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This dissertation aimed to develop and evaluate multidomain digital interventions to improve lifestyle behaviors and health-related quality of life (HRQoL) in different populations. Guided by the IDEAS framework, the research included three main components. First, a cross-sectional survey study among community-dwelling older adults examined their needs regarding digital interventions. Second, two multidomain interventions were developed together with target users and health professionals, one for older adults and one for non-small cell lung cancer (NSCLC) survivors. Third, a mixed methods study assessed usability and implementation among older adults, and a randomized controlled trial was designed to evaluate effects on HRQoL among NSCLC survivors in aftercare.

Survey findings showed a general willingness to use digital interventions, along with specific needs and expectations. The development phases revealed challenges such as different levels of digital literacy and facilitators including opportunities for personalization. In the mixed methods study, participants rated the intervention as highly usable and valuable. Preliminary findings from the randomized controlled trial indicated that NSCLC survivors emphasized the importance of structured multidomain support in their aftercare.

Overall, the findings highlight the value of tailoring digital lifestyle interventions to specific populations and emphasize the importance of co-creation with end users and health professionals. These interventions have the potential to strengthen preventive care as well as aftercare by offering accessible and comprehensive support for promoting healthier lifestyle behaviors across different phases of the health continuum.