
Abstract

Attitudes Toward Aging in Place Using Wearable and Remote Monitoring Technology Among Underserved Homebound Seniors

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Background: Wearable and remote monitoring technology have great potential to support homebound seniors aging in place. However, the seniors' adoption of new technology has been slow, and current research has focused primarily on the rich and the motivated.

Objective: The purpose of this study was to investigate underserved homebound seniors' attitudes, including their current use, interests, preferences, and potential concerns toward aging in place using wearable and remote monitoring technology.

Methods: A cross sectional survey study was conducted with 181 seniors who were participants of the Meals on Wheels program. In order to be eligible for this program, clients must be disabled adults who are homebound and over 60 years of age.

Results: The sample had an average age of 77 years. The group of participants was 66% female, 36% African American, and 49% White. Nearly 51% of the residents sampled in this study reported that they lived alone; 22.7% lived with a spouse; and 22.7% lived with family. More than half the sample (54.7%) reported having ever used a health-monitoring device at home, such as a blood pressure monitor or a blood glucose meter. More than half of the resident had access to electronic devices such as a television (92.8%), regular cell phone (58.0%), DVD player (56.9%), or a landline telephone (53.6%). A smaller percentage had more popular electronic devices, such as a smartphone (21.0%), laptop computer (18.8%), desktop computer (12.7%), or tablet (12.2%). Only 1% of the residents sampled reported having no access to any type of electronic device. Nearly 50% of the residents surveyed had never heard of wearable health devices; most had never used such devices (84.0%). Sixty-one percent of the residents reported that they would be interested in using a wearable device. Well over half of the residents (68.5%) would prefer to wear the device on their wrist. This sample reported an interest in tracking the following with wearable devices: blood pressure (51.4%), heart rate (44.8%), exercise and physical activity (35.4%), blood sugar (34.3%), fall risk (32.6%), hours and quality of sleep (32.6%), weight 27.6%, diet (27.1%), body posture (19.3%), mood (17.7%), and other (9.9%). When asked about what concerns residents had about using wearable devices, 55.2% reported cost to be a concern. Other concerns were related to safety (20.4%), privacy (16.0%), fraud (14.4%), and overwhelming information (11.0%). Twenty-five percent of the residents reported having no concerns.

Conclusions: While the majority of the underserved homebound seniors had never used any wearable or remote monitoring technology to support aging in place, and half had never heard of them, there is a great amount of interest in using such technology in this underserved population. Cost is the primary barrier to their adoption. Additional studies are needed to examine cost-effectiveness of using such technology to prevent expensive emergency room and other health services due to poor management of chronic conditions in this underserved population.

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aging in place; homebound; wearable; remote monitoring

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