S.E. LEVKOFF, N. AN (Conveners). ***Overcoming barriers to digital engagement among elders of Chinese cultural background.*** *Gerontechnology 2014; 13(2):97;* doi:10.4017/gt.2014.13.02.055.00 **Participants** N. An (China), X. Lu (USA), H. Chen (USA), J.L. Fozard (USA). **Issue** Challenges of initial, continuous, and sustained engagement in e-health technology; barriers to and facilitators for digital engagement among elders of Chinese cultural background; culture values and health beliefs and engagement issues in e-health gerontechnology. **Content** While e-health technologies bring about new promises such as better access and more timely delivery of health services, the e-health technology field also faces a challenge in effectively engaging elderly users. This panel explores innovative ways to enhance engagement with elderly people for health promotion purposes. Based on the collective experience of this panel in working with elderly Chinese to develop innovative health information and communication technologies, we have found that the common barriers to digital engagement in elders include (i) digital literacy, which typically varies in different aging cohorts or sectors; (ii) cultural barriers such as culturally relevant health belief models, illness explanatory model, and their associated general literacy and health literacy levels that tend to inhibit adoption of new e-health technology; and (iii) socio-psychological barriers such as fear of complexity of modern technology. Joint experiences suggest that increasing the level of digital literacy is a necessary condition for digital engagement, but not a sufficient condition for getting elders to engage with health-promoting devices and action. While technological solutions are critical for enhancing engagement, sustained engagement often requires social support to help elderly users remove or reduce barriers. **Structure** Four paper presentations will be given by investigators from China and the USA, followed by Q&A and a discussion. Dr. An and colleagues will present a study to a local senior day care center in China about the Chinese elders' experiences using a web-based Personal Health Record (PHR) system that can deploy vital signals that are recorded through a portable mobile medical device. They found that some elders did not participate, mainly because they thought the system was hard to use. Dr. Chen and colleagues will present their experience in providing online health education to a low-income caregiver group in Shanghai, and in delivering online telemonitoring support for rural elders in the USA Their findings suggest that what seemed to work in both situations was to attune digital services to the level of users' existing digital capacity, rather than trying to increase their digital literacy or capacity. Dr. Lu and colleagues will present results of a qualitative analysis of the posts from two online communities devoted to dementia care. While both ethnic groups were equally engaged in discussion about topics such as family dynamics and emotional support, Spanish users were more likely to share personal stories, whereas Chinese users tended to share practical caregiving skills or medication management tips. Finally, Fozard and Levkoff will provide a conceptual discussion about cultural influences on acceptance of digital technology. They propose that an older adult's experiences with technology, such as perceived usefulness and perceived ease of use, are best understood when they are viewed as part of the collective experiences of the age cohort as a cultural historical entity. **Conclusion** We expect to share our insights about common barriers to digital engagement and the strategies for improving e-health engagement among elders. We also hope to raise attention to the complexity of issues related to digital engagement, in efforts to advance the conceptual understanding of the role of culturally relevant health beliefs in e-health engagement.

Keywords: digital engagement, barrier analysis, facilitator analysis, culture, health beliefs
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P. LI, N. AN, H. CHEN, Y. JIE, P. LI, S.E. LEVKOFF. ***Improving digital engagement for elderly Chinese with mobile health technologies.*** *Gerontechnology 2014; 13(2):97-98;* doi:10.4017/gt.2014.13.02.301.00 **Purpose** Previous research has identified challenges for the elderly in using electronic personal health records[1,2]. The aim of this study was to assess the usability and utility of mobile health technologies to engage elderly Chinese in monitoring and managing their chronic diseases. **Method** As shown in *Figure 1*, we developed a web-based, institution-neutral Personal Health Record (PHR) system that seamlessly integrated mobile medical devices measuring the blood pressure, heart rate, glucose level, and temperature of elder-

ly people. The recorded vital information was collected at more than 10 elderly day care centers in Cheng Guan District, Lanzhou, Gansu Province. We assessed usability including learnability, memorability, handling errors, and satisfaction through focus group meetings, system logs, and questionnaires. This work was supported in part by the '111 Project' of Chinese Ministry of Education and State Administration of Foreign Experts Affairs under Grant No. B14025, by the 'University Featured Project' of Chinese Ministry of Education under Grant No. TS2013HFGY031, and by the Chinese Key International S&T Cooperation Project under Grant No. 2014DFA11310. **Results & Discussion** As of December 31, 2013, 1,317 elderly people registered into the system, and more than 25,190 measurements were taken during the 6-month period of assessment. The registered elderly range in age from 60 to 100 years with the largest concentration from 75 to 80 years. The initial results from our questionnaire collected at focus group meetings showed that 84.3% of participants validated the usefulness of mobile health technologies for their chronic disease management. Our findings, however, also suggested that without sufficient support, 37.6% of the elderly may not utilize mobile health technologies mainly because they perceive these technologies as complex and difficult to use.

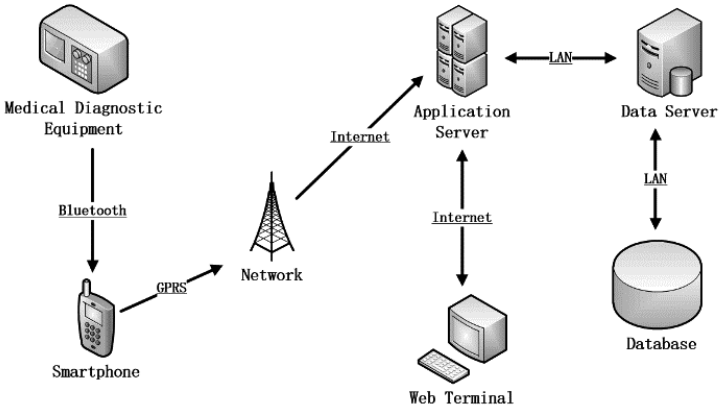

Figure 1. Personal health system with mobile health devices

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J.L. FOZARD, S.E. LEVKOFF. ***Multiple factors that influence technology acceptance by aging and aged persons.*** *Gerontechnology 2014; 13(2):98-99;* doi:10.4017/gt.2014.13.02.262.00
Purpose Some factors that influence the acceptance and use of technology by aging Chinese, such as normal chronological age-related changes and factors related to birth cohort, are unique to Chinese culture, but others are not. **Method** The technology acceptance model (TAM)[1] posits that the main determinants of technology acceptance by persons of any age are perceived ease of use and usefulness, which in turn are influenced by several effects of age and birth cohort. **Results & Discussion** Technology supports almost all domains of human activity: health, housing and everyday functioning, mobility and transport, communication, and work and leisure. This paper describes how the TAM relates to differences in the effects of age and birth cohort[2]. It then identifies which of the cohort effects most closely reflect those that are unique to Chinese culture. Features of aging that influence technology acceptance by all aging and aged adults include changes in perceptual-motor function, cognitive abilities, personality, and motivation. Cohort effects that are not unique to Chinese culture include health and education, increases in longevity, use of technology related to communication and transportation, and control of environmental changes across successive birth cohorts. Cohort effects that are more closely related to Chinese culture include massive urbanization, state-imposed limitations on the number of children per family, and recent reinterpretations of the

significance of Chinese traditions and cultural history. This review of the literature will provide a more systematic approach to the application of the TAM for Chinese aging and aged adults.

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X. LU, M. PAGAN-ORTIZ, H. CHEN, D.E. CORTEZ, S.E. LEVKOFF. ***Thematic comparison of information shared by Spanish- and Chinese-speaking users of dementia-caregiving online communities.*** *Gerontechnology 2014;13(2):99* doi:10.4017/gt.2014.13.02.256.00 **Purpose** Online communities have become a convenient and popular vehicle to share information and experience about specific diseases as well as to provide social support for individuals who care for people with debilitating medical conditions such as dementia. Research on patterns of information-sharing through these online communities is underdeveloped. This presentation explores cultural differences in the way information is shared by family caregivers using online communities. **Method** Qualitative data were collected from posts originating in two online communities devoted to dementia caregiving: a Spanish-language Facebook community (Cuídate Cuidador, 2,752 members) and a Chinese-language Sina Weibo community (Loveandhelp, 1,303 members). Content analysis was conducted using open coding in order to identify thematic differences and similarities across the two online communities. For each community, we sampled posts and comments that were shared by unique users from January 2012 to December 2012. Data were analyzed in its original language by trained coders and then translated for the purpose of comparison. **Results & Discussion** Preliminary findings revealed that users in both communities posted comments that focused on caregiving burden, coping, and family dynamics. However, Cuídate Cuidador's users were more likely to share personal stories, whereas Loveandhelp's users tended to share caregiving skills or medication management tips. Both groups were similar in posting about family relationships and dynamics as well as emotional support needs (*Table 1*). Online communities, as an emerging means for people to share and connect across geographic distance, should be further studied and developed in response to culturally relevant patterns of communication and interests of the participants.

Table 1. Thematic comparison of information shared by Spanish- and Chinese-speaking users of dementia-caregiving online communities

Themes	Community	
	Cuídate Cuidador	**Loveandhelp**
Shared	Caregiver burden/ stress Coping mechanisms Family dynamics Need for emotional support from people under similar conditions	
Different	Personal stories: journey as a caregiver, emotional struggles, etc.	Caregiving skills: daily care at home, tips for traveling, tools and devices for dementia care, etc. Medication management tips

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H. CHEN, J.H. MAXWELL, L. XING, S.E. LEVKOFF. ***Engaging digitally disadvantaged people.*** *Gerontechnology 2014; 13 (2): 99-100* doi:10.4017/gt.2014.13.02.243.00 **Purpose** Improving access to health services based on health information technology (HIT) is a challenge for digitally disadvantaged elderly groups, who are often from low socioeconomic and educational backgrounds. In recent projects we tried different strategies to deliver HIT-based psycho-

educational programs to families that have obvious health needs, but are disadvantaged in their access to HIT. The purpose of this presentation is to describe what was and was not effective in these case examples and to evaluate these efforts with respect to the emerging field of technology acceptance research. **Method** In two different studies, we provided online education and support to older adults and family caregivers and then qualitatively evaluated the degree to which participants engaged in the online programs. **Results** In our first study, we provided online education and support to Chinese dementia caregivers living in an older Shanghai community where industrialization and commercialization are relatively underdeveloped. Families targeted for the intervention typically did not have computers at home (n=88) and were not able to participate in the program. After trying various options, the final successful solution was to organize an offline group learning by gathering family caregivers with peer volunteers at a nearby community senior center and then conducting the learning session using the online program via a large screen in a conference room. The second project provided online telemonitoring support to older adults living in rural Arkansas and suffering from congestive heart failure. The majority did not have computers and could not participate in the program as designed. Of those who did have computers (n=57), about 50% participated. The most promising solution, which is currently being tested, is to provide the telemonitoring program through mobile phones to transmit monitoring data (e.g., blood pressure, weight) to the clinical center, with which prospective participants are already familiar. **Discussion** The experience from these empirical trials suggests that to successfully engage digitally disadvantaged people, the most promising design for HIT programs is a design based on technological modes that are currently available and familiar to the target users. This position is consistent with the Accelerating Diffusion of Proven Technologies (ADOPT) perspective, which emphasizes the importance of integrating an HIT program with the local social, clinical, and financial environments[1]. Despite barriers such as poverty, digital illiteracy, and residence in rural areas, many improvements can be made for digitally disadvantaged groups by using HIT innovations.

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