with chronic conditions. Technology is touted as one tool to manage healthcare efficiently. However, human factors research has shown that technological systems that do not take human capabilities into account will fail to be adopted, or if adopted, will be abandoned by users. The Center for Research and Education on Aging and Technology Enhancement (CREATE) will describe research findings for four different facets of healthcare technology. Sara Czaja will provide an overview, describing technology for healthcare support. Caregiver needs are projected to rise rapidly, in part due to aging of the baby boom cohorts. We need new solutions for future generations of older adults as there will be insufficient numbers of caregivers to care for the increased number of older adults given changes in social structures. Wendy Rogers will discuss research on the design and use of televideo and robots to assist with healthcare. Neil Charness will discuss home monitoring technology, particularly practical issues around design, deployment, and maintenance, drawing on studies of heart failure patients and older adult controls. Walter Boot will discuss how gamification of healthcare interventions can help to address the adherence problem for behavior change. Scott Beach, Associate Director & Director of Survey Research Program, University Center for Social and Urban Research, University of Pittsburgh, will serve as discussant.

TECHNOLOGY FOR HOME MONITORING

Neil H. Charness[1], *1. Florida State University, Tallahassee, Florida, United States*

Healthcare is increasingly moving away from expensive hospitals into the home. Although there are advantages to managing chronic health conditions in homes, there are also a number of disadvantages, beginning with aging adults' unfamiliarity with the technologies being deployed. Too often, designs and instructional materials are not developed with aging users' capabilities in mind. Health technology also confronts users with significant challenges including just-in-time learning when users are under significant stress. Technology support is often lacking. Also, care coordination for multiple chronic conditions is challenging. For instance, patients are often provided with multiple electronic health record portals. I discuss the reliability of and some of the practical challenges for a home health monitoring system used by older adults and those with heart failure over a 6-month interval. The system featured components such as a wrist-worn sensor package, daily tablet surveys, blood pressure cuff, weight scale, and bed sensors.

THE HEALTHCARE CHALLENGE FOR AN AGING POPULATION: THE ROLE OF TECHNOLOGY

Sara J. Czaja[1], *1. Weill Cornell Medicine, New York, New York, United States*

Although many older adults enjoy relatively good health into their later years, many have one or more chronic conditions, diseases, or disabilities, and need help with disease management activities or activities important to independent living. With the increase in numbers of aging adults there is a concomitant strain on the healthcare system. Models of healthcare are also changing and moving towards a more partnership model where consumers are supposed to assume a more collaborative role in health decision making and a more active role in health management. This presentation will discuss the continuing and increasing role of technology in meeting the healthcare challenges for an aging population. The discussion will focus on technology applications to support the health and well-being of older adults as well as family caregivers. Challenges and barriers that currently limit the full potential of technology to be realized for these populations will also be discussed.

THE POTENTIAL AND PITFALLS OF GAMIFICATION TO SUPPORT OLDER ADULTS' ADHERENCE TO HEALTHCARE INTERVENTIONS

Walter R. Boot,[1] and Neil Charness[1], *1. Florida State University, Tallahassee, Florida, United States*

The addition of video game-like elements to non-game activities, known as gamification, holds promise with respect to encouraging engagement with, and adherence to, health behaviors and healthcare interventions. Elements of gamification include the introduction of points systems, leaderboards, achievement badges, stories and themes, rewards, progress tracking, and challenges. However, a lack of enthusiasm for, and experience with, video game play by older adults has important implications for the effectiveness of these techniques across the lifespan. Specifically, the age-related "digital divide" must be considered before applying these approaches to improving the wellbeing, cognition, and health of older adults. This talk will build on the body of research conducted by the Center for Research and Education on Aging and Technology Enhancement (CREATE) focused on gaming and interventions to present best practice guidelines for implementing gamification with older adults.

DESIGN AND USE OF ROBOTS TO ASSIST OLDER ADULTS WITH HEALTHCARE TASKS

Wendy Rogers,[1] and Megan Bayles[1], *1. University of Illinois Urbana-Champaign, Champaign, Illinois, United States*

There is much potential for robots to support the needs of older adults, in general, and particularly in healthcare. Older adults are quite open to the idea of interacting with robots, although they have preferences for the nature of the task they want the robot to do as well as what they want the robot to look like. These preferences should be considered in the process of design and deployment. Older adults should be involved throughout the design process from formative to summative evaluation and even beyond to the integration of the robot into their everyday activities. The extant research provides guidance regarding older adults' capabilities and limitations that might influence their ability to interact with a robot. Our goal in this presentation will be to focus on robots being designed to support older adults with healthcare tasks in the context of enhanced, instrumental, and basic activities of daily living.

SESSION 625 (SYMPOSIUM)

DNA METHYLATION: CAUSE OR CONSEQUENCE OF AGING?

Chair: Morgan E. Levine, *Yale University School of Medicine, New Haven, Connecticut, United States*
Co-Chair: Sara Hagg, *Karolinska Institutet, Stockholm, Sweden*

Epigenetic changes are one of the Hallmarks of Aging. DNA methylation is a key epigenetic mark that has been