.081.00 **Participants**: *YU-CHEN HUANG* (Taiwan), *A. STERNS* (USA), *M.G.E.F. ANTONIETTI (Netherlands), H. ROELFSEMA (Netherlands)* **ISSUE** In the Netherlands and world-wide, particularly in the United States, knowledge institutes and Small to Medium Enterprises (SME's) address the issue of older adults wanting to live independently and age in place[1]. There are several reasons to use of e-Health. First, an increasing number of older adults prefer to age-in-place, even when their health deteriorates. Moreover, the need for more demand-oriented care also increases. Older adults can age in place when signs of a deteriorating condition are recognised early and adequately dealt with. Older adults, who live in accessible homes, experience a greater sense of well-being than those living in homes that are not so accessible. Second, older adults tend to move to assisted living facilities when they do no longer feel safe and secure in their own home, or when their health declines to such an extent that professional care is needed[2]. In contrast to aging in assisted facilities, aging-in-place (AiP) can be defined as the ability to live in one's own home for as long as confidently and comfortably possible. AiP increases the demand orientation of care. The shift in focus calls for new e-Health solutions that connect with other technological developments such as building smart homes[3]. Third, single older adults often lack sufficient access to social resources and does not have someone to take care of them. In such cases, e-Health solutions could make the difference between AiP or moving to an assistant facility. Fourth, changes in the market for old-age care call for new business models, many make of which use e-Health solutions. Such solution may focus for example on networking (bringing people together), technology for a niche market, and cost reduction[4]. Therefore, the iKOP project also evaluates the emergence of new business models in Dutch old-age care. **CONTENT** The symposium finalizes the results of all separate subprojects of the iKOP project. In this project e-Health systems are checked for their ability to support older adults to age in place. The central question is: "What criteria e-Health does need to fulfil in order to be understandable for professionals, in order to be used by older adults, in order to really lead to a lower burden of care, and in order to enable people to remain in their own home?" In the subprojects we analyzed how SMEs can support older adults and health care professionals in their use of e-Health. Dutch SMEs have several questions with regard to e-Health solutions for older adults centering around the issue of targeting the right group, the usability of the e-Health solution, and constructing the right business model. **STRUCTURE** The first presentation will focus on e-Health solutions in Taiwan and how e-Health knowledge is expanded there. The second presentation will be about a SME-design that commercializes mobile e-Health solutions for AiP and will demonstrate how the cloud/smart device-based system can be used to develop interventions for stroke recovery, managing heart failure, and supporting self-management for individuals living with diabetes. The third presentation will focus on the use of sensor technology as one of the e-Health solutions, addressing the question: "Are family carers willing to use sensor technology to monitor their ill, old or disabled loved ones?" The final presentation is about the Dutch experience of an e-Health business model dynamics in long-term care. **CONCLUSION** Spreading e-Health knowledge among the participating SME's and other SME's, requires design and the development of information and communication products matching the SME reference frame. We note that e-Health solutions for the support of older adults in AiP or for the support of daily practice for care professional was not always examined before e-Health solutions were marketed.

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Y-C. HUANG, H-J. LIN, Y-S. CHEN, M-C. SHIEH, Y-L. HSU. ***From home telehealth to 'Communication and Care'.*** *Gerontechnology 2012;11(2):127-128;* doi:10.4017/gt.2012.11.02.409.00 **Purpose** Although the usefulness of home telehealth systems has been recognized, and all required technologies are readily available, expectations for its widespread adoption have not been realized in Taiwan. The systems are often too COMplicated, COst are too high, and users (including older adults and their caregivers) are not sufficiently motivated. In responding to these so-called 'COM-CO' challenges, a decentralized home telehealth system was developed[1], in which a single household is the fundamental unit for sensing, data transmission, storage and analysis based on the Distributed Data Server (DDS). The highly decentralized monitoring model and the portable nature of the system make it economically viable and acceptable to the end-users, however, user motivation remains the key factor. This paper presents 'Comm & Care' converted from the decentralized home telehealth system. Existing mobile devices, cloud services, and social network services (SNS) are integrated in this customizable system. Most importantly, 'Comm & Care' transforms from a home telehealth system into a platform of communication and care between older adults and their family members. **Method** The structure of 'Comm & Care' exhibits minimal system complexity (*Figure 1*). Sensing data from various sensors in the home environment can be transmitted to the DDS, which might be an embedded system, tablet, or PC. Caregivers downloaded Apps to build personalized interfaces on their own mobile phones, tablets, and PCs to access the sensing data and receive alert messages from the DDS. It will not be necessary to pay a monthly fee to subscribe services from a home health care service provider. Actually, the responsibility of care is also "decentralized" to the family members of the older adults, using 'Comm & Care' as a platform. SNS such as Facebook and Twitter are the most popular communication platforms for younger generation. Connecting with SNS, 'Comm & Care' can be a 'friend' on the caregiver's Facebook and publishes sensing data and messages. It is expected to stimulate motivations for younger family members to communicate with the older adults, and the sensing data enriches the content of communication. **Results & Discussion** The fundamental structure of 'Comm & Care' has been completed. Equipped with different sensors, different applications have been built. Currently, vital signs (such as blood pressure and blood glucose), environmental parameters (such as temperature and humidity), and activity of daily living monitoring have been completed. Sleep quality monitoring is being developed. We are also working with a telecommunication company to find a new business model to market 'Comm & Care', as more than an App.

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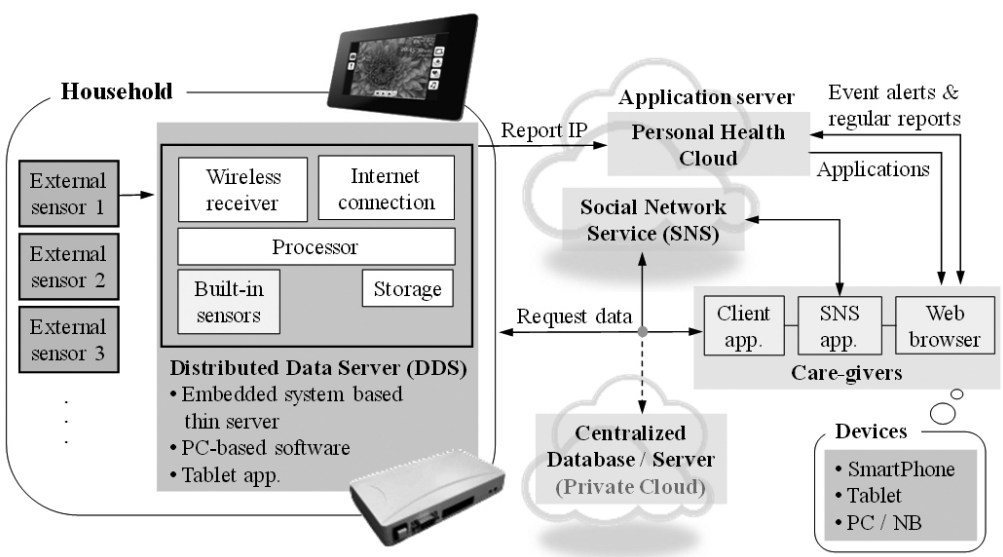

Figure 1. The structure of 'Comm and Care'

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A.A. STERNS, J. HUGHES, C. GOLDSTEIN. ***Getting the US mHealth market to take our medicine.*** *Gerontechnology 2012;11(2):128;* doi:10.4017/gt.2012.11.02.377.00 **Purpose** Using iRxReminder[1]platform for instantly deploying research studies without the need for a programming team or app store approval. University and hospital researchers piloting self-management programs for several chronic conditions are now using the system. iRxReminder plans to expand beyond research to provide a comprehensive self-management system that integrates into the health technology infrastructure connecting and enabling educated and activated patients and informed, engaged health care professions. This communication will enable older adults to recover faster from health crises and remain independent longer living with both chronic physical as well as mental conditions. A review of these issues will be presented in the context of pilot research on medication adherence, stroke recovery, and living with heart failure. **Method** Older adults ages 56 to 89 were recruited into randomized control trials in three studies. The first study followed medication adherence and activity levels of 49 adults[2]. The second study followed the recovery of 20 older adults following a transient ischemic attack (TIA). The iRxReminder smartphone app was compared to a booklet[3]. The third study examined the medication adherence of 40 cognitively impaired older with heart failure. **Results & Discussion** iRxReminder was successfully used by adults to follow medication adherence and activities. In the 2nd study participants recovering from a TIA using iRxReminder in the experimental group achieved 83% adherence with medications, 94% adherence to education programming, and retained significantly more information than the booklet group. Participants in the 3rd study were all successful in using the iRxReminder software and preferred the smartphone-based solution to a sensored pillbox that confirmed medication taking. Based on questionnaires taken before and after using the iRxReminder system, participants indicated favourable use of the smartphone and the smartphone app. The system is successful because it acts as a cognitive prosthetic™ that overcomes cognitive impairments such as lower prospective memory. Successful use of such a system can play an important role in the ability of older adults to extend their independence and age-in-place longer. The older adults indicate they feel more competent when using the system and experience a higher quality of life. Professionals, both in healthcare and government must be educated to overcome their ageism and assumptions about older adult limitations so that these approaches will result in improved health outcomes and lower the overall cost of care.

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M.G.E.F. ANTONIETTI, M. HIEDER, A. MOENIS, M. NIJENHUIS, H.S.M. KORT. ***User requirements of an e-mental health tool.*** *Gerontechnology 2012;11(2):128-129;* doi:10.4017/gt.2012.11.02.341.00 **Purpose** The percentage of older adults (65+) using professional mental health care in the Netherlands increased from 3,2% in 1990 to 4,2% in 2004[1]. A further increase is expected because the older adult population in the Netherlands is becoming older. At the same time however, 7000 mental health care jobs will disappear this year in the Netherlands due to cut-backs. A more efficient mental health care service is needed to cope with the increase in mental health

care demand and the diminishing number of mental health care professionals. One of the ways to obtain a more efficient mental health care service for older adults is to use video communication. User requirements related to care tasks using video communication has been studied only once before in a randomised controlled trial (RCT) in the Netherlands[2]. The first aim of this project is to map the mental health carers' requirements of, and attitude towards, a video communication tool. The second aim is to find specific (differences in) requirements of older adults according to their mental health carers. The last aim is to test the user friendliness of the video communication system. **Method** In a long-term addiction clinic of a Dutch mental health organization a pilot group consisting of a physician (n=1), psychiatrist (n=1), nurses (n=2), outpatient residential supervisors (n=2), and clients (n=20), completed a four-week trial with a new developed video communication system to provide e-mental healthcare. The clients in the pilot group were both adults (n=11) and older adults (65+) (n=9). The video communication software, developed by Grandstream, can be installed on a videophone that most resembles a traditional telephone, a Smartphone, tablet, or a computer to meet different user preferences. Some functions of the video communication tool can be customized, like the use of pictograms instead of numbers for the basic screen or the option to have group sessions or agenda management. Moreover, the software can operate a system on its own, or it can be linked to several sensor and alarm devices. One questionnaire is being developed to map requirements for future users of the video communication tool. This questionnaire is to be completed by as many mental health care professionals as possible within the selected mental healthcare institution. Differences in requirements between younger and older users are also tested through this questionnaire. A modified and translated-in-Dutch version of the USE questionnaire[3] will be completed to test the user friendliness of the video communication system. The latter questionnaire will be completed only by the health care professionals in the pilot group, four weeks after the video communication system is first used. **Results & Discussion** Preliminary results from the first questionnaire show that respondents have a positive attitude towards video communication. Respondents scored this 7.8 on a scale from 1-10 (SD=1.0). Apart from regular consultations, all respondents anticipate wanting to chat with friends and family as a future option of the video communication tool for older users. All respondents expect that older users will prefer the video phone that resembles a traditional telephone. Furthermore, 75% of the respondents indicated they would like to see agenda managing and note-taking during or after consultations, and that these are useful extra options that should be included in a video communication tool they would want to use. Data from health care professionals outside the pilot group and user friendliness data will follow. We conclude that the video communication tool should at a minimum include the option of regular consultations, contact with friends and family (or clients) and that the use of technology for senior users should be as straightforward as possible.

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H. ROELFSEMA. ***Business models in e-Health care.*** *Gerontechnology 2012;11(2):129-130;* doi:10.4017/gt.2012.11.02.357.00 **Purpose** We aim to contribute to the process of implementing e-health products and services by analysing the business models commonly used in the health care sector in the Netherlands. As in many other countries, in the past twenty years the Dutch health care sector has seen dramatic changes. Most agree that there are three underlying currents: technological change, institutional change, and globalisation[1,2]. However, due to a lack of clear business models, many entrepreneurial activities do not survive the research phase and are un-

able to generate consumer welfare[3,4]. **Method** We study the business model dynamics of six Dutch e-health companies in long-term care using the case-study method and action research. **Results & Discussion** We found that institutional factors take a central position in the business model dynamics of the companies in our case study. Government structures and the position and procedures of insurance companies directly influence the possibilities of getting technologies to the market. These factors also influence the final users' willingness to pay and the extent to which they are used in family care. Particularly the smaller firms we studied show high adaptation to the situation in the Dutch market, which may reduce their chances to internationalise.

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