

ICT-Enabled Self-Management of Chronic Diseases and Conditions Minitrack

Majid Dadgar
University of San Francisco
mdadgar@usfca.edu

Bahae Samhan
Illinois State University
bmsamha@ilstu.edu

K.D. Joshi
Washington State University
Joshi@wsu.edu

This minitrack focuses on the work related to patients with chronic disease who engage in self-managed health through information and communication technologies (ICT), such as mobile technologies and machine learning. Chronic diseases are those that last for more than three months [4] and generally cannot be prevented by vaccines or cured by medication [1]. Self-management refers to a care management approach in which patients actively take responsibility for treating their chronic diseases [2]. It is a self-regulating, dynamic, continuous, interactive process [3].

The scope of the mini-track gives opportunities for researchers to highlight their work that focus on the technology-enabled self-management of chronic diseases and conditions. It encourages researchers to take a variety of approaches answering research questions related to the design, development, and use of ICTs on patient-centered care.

The papers of this minitrack fall under new and ongoing areas of research such as mobile health (mHealth) and its applications, gamifications of health applications, patients' self-monitoring and self-reporting, and the dynamics of online health communities.

The first paper, "IT-Based Self-Monitoring Interventions to Promote Physical Activity and Weight Loss: A Meta-Analysis of Change-from-Baseline Effects" provides a systematic review employing a meta-analysis technique to determine the effectiveness of IT self-monitoring interventions on weight management and physical activity. The authors found that IT self-monitoring has its potential as a useful approach to manage weight and physical activities.

The second paper, "What Doctors Wish They Knew: Treatment Compliance in an Online Health Community for Chronic Patients" examines an interesting topic related to online health communities. Specifically they study how evaluations of medical treatments provided by online users are associated with treatment evaluations and compliance.

The third paper, "A Pain Reporting Platform for Adolescents with Sickle-Cell Disease" introduces an updated version of a mobile-app used for pain reporting and health management. Authors present the new gamification features added to the new mHealth app, summarize the architecture and principle features of the platform, and present data supporting improved compliance with the app.

The fourth paper, "The Value of Patient-Reported Outcome (PRO) Data in Digital Healthcare: Using the How-R-you App as a PRO Instrument" evaluates the benefits of adopting mobile health IT to collect patient-reporting outcomes. The authors suggest that mobile health IT can provide a more detailed description of patients' health and in turn would have an impact on health diagnosis and medical treatments.

References

- [1] Adams, P., Kirzinger, W., & Martinez, M. (2013). Summary Health Statistics for the U.S. Population: National Health Interview Survey, 2012 (Vital Health Stat No. 10(259)). National Center for Health Statistics.
- [2] Bodenheimer, T., Lorig, K., Holman, H., & Grumbach, K. (2002). Patient Self-management of Chronic Disease in Primary Care. *JAMA*, 288(19), 2469–2475.
- [3] Dadgar, M., and K.D. Joshi, "The Role of Information and Communication Technology in Self-Management of Chronic Diseases: An Empirical Investigation through Value sensitive design", *Journal of the Association for Information Systems (JAIS)* 19(2), 2018, pp. 86–112.
- [4] The National Health Service. (2013). Everyone Counts: Planning for Patients 2014/15 to 2018/19. Retrieved from <https://www.england.nhs.uk/wp-content/uploads/2013/12/5yr-strat-plann-guid-wa.pdf>