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
University of Nevada, Reno
kjoshi@unr.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 best paper in this minitrack will be reviewed for fast track publication in the journal of Information Technology and People.

The papers of this minitrack fall under new and ongoing areas of research such as social networking support groups, health information systems designed for patient-physician communications, and the gamifications of health applications.

The first paper, "Systematic Review of Social Networking Support Groups for Genetic-Disorders Pain Management", explores the challenges that many individuals may face when managing their pain. With a focus on communities with genetic disorders, this paper provides a literature review examining the findings of studies on pain management for genetic disorders on social media. Research gaps in this area has been identified, and a research agenda for the study of pain management techniques enabled by social media is presented.

The second paper, "Improving the Patient-Physician Dialogue through Health Information Systems (HIS): Misconceptions and Miscommunication", looks at the use of HIS from a communication perspective. The study analyzes patients' self-observations in relation to their disease, as well as physicians' observations of PRO data collected through a mobile application. The data suggests that there is some evidence of patient-physician miscommunications when using HIS supported information sharing. The paper discusses the implications of using HIS instruments that support patient-physician information sharing, communication, and understanding.

The third paper, "Games as Systems for Rehabilitation: A Design Strategy for Game-based Exercise Rehabilitation for Parkinson's Disease", presents a design strategy for game-based rehabilitation that uses a player-centric approach to develop and select games for specific contexts. In the paper, the focus is on games designed for improving functional deficits in patients with Parkinson's disease. It is argued that the posited strategy establishes a relationship between the exercise rehabilitation routine and gameplay by incorporating the rehabilitation requirements, patient condition, and player affordances, into the gaming scope.

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

HICSS