



## Older New Zealanders' Attitudes to Telehealth.

### Findings from the Health, Work and Retirement Study.

#### Summary

Telehealth services are increasingly becoming part of the services provided by general practices, allowing people quicker and easier access to personal health care information and enabling communication with health practitioners. However for many older people new technology can prove challenging and transmission of personal information via the internet may be seen as unsafe. Using data from the Health, Work and Retirement Study (HWR) we examine attitudes towards reliability, usefulness and intention to use telehealth services and see how these are associated with social demographics, internet usage and health.

- On average, attitudes towards telehealth services in the 2013 HWR sample were slightly more positive than negative. Agreement with the usefulness of telehealth services was stronger than agreement about their reliability and intentions to use them.
- Differences in attitudes towards telehealth did not vary greatly according to the socio-demographic and other variables. However, some small significant differences were found.
- Men were slightly more positive than women about the reliability and usefulness of telehealth services but there was no gender difference in intention to use them.
- People of Māori descent and Pasifika people considered that information received through telehealth services would be less reliable than on paper and less safe. Māori also expressed feeling less comfortable with telehealth services than people who were not of Māori descent.
- People with better physical and mental health hold more positive attitudes towards all three dimensions of telehealth services.
- Positive attitudes towards telehealth services are more likely among people who use the internet frequently and among those who often use the internet to access health related information. Those who do not have access to the internet from home were less likely to intend to use telehealth services.
- People who have had a stroke, were less positive about all dimensions of telehealth services,. Having any other types of long term conditions did not affect attitudes. However, people with a greater number of health conditions are less likely to agree that telehealth services are reliable and expressed fewer intentions to use them.

## Introduction

Telehealth/telecare describes the use of technology to support older people to remain living in their own homes and participate in society. Such technology offers a promising solution for the independent living of older adults in an ageing society (Piao et al., 2014). Recent studies report that the majority of older adults wish to live in their own homes, for as long as possible. This creates a growing interest in technologies to enable older people to remain living independently at home (Piao et al., 2014). Telehealth can include telemonitoring or remote monitoring between a health care provider and a patient in a home setting. This is a promising technological innovation to enable older persons with disabling disease or frailty to remain at home while receiving improved care and reducing health care costs. Telemonitoring also offers the opportunity to provide patients with frequent and timely advice and instructions without the need for face-to-face, in-person interaction, thus supporting patients' capacity for self care and their autonomy in their home environments. Telemonitoring, is understood to enable more widespread, equalized access to more frail and less mobile individuals, as well as those living in rural areas, by allowing them the same access to providers as their urban counterparts (Chen & Levkoff, 2015).

However, several barriers limit the widespread implementation of tele-

health technologies: complexity of the technologies, high costs, inadequate comprehension of user needs, and importantly, poor understanding and low acceptance from end-users (Piao et al., 2014).

## Research Objectives

This research used a cross-sectional approach to exploring attitudes towards telehealth and related demographic and health variables.

## Research Methods

### Procedure

Data presented in the current report were collected in 2013 as part of the longitudinal Health, Work and Retirement study. A population sample was randomly selected from the New Zealand Electoral Roll. Māori were over-sampled using the Māori descent indicator. Post-stratified weighting was used to compensate for over-sampling, age, sex, and ethnicity, based on population estimates by Statistics New Zealand. Individuals living in institutions were excluded from the study.

Paper-based surveys and consent forms were mailed to participants. The 2013 questionnaire included seven main areas:

1. health, wellbeing, quality of life;
2. whānau family and friends;
3. computer and internet;
4. activities;
5. work and retirement status;
6. financial wellbeing;
7. socio-demographic information.

## Sample characteristics

The 2013 sample (aged from 60-77 years) consisted of 1345 participants (54.4% female), 81.3% of whom lived in an urban area. The average age was 68.5 years and 41.6% indicated they were Māori or of Māori descent. At least some financial hardship was reported by 10.8% of the group, 28.7% were financially comfortable and 61.4% described their financial status as good or very good. Access to the internet at home was available for 84.2% of the sample.

## Data analytic approach

The main construct of interest was attitudes towards telehealth and the 10 item scale used to measure these is described first. Following this description we examine the link between telehealth attitudes and demographics before considering the relationships with internet usage, health, healthcare utilisation, health conditions, social networks and social support.

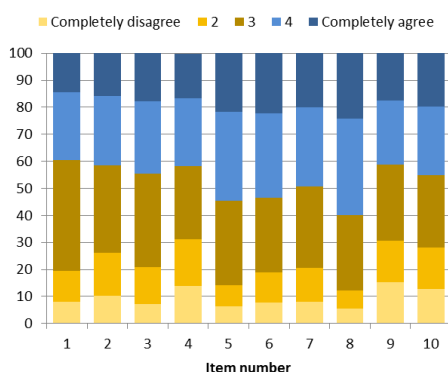
## Main Findings

### Attitudes towards telehealth

Ten statements accompanied by a 5-point response scale ranging from completely disagree (1) to completely agree (5) were used to measure attitudes towards telehealth (Sintonen & Immonen, 2013). The items and their response distributions (Figure 1) appear below.

- 1) I believe that telehealth services are reliable.
- 2) I see that transferring my personal information through telehealth services would be as safe as through a phone call.
- 3) Information received through telehealth services is as reliable as it would be on paper.
- 4) I feel comfortable providing my personal information through telehealth services.
- 5) Telehealth services would be useful in health care.
- 6) Telehealth services would be an efficient way to communicate with health professionals.
- 7) Using telehealth services might result in clear benefits for following up my own health and treatment.
- 8) Benefits acquired with telehealth services could ease the work of health care professionals.
- 9) If I have access to telehealth services, I intend to use them.
- 10) If I had access to telehealth services, I predict that I would use them.

**Figure 1:** Attitudes towards telehealth services expressed as percentages

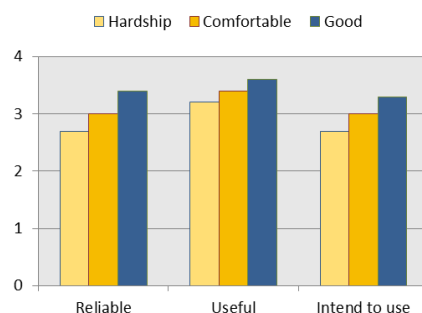


The ten items had average item scores ranging from 3.1 to 3.7 on the 5 point scale and can be combined to make three subscales. The first four items concern telehealth reliability, with an average score of 3.2, the second four relate to telehealth usefulness (3.5) and the final two to intentions to use telehealth services (3.2). Strong correlations were found between the three subscales indicating consistency in agreement across the three dimensions of telehealth services.

**Population characteristics associated with more positive attitudes towards telehealth**

Positive attitudes towards all three dimensions of telehealth were slightly more likely to be held by those who were financially better off (Figure 2).

**Figure 2:** Attitudes towards telehealth services according to financial status



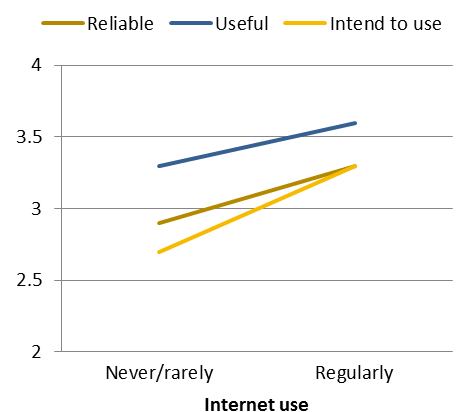
Men were more likely than women to agree that telehealth services were reliable and useful. Māori and Pasifika people expressed less belief than others in telehealth services being reliable and safe and Māori were less comfortable than those of other ethnicities with their personal information being shared through telehealth services. Old-

er participants expressed fewer intentions to use telehealth services. No differences in attitudes towards telehealth services were found based on urban vs. rural residency or employment status.

**Internet use**

We thought that participants' experience with using the internet, and whether they had access from home and used it to access health related information, might impact on their attitudes towards telehealth. Frequency of internet use ranged from never (13.8%) to every day (57.2%). Increased use was associated with more positive attitudes and when internet use was classified as never/rarely or regularly, overall attitudes varied accordingly (Figure 3). The frequency with which people use the internet to seek health related information was also associated with all three telehealth dimensions.

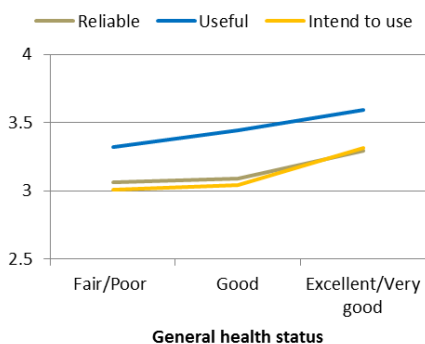
**Figure 3:** Telehealth attitudes according to internet usage



### Health status and number of doctors' visits are related to telehealth attitudes

To explore the relationship between telehealth attitudes and health we looked at the correlation between physical and mental health, general health status and the telehealth dimensions. For all three aspects of health, better health was associated with more positive attitudes (see figure 4). Health care utilisation was also explored and while visits to ED, hospitalisations and visits to other health professionals were unrelated to telehealth attitudes, number of general practice visits was related such that people who had visited their GP more often expressed less positive attitudes.

**Figure 4:** Telehealth attitudes according to general health status



Attitudes towards telehealth do not appear to differ according to the type of health condition people have with the exception of stroke; people who had experienced a stroke expressed less agreement across all three dimensions. The number of conditions people had was negatively associated with beliefs about the reliability of telehealth ser-

vices as well as with intentions to us. This suggests that people with more long term health conditions were less inclined to agree that telehealth services are reliable and had less intention to use them.

After taking into account the impact of demographic (age, sex, Māori descent, urban vs rural residence) and other variables (health, frequency of doctors' visits, number of conditions), financial status and internet use were the only factors linked to attitudes regarding reliability and usefulness of telehealth services. When controlling for the same variables, internet use and physical health were the only factors positively associated with intentions to use telehealth services.

### Implications for public policies on ageing

With the increasing implementation of telemedicine, opportunities for older New Zealanders to be involved in telehealth services are on the rise. From our HWR research it appears that views on the reliability and usefulness of such services as well as people's intentions to use them when they become available depend primarily on their existing use of the internet, their financial status and their current health.

Those with poorer health and those who used existing health care services more are less likely to endorse the use of telehealth. Rural dwellers were showed no additional positive interest compared to

urban dwellers. Māori and Pacific people indicated they had greater concerns around the reliability and safety of transmitting personal information using telehealth services than others.

Together, these findings indicate that those with the highest needs or possibly the most to gain from the use of technology are less interested. This highlights a need for discussion and support around these issues if users are going to take advantage of the new technology.

### References

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