

POSTER ABSTRACT

Bringing care closer to the community: A design science research approach to decentralized care through Health Living Labs

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Background: Healthcare systems worldwide are increasingly facing many key challenges: particularly rising costs and persistent inequalities in access to healthcare (Peters et al,2008). Traditional hospital-centered models based on “find and cure” have led to unsustainable increase in costs. According to forecasts, healthcare spending in countries such as United States could reach 37% of GDP by 2050 (Chang et al,2019). At the same time, more than 50% of the world's population lacks access to basic healthcare (World Bank, WHO). These systemic problems underscore the need for innovative, decentralized models of healthcare delivery that are both sustainable and equitable.

Approach: Stay Left, Shift Left-10X (SL2-10X) is proposes a fundamental transformation of healthcare system and a focus on wellness over illness, digital over analog, patient co-production over passivity and homecare over hospitals.

To address the challenges and seize opportunities, this Design Science Research (DSR) study explores the potential of Health Living Labs (HLLs) based on Open Innovation 2.0 (OI2) (Curley & Salmelin,2018) framework as enabler of out-of-hospital care. SL2-10X emphasizes the transition to home-based (Mendoza et al.2009; Hanfling et al.2013) community-oriented, and virtual models. OI2 promotes collaboration among stakeholders including clinicians, caregivers, policymakers, and most importantly patients to foster co-design, iterative development, and real-world testing (OI2 yearbook, 2014, 2017-18; ENoll 2024). This study uses multi-phase and DSR methodology, beginning with systematic review of existing literature on HLL and out-of-hospital care, followed by the design, development, and validation of an artifact.

Study aims to develop and evaluate an integrated methodology for delivering care outside traditional settings. By leveraging HLLs within open innovation ecosystems, it seeks to enable user-centered co-design and seamless technological integration for transitional care (Curley & Salmelin, 2013; Merino-Barbancho et al., 2024; Pallot,2009), bridging theory and practice to formalize scalable out-of-hospital care models (Rindova & Martins, 2021)

Results: The ongoing systematic review synthesizes scientific and gray literature to assess HLL implementation, technologies, workflows, and sustainability models. Preliminary findings suggest that HLL research is still in its infancy, with limited empirical evaluation and heterogeneous settings across studies (Kim et al,2020; Yazdizadeh et al,2016; Vereycken et al.2019; Merino-Barbancho et al,2021; Avery et al.2021) Nevertheless, findings underscore HLLs' potential to promote stakeholder collaboration, iterative innovation, and greater patient involvement in decentralized care.

Key limitations include data quality variability and the early research stage. The next phase will develop and test an artifact in real-world HLL settings through iterative evaluation and refinement.

Implications: This research enhances the understanding of HLLs as enablers of sustainable, decentralized innovation in healthcare. It aims to deliver a validated, scalable artifact that demonstrates how OI2 principles improve the accessibility, affordability, and sustainability of care. The findings will guide policy, clinical practice, and digital health strategies by linking innovation management to healthcare transformation.

The study fills gaps in existing literature and proposes standardized models for evaluating the effectiveness and scalability of HLLs (Guldemon et al.,2012; Paskaleva et al.,2021; Bronson et al.,2021). It also stimulates scientific discussion on methodological rigor, practical applicability, and integration of design science and open innovation into healthcare systems.