Who is left behind? Disparities in engagement with conversational AI check-in call services among older adults in rural South Korea M. Choi, E. C. Khor, S. Park, S. Jang. *Gerontechnology* 25(s)

Purpose The increasing number of older adults living alone in South Korea has called for innovation in social care. Several companies have developed and provided conversational AI check-in call services to older adults, particularly those living alone and at or below the poverty line. These AI-powered services provide weekly calls to ask about mood, health conditions, eating habits, sleeping patterns, etc., and older adults' responses are automatically recorded.[1] These services have been expanding rapidly; however, there is limited empirical research analyzing actual call data to assess their effectiveness. While policymakers often assume that the deployment of care technologies will effectively address social care needs, this study aims to examine who is left behind in these emerging services from a diversity and inclusion perspective, thereby revealing potential gaps in access and utilization. **Method** A multidisciplinary research team conducted a pilot study in Jeongeup, a rural area in South Korea, predominantly inhabited by older adults with limited care resources. Data were collected from 2,990 study participants who agreed to use the Naver CLOVA CareCall service, one of the major conversational AI check-in call services in South Korea (mean age = 77.9 years old; 68% women; 36% living alone). In addition to call transcripts data, study participants completed a face-to-face survey questionnaire, which included their sociodemographic characteristics, health status, digital access and skills, and willingness to use personalized digital healthcare services. Study participants received a total of 12 or 13 check-in calls during the study period. The analysis proceeded in two steps. First, a binary logistic regression was conducted in which the dependent variable distinguished between participants who answered at least one call and those who did not answer any calls. Second, an ordinal logistic regression was performed using a dependent variable with five categories based on the number of missed calls (i.e., no missed calls, 1–2 missed calls, 3–5 missed calls, 6–8 missed calls, and 9–12 missed calls). Independent variables in both models included sociodemographic characteristics, health status, and digital access and skills. **Results and Discussion** Approximately one in ten participants (11.2%) did not take any calls during the three-month study period. The binary logistic regression results indicated that older adults who lived with others, had lower income, or had more functional limitations were more likely to never take a care call despite having agreed to use the service. The ordinal logistic regression results further showed that older age, living alone, and higher levels of depressive symptoms were positively associated with responsiveness to care calls, whereas smartphone ownership was negatively associated with responsiveness. Notably, the frequency of contact with family and friends was not statistically associated with either the likelihood of never taking a call or the degree of responsiveness, after adjusting for other sociodemographic and health-related factors. This study contributes to understanding who may be left behind in conversational AI check-in call services for older adults with varied living conditions. The results reveal that older adults with greater vulnerabilities, such as those with lower income or more functional limitations, may face significant challenges in engaging with these services, challenging policymakers' assumptions that simply deploying care technologies will effectively reach those most in need. Conversely, these services may be particularly well-suited for older adults living alone who have higher depressive symptoms and limited digital access. Future research needs to explore the reasons why some older adults never engage with the service and investigate how digital access and skills influence attitudes toward and use of the service, using in-depth qualitative approaches.

References

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