

Person-centered collaborative care arrangements that empower residents, families, and care partners require supports for resident and their “care convoys”—the evolving collection of individuals who provide formal and informal care. Direct care workers (DCWs) are essential in supporting resident needs within the complex and dynamic environment of assisted living. The stability and preparedness of this workforce is central to improving quality of life for residents. This paper identifies key factors influencing the integration of DCWs in the convoys and explore supportive employment practices to strengthen the convoy. This analysis uses data from a 5-year mixed-method qualitative study of eight assisted living communities. Time pressures, AL policies and practices, work overload, lack of training, and turnover impact whether direct care workers are empowered as full members of the care convoy. Supportive employment practices (e.g. training, onboarding, career opportunities, rewards and recognition) are discussed as potential solutions for building consensus and collaboration.

SESSION 2310 (PAPER)

USE OF TECHNOLOGY AND INTERVENTIONS AS RELATED TO HEALTH BEHAVIORS

A VOICE-INTERACTION-MEDIATED SMART HOME TO SUPPORT AGING IN PLACE: A NEW PARADIGM TO ENGAGE WITH HEALTH-RELATED DATA

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Current tools for health management such as personal health records (PHR), mobile applications, and wearable devices rely on conventional interfaces such as keyboard and mouse with screens for reading information. More recently, Internet-of-things (IoT) voice-activated smart speakers and embedded Artificial Intelligence (AI) assistants have emerged that may provide an effective user interaction platform to support healthy aging, creating a hands-free, conversational way to access and share health related data. We conducted an exploratory study with nineteen older adults (65+) who chose to evaluate a smart speaker for a 2-month as part of a larger IoT feasibility study. Three interview sessions were conducted to gather attitudes towards this technology. Participants provided feedback on future improvements or desirable features for health maintenance. A content analysis was performed to extract common themes. In general, participants expressed a positive experience with the voice interface and discussed its potential as an integral tool for their home health management. Based on these findings, we propose a voice interaction smart home platform to support healthy aging. This platform provides an intuitive voice user interface to execute commands to access, record, and query data from IoT sensors, a PHR and a hospital EHR. For example, the voice interaction platform will help individuals to dynamically explore their own health data thus eliminating manual and tedious searching of PHR data. We demonstrate how this

platform can potentially improve usability issues including difficulties navigating charts and entering or retrieving health data using conventional interfaces. Finally, we highlight ethical and technical considerations.

BETTER LIVING THROUGH TECH: TECHNOLOGY-MEDIATED RECREATION AND LONG-TERM CARE FACILITY RESIDENTS' QUALITY OF LIFE

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Empirical research on long-term care facility resident engagement has consistently indicated that increased engagement is associated with more positive clinical outcomes and increased quality of life. The current study adds to this existing literature by documenting the positive effects of technologically-mediated recreational programming on quality of life and medication usage in aged residents living in long-term care facilities. Technologically-mediated recreational programming was defined as recreational programming that was developed, implemented, and/or monitored using software platforms dedicated specifically for these types of activities. This study utilized a longitudinal design and was part of a larger project examining quality of life in older adults. A sample of 272 residents from three long-term care facilities in Toronto, Ontario participated in this project. Resident quality of life was assessed at multiple time points across a span of approximately 12 months, and resident engagement in recreational programming was monitored continuously during this twelve-month period. Quality of life was measured using the Resident Assessment Instrument Minimum Data Set Version 2.0. Number of pharmacological medication prescriptions received during the twelve-month study period was also assessed. Descriptive analyses indicated that, in general, resident functioning tended to decrease over time. However, when controlling for age, gender, and baseline measures of resident functioning, engagement in technologically-mediated recreational programming was positively associated with several indicators of quality of life. The current findings thus indicate that engagement in technology-mediated recreational programming is associated with increased quality of life of residents in long-term care facilities.

DIGITAL INDEPENDENCE: HEALTH-RELATED DIFFICULTY IN INTERNET USE AND HOW IT AFFECTS OLDER ADULTS' QUALITY OF LIFE

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Using the internet is increasingly a necessity. However, older adults may not do so due to either non-health reasons (e.g., lack of digital literacy or internet access) or health-related reasons. While researchers have studied internet

use among older adults, most do not discriminate whether non-use is due to health reasons or otherwise. Recent studies also reveal that older adults use the internet to keep in touch with family and friends, highlighting that limitations in internet use may be detrimental for their well-being. We therefore, examine the key correlates of health-related difficulty in internet use, and how it may affect quality of life by reducing the size of their social support networks. Data were from a national survey of older Singaporeans ($n=3966$) conducted in 2016-17. Multinomial logistic regression and mediation analysis were used to identify older adult subgroups more likely to experience health-related difficulty in internet use, and whether such difficulty affected older adults' quality of life through their social support networks. Results showed that males, those of Malay ethnicity, those with less education, and those with more instrumental activity of daily living (IADL) limitations were more likely to experience health-related difficulty in internet use. Social support networks mediated the relationship between health-related difficulty in internet use and quality of life. These findings suggest that other than managing the health conditions of older adults who face health-related difficulty in internet use, offline modes of keeping them socially connected may promote their quality of life.

EXPLORING THE POWER OF COMBINATORIAL HEALTH TECHNOLOGIES TO SUPPORT SELF-MANAGEMENT OF COPD AMONG OLDER PEOPLE

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Ways to address the increasing healthcare needs of older people are a priority for the National Health Service (NHS) in England. The NHS England Test Bed programme was designed to trial new models of care that are supported by digital health technologies. This paper reports on findings from one Test Bed programme, the Lancashire and Cumbria Innovation Alliance (LCIA) – a partnership between NHS England, industry and Lancaster University, which ran from 2016 to 2018. A key aim of the LCIA Test Bed was to explore the extent to which supported self-care telehealth technology helped older people with long-term conditions to better self-manage their own care, promoting independence and enabling them to remain at home for longer. Each patient received a combination of health technologies over a six-month period. This paper presents results from the qualitative data that formed part of a large-scale mixed-methods evaluation. Specifically it draws on the analysis of 34 observational interviews with 17 participants with chronic obstructive pulmonary disease (COPD) to understand the role of these technologies in the self-management of their care. The data revealed that the majority of participants felt more confident about self-managing COPD as a result of their participation in the programme. These increases in confidence were the result of participants' increased knowledge and skills in managing their COPD. The paper demonstrates how patients learned to better manage their respiratory condition, the impact of this learning on their daily lives and that of their family carers, and the implications for healthcare practice.

INTERVENTION DEVELOPMENT: PARTICIPANT EXPERIENCES WITH NOVEL TECHNOLOGICAL DEPRESSION TREATMENTS

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The purpose of this presentation is to discuss the development process of two novel technology-based interventions for depression in older adults while comparing older adults' preferences for audio-based and computer-based cognitive behavioral therapy for depressive symptoms. The audio program consisted of eight compact discs and a workbook while the computer program consisted of 11 modules of similar duration provided on a tablet PC. Fifty-one older adults were recruited from medical settings and rural communities and randomly assigned to an immediate treatment group (computer or audio) with minimal contact or a four-week minimal contact delayed treatment control condition. Participants rated computer-based and audio-based cognitive behavioral therapy fairly equally, with 75% of those who received audio treatment and 85% of those who received computer-based treatment indicating benefits to their mood. Qualitative experiences will be presented by themes: challenges, benefits, recommended improvements, and technological issues. The goal of the presentation is to share information that may help clinicians and researchers develop other mental health technological interventions tailored for older adults needs.

SESSION 2313 (SYMPOSIUM)

EAST MEETS WEST: BUILDING DEMENTIA-FRIENDLY COMMUNITIES: REFLECTIONS ON GLOBAL EXPERIENCES

Chair: Fei Sun, *Michigan State University, East Lansing, Michigan, United States*

Discussant: Nancy Hooyman, *University of Washington, Seattle, United States*

The emergence and rapid development of dementia friendly initiatives (DFIs) represents growing global awareness of needs of persons living with dementia (PWD). Policy and practice efforts across regions and countries made to make physical and social environments more friendly, inclusive, and capable for PWD vary. When designing, implementing and evaluating DFIs, countries at different socioeconomic development stages need to set priorities based upon their local needs and cultural norms. This East Meets West symposium aims to understand the variability and progress of the DFI in the global context, highlighting experiences from two countries: U.S.A. and China, where about one third of the world's total estimated 47 million PWD live. The first study from Shanghai emphasizes efforts by local health care professionals to promote dementia screening and improve diagnosis, with the ultimate goal to improve dementia literacy and build a dementia friendly city. The second paper describes a community-based participatory approach to develop dementia friendly communities in Beijing, highlighting the significance of non-governmental and governmental collaboration. The DFI in Florida underscores the partnership among multiple sectors with an emphasis of the involvement of PWD, while the DFI in rural Michigan stresses care system