

OPP: APPLICATION FIELDS & INNOVATIVE TECHNOLOGIES

Unveiling the digital horizon: Perspectives and progress in digital adoption among German geriatric care facilities

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Purpose The emergence of digital transformation in the care sector signifies a noteworthy and crucial change in how we approach the requirements and difficulties faced by an aging demographic. Amidst global challenges posed by aging populations and rising healthcare needs, the use of digital technologies presents novel approaches to improve and reshape the standard of the healthcare system and promote sustainability during times of crisis like the corona pandemic. Fundamentally, digital transformation in the healthcare field refers to the use of diverse technology instruments and platforms to optimize patient outcomes, simplify healthcare delivery, and empower both seniors and caregivers, as they, alongside family caregivers, have the primary responsibility for caring for these people. These technologies are categorized as gerontechnologies and include telemedicine, remote monitoring and security systems, documentation systems, as well as care and service robots for outpatient, inpatient, and home care. However, the adoption and utilization of assistive technological solutions and services in the care sector is often hindered by inadequate access or insufficient information base or knowledge regarding procurement and deployment options, which is why uptake of gerontechnologies in the healthcare sector is taking longer than in other sectors (Lee, 2022). The primary goal of our study is to (a) assess the degree of dissemination, meaning the extent to which digital technologies are used in care facilities. To this end, (b) the perspectives of nursing staff were analyzed with regard to their attitudes towards digital and supporting technologies, and possible opportunities and risks were identified. In addition, (c) significant factors that influence the digital transformation in nursing care were to be determined. **Method** Three questionnaire studies were conducted in the form of quantitative online and paper surveys, in which employees from the nursing and healthcare sectors across four different federal states in Germany (Saxony (n = 97), Berlin and Brandenburg (n = 64), and Saxony-Anhalt (n = 71)) took part over the last three years. Participants from outpatient and inpatient care took part in the studies in 2021 and 2023, while participants from both the care and healthcare sectors were involved in the 2022 study. The questions were focused on information about the care facilities, use and frequency of digital technologies, expected effort for the use of these technologies, arguments about advantages and disadvantages, as well as socio-demographic variables such as age, gender, education/degree, and occupational groups. The purpose of these studies was to gain a comprehensive understanding of the implementation and utilization of digital support systems in care and health. The questionnaires were therefore continuously developed and adapted to include new influencing factors. **Results and Discussion** Our preliminary study results indicate widespread use and high intensity of documentation systems with 75%, underscoring their role in enhancing efficiency in the care field. Nevertheless, there are critical gaps, e.g., in monitoring and safety systems where the results have been indicating a hardly presence of these later with 18%, which emphasize the difficulties in providing digitally supported care. Furthermore, although there is positive attitudes toward assistive systems and technologies, their level of implementation intensity is limited, suggesting barriers to adoption that warrant further investigation, where results from our survey have indicated (65-88% for/very much in favor) of assistance systems (documentation, communication and entertainment, monitoring, security systems, information systems) versus low intensity of use. Challenges such as cost considerations and user acceptance issues emerge as significant hurdles in implementation endeavors. Despite assistive digital technologies offer potential benefits, concerns surrounding safety and staff reductions underscore the complexities of integrating technology into elderly care settings. Based on the insights gleaned from the questionnaire data, it is evident that a significant impediment to the adoption of these technologies lies in the apprehension surrounding safety, as highlighted by 75% of respondents. This primary concern is closely shadowed by the perceived deficit in human attention, which resonates with 70,1% of participants. Overall, these findings underscore the significance of comprehensive strategies for digital transformation and heightened vigilance in the integration of these technologies in the healthcare sector. To achieve successful integration of technology, it is necessary to overcome obstacles to its adoption, encourage active participation from users, and ensure that technological solutions are tailored to the specific requirements and difficulties encountered while providing care for seniors.

References

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