PD210 Sustainable Innovation In UK Care Homes: Acoustic Monitoring Systems In A "Living Lab" Setting - Technology Assessment Example

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Introduction: Successful development of technologies to support older people in care homes remains challenging. The strategic establishment of a group of residential settings providing 24-7 living labs plus an innovation hub is described. Acoustic monitoring (AM) for continuous nighttime checking of residents was selected for assessment. A pilot study in 2016 identified potential cost savings, reduced nighttime falls, and improved daytime well-being.
Methods: The AM system was systematically assessed in four WCS Care Group Ltd care homes following demonstration and testing in an innovation hub. The first author undertook a mixed-methods study (2019 to 2023) to assess the technology in terms of falls prevention, practical implementation, and future benefits of enhanced sound classification using artificial intelligence (AI). In 2020, a network of care providers, the National Care Forum (NCF), was funded by National Health Service Digital to develop three similar innovation hubs across England. The NCF undertook a national survey to identify priorities in terms of implementing new technologies in care homes.
Results: Structured interviews with care workers and observational assessment in four care homes confirmed that the AM system has the potential to identify active residents and reduce the risk of falls, although it cannot offer fall prediction or prevention functionality. Two new functions were proposed. Eight machine learning models for sound classification and demonstration tests in three simulated settings supported feasibility and adoption. A post-demonstration survey (n=39) identified a high probability of adoption for these additional functions. The NCF survey found that the top four new technologies of interest to care homes were medication management systems, electronic care planning, wearable GPS trackers, and AM systems.
Conclusions: Care homes report interest in procuring AM systems, which could reduce the risk of falls. In addition, new AI-supported functions are acceptable to care providers. The UK government has proposed that 20 percent of care homes introduce AM by March 2024. Guidelines for future assessment of sustainable care technologies in living lab settings now need to be developed.

PD212 A Model-Based Study To Estimate Medicare Payment Methods With Chinese Characteristics – The Diagnosis Intervention Packet Policy

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Introduction: The diagnosis intervention packet (DIP) is a health insurance payment method with Chinese characteristics. Because the DIP is easy to understand and operable, it has become the main payment method promoted by China's National Health Insurance Bureau. The development and reform of the DIP policy, which was introduced in 2020, is worth evaluating.
Methods: Policy texts were selected using conceptual sampling and expert interviews. The basic framework of policy evaluation was determined using text mining and statistical analysis methods. Word frequency analysis of the DIP payment policy content was undertaken using NVivo and Gephi software to compare the scope of concern before and after policy implementation. Quantitative evaluation of representative DIP health insurance payment policy content at the national level in China before and after policy implementation (2020 to 2022) was conducted by constructing a text mining and policy modeling consistency (TM-PMC) index model containing nine primary variables and 38 secondary variables.
Results: Policy content analysis using text mining tools revealed that DIP-related policy themes were relatively concentrated, primarily focusing on disease types, medical institutions, and directories. These themes continue to be consistently updated. The quantitative results of the TM-PMC index model showed that the overall design of the policies was reasonable, but there was a noticeable variation in differentiation between the policies. Out of the eight policies analyzed, five were rated as excellent, two as good, and one as acceptable.
Conclusions: The DIP policy is subject to continuous supplementation and optimization. The main factors that influence the value of the TM-PMC index for the policy include the following: policy objectives, policy objects (the groups for which the policy is implemented), policy tools, and policy perspectives. Therefore, various reforms related to collection and payment should be carried out in a locally adapted and standardized manner.

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