

Implementation of Geriatric Smart Home Technologies

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INTRODUCTION

Smart homes and new technologies have the potential to enhance senior citizens' quality of life, safety, and care. We do not yet understand how older individuals may perceive these technologies differently; in particular how opinions based on actual use as opposed to predicted use may change. We also don't know how older adults who live alone might feel about technologies that they might find useful in the future rather than today. In this study, the opinions of elderly persons who have used smart home monitoring technologies directly and those who have not are compared. Six senior citizens recruited from the community who had never used a smart home and seven participants from a large-scale survey participated in four focus groups. Frailty is frequently correlated with increased longevity. The need for older people's support, social services, and health care is increasing as a result of current population demographic trends. The National Health Service (NHS) in the UK offers free medical attention at the time of service. There is an urgent need to identify solutions that deliver high-quality care without raising costs because the NHS spends two-fifths of its money on providing healthcare for those who are 65 years and older. The majority of senior citizens choose to stay in their own houses [1].

DESCRIPTION

A growing number of smart homes are being designed to support and monitor the health of elderly persons, according to published literature. But elderly individuals may not always understand the advantages of having a smart home and may believe that such technology is only for those who are less healthy than they are. The authors of two recent systematic reviews draw the conclusion that there is a dearth of literature that explores older people's experiences with living with smart home technology or includes them in the design of the technology. Lee and Kim emphasise the significance of paying attention to both psychological and physical independence and Turjamaa and colleagues draw attention to the lack of older people's inclusion in the colleagues' study [2].

Therefore, it should come as no surprise that as the average life expectancy of the population rises, so does the demand for healthcare services. However, the cost of modern healthcare services is going up because of the steadily rising costs of prescription

medications, diagnostic equipment, and in-clinic care. For instance, Ontario, Canada's 2017 budget saw a significant \$11.5 billion boost in investments in the healthcare sector. Therefore, the socio-economic structures of the majority of countries, especially the emerging and least developed ones, are likely to be significantly burdened by the current state of healthcare services. Additionally, a lot of senior individuals need regular help with activities of daily living and healthcare, which is typically provided by family, friends, or volunteers [3].

Such "smart" homes are equipped with covert, non-intrusive environmental and physiological sensors and actuators that enable remote monitoring of both the home environment (such as temperature, humidity, and smoke in the home) and important physiological signs (such as heart rate, body temperature, blood pressure, and blood oxygen level), as well as the activities of the occupants. It can also communicate with caretakers and remote medical facilities, enabling medical staff to monitor the general physiological state of the patients and take action from a different facility if necessary. Traditional smart home methods pertain to situations where a care facility must undergo numerous alterations, which could result in increased expenditures owing to the need to install sensors. Dedicated building changes have only been made at hospitals or specialised private care homes, despite a growth in the acceptability and usage of health tracking devices (blood pressure monitors, activity trackers, blood glucose trackers, etc.) by users at their homes or at care facilities [4,5].

CONCLUSION

The expenditures associated with changing a person's home and the need for basic technical expertise to operate medical devices or specialised equipment installed at their residences are the main causes of this. For a care facility, the standard Smart Home strategy entails. Despite being energy-hungry, traditional dwellings are typically not built to monitor their own environment, occupants' physiological conditions, or activities [63]. Contrarily, a smart home is a classic home outfitted with smart gadgets and contemporary communication technologies that enable remote and automatic monitoring of the living space, security, and general health of the residents. However, smart houses must be reasonably priced for them to be widely accepted by users. Therefore, for smart

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homes, low-cost gadgets, public networks, and low-power, efficient communication technologies are essential. In addition, a number of significant technological obstacles, including complete device compatibility, high precision and accuracy, processing resource limitations, and privacy and information concerns.

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