Telemedicine adoption during COVID-19 among older people with varying digital technology engagement[1, 2]

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INTRODUCTION

Information Communication Technologies (ICT) provide additional options for the delivery of healthcare services, where patients may attend appointments and receive care from their own homes. Such alternatives emerged as a vital channel for the provision of continued healthcare during the COVID-19 crisis and the associated government-mandated lockdowns. However, there is a concern among healthcare professionals, policymakers, and the public that some groups such older adults are at a greater risk of digital exclusion for remote healthcare opportunities. This paper uses data on a sample of over 2,600 over-50s in Ireland to examine factors which influenced the use of telemedicine in 2020 by this age cohort.

DATA AND METHODS

A special COVID-19 survey was carried out in the period June to November 2020 with participants of The Irish Longitudinal Study on Ageing (TILDA), which enquired as to whether respondents had availed of a telephone or online appointment from any of the following health services: General Practitioner (GP), pharmacist, hospital doctor and any other health professional. Information provided in the COVID-19 survey was linked to previously collected data on the respondents from a 2018 wave of the study, as well as information on the provision of GPs in their locality, and high-speed broadband availability from *National Broadband Plan* infrastructure maps.

The research examined whether remote healthcare use in 2020 differed for people according to their self-reported access to the internet, computer ownership, and frequency of internet use in 2018, as well previous engagement with internet-

[1] This Bulletin summaries the findings from: Mao, L., Mohan, G., and Normand, C. "Use of Information Communication Technologies by older people and telemedicine adoption during COVID-19: a longitudinal study", *Journal of the American Medical Informatics Association*, Available online: https://doi.org/10.1093/jamia/ocad165

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based activities including e-mail, video calls and information search. A potential effect of high-speed broadband and GP availability in their residential area was also investigated. Statistical methods were used to control for other influences on healthcare utilisation such as gender, age, marital status, educational attainment, urban location, employment status, healthcare entitlements (public and private health coverage), disability and indicators of physical and mental health.

RESULTS

Approximately half of the older people in the sample reported using some form of telemedicine over the COVID-19 period (52.5%), where remote appointments with a GP were most prevalent, with more than one-in-three availing of such (36.1%). A quarter (25.5%) had remote contact with a pharmacist, while 11.4% had an appointment with a hospital doctor on a remote basis.

The analysis found a statistically significant positive association between telemedicine usage during 2020 and previously reporting internet access, daily internet use, and computer ownership by older people in Ireland in 2018. The association between ICT factors and telemedicine use was particularly pronounced for GP and pharmacist services. Further analysis revealed the associations were more prominent among the younger group of older people (under 70 years versus those 70 and above) and those located in non-Dublin urban areas, and the results were not driven by more socio-economically advantaged groups. The modelling estimates showed that people with more chronic conditions, poorer mental health, and private health insurance were more likely to avail of remote healthcare.

On the other hand, the estimation found that the use of remote clinician appointments was not statistically significantly affected by whether high-speed broadband internet was available in the older person's place of residence. Furthermore, there was no clear pattern in the uptake of telemedicine by different geographic levels of GP accessibility.

CONCLUSIONS

This research reveals that older people in Ireland who were active ICT users in 2018 were more likely to report having used telemedicine during 2020 than older people who were not previously digitally engaged, controlling for a range of other factors. The findings are consistent with the view that greater digital engagement could support older people in accessing remote healthcare options, and thus may be supportive of policies and interventions to address potential 'grey' digital divides.

Future research is needed to examine the degree of adoption of telemedicine post the pandemic to assess whether telemedicine was only acceptable as a temporary stopgap in times of crisis, or whether it could become an integrated part of healthcare delivery on a longer-term basis. Moreover, studies further linking administrative/GP practice data would better speak to potential changing preferences towards remote healthcare. Future studies in this area are also expected to provide a greater understanding of the finance and cost implications

of remote healthcare delivery, for instance, investigations of whether the use of telemedicine gives rise to cost savings for patients and the healthcare system.