The rise of the Internet of Things and the Instrumented Lifestyle has continued to push the boundaries of how we can provide health care support people throughout their lives. These new technologies require an Information Technology based approach to deploying and understanding health care delivery in Healthy Aging. To achieve results in this specialized Healthcare IT field, a blend of clinical concepts, gerontology, sociology, smart environments, and mobile platforms are being brought to bear. This mini-track on Technologies for Healthy Aging presents design, social aspects, and engineering processes that are needed to make these technologies successful among our communities.

The papers chosen for this track paint a picture of the various aspects of deploying technology outside of the clinic to assist people. Ensuring these tools are accepted, functional, and effective has required more than just a good engineering approach. Research into community perspectives, the application of advanced prototyping techniques, and a deeper understanding of how to deliver cloud-backed systems to older adults continues to be of interest to the research and commercial communities. This mini-track brings together papers addressing these various topics.

The first paper titled “Predicting Adult Children’s Decisions to Use Online Elderly Health Information for their Aged Parents” explores the processes explaining adult children’s decisions to use online health information for their aged parents health care when balancing risk against increasing health care costs. The paper expands upon the Theory of Planned Behavior to give a new framework to understanding how people are handling decision making in the information age. These kinds of works are necessary to understanding which kinds of information sources and technologies will be useful to families as they make serious life decisions about their loved ones.

The second paper titled “Prototyping a Health and Wellbeing Platform: an Action Design Research Approach,” seeks to establish a process for developing health care platforms. Many deployed systems have little formal design process to help ensure their utility to their eventual users. The complex nature of life monitoring and delivering caregiver support systems means that building a high quality tool is more difficult than many other engineering problems. Continued exposure to new approaches to establishing requirements for technologies for healthy aging is key to making products truly useful to their target users.

The third paper titled “Adherence to Medical Recommendations and Treatments by Elderly Patients: USEFIL Web Services Addressing this Challenge” demonstrates a web services approach to medical recommendations and encouraging adherence to the suggestions. This work uses a Design Science Research Methodology to provide a framework to developing the adherence system. The project is designed to provide a variety of fixed and mobile systems with a means of ensuring information is routed to the appropriate stakeholders and delivered to the users effectively. Ensuring that medicine and therapies are executed properly by older adults as they age in their homes is a key factor in extending their ability to age in place. USEFIL is geared to be a powerful component in delivering interventions to assist older adults in staying home longer.

The final paper is titled “Predictive Analytics Dashboard for Monitoring Patients in Advanced Stages of COPD.” According to the World Health Organization, Chronic Obstructive Pulmonary Disease (COPD) is estimated to be a cause of death for around 6% of all global deaths annually. This paper presents work on a system to monitor, analyze, and predict patients dealing with this unfortunately common condition. It uses clinical metrics and machine learning to provide informatics about the patient being monitored. Building out these kinds of clinically relevant interfaces for use by clinicians dealing with older adults is how we close the loop of monitoring, analyzing, and intervening to improve the aging process.

This mini-track provides a perspective on all stages of developing technologies for healthy aging. From understanding needs and motivations of familial caregivers, to designing and building core systems, to finally delivering clinically relevant information for specific health needs, this track will address the various aspects of Healthcare IT issues in healthy aging technology development.