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# Telehealth use in Australian primary healthcare during COVID-19: a cross-sectional descriptive survey

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## ABSTRACT

**Objective** This study aimed to investigate Australian primary healthcare professionals' experiences of the rapid upscaling of telehealth during COVID-19.

**Design** A cross-sectional survey.

**Participants and setting** Two hundred and seventeen general practitioners, nurses and allied health professionals employed in primary healthcare settings across Australia were recruited via social media and professional organisations.

**Methods** An online survey was disseminated between December 2020 and March 2021. The survey comprised items about individual demographics, experiences of delivering telehealth consultations, perceived quality of telehealth consultations and future perceptions of telehealth.

**Results** Telephone was the most widely used method of providing telehealth, with less than 50% of participants using a combination of telephone and video. Key barriers to telehealth use related to the inability to undertake physical examination or physical intervention. Telehealth was perceived to improve access to healthcare for some vulnerable groups and those living in rural settings, but reduced access for people from non-English-speaking backgrounds. Quality of telehealth care was considered mostly or somewhat the same as care provided face-to-face, with actual or perceived negative outcomes related to missed or delayed diagnosis. Overwhelmingly, participants wanted telehealth to continue with guaranteed ongoing funding. Some 43.7% of participants identified the need to further improve telehealth models of care.

**Conclusion** The rapid shift to telehealth has facilitated ongoing care during the COVID-19 pandemic. However, further work is required to better understand how telehealth can be best harnessed to add value to service delivery in usual care.

## STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ An online survey was used to reach primary healthcare professionals across Australia to explore their experiences of telehealth.
⇒ Although the sample size is modest, the inclusion of doctors, nurses and allied health professionals provides a unique multidisciplinary insight into telehealth use.
⇒ There was diversity of participants in terms of professional group, geographical location and experience levels.

line for delivery of healthcare and is universally accessible. Previously in Australia, the delivery of health services via telehealth was limited apart from the provision of specialist medical services to rural and remote communities.[1] However, its use was expanded during the pandemic as a means to minimise the spread of COVID-19 by reducing face-to-face consultations, and to offer continuity of health service delivery.[2] Government funding for telehealth consultations via Medical Benefits Schedule (MBS)-funded telehealth items was initially restricted to medical practitioners but later expanded to include some PHC nurses, community-based midwives, nurse practitioners and allied health professionals.

Telehealth is defined as 'the use of telecommunications and information technology to provide access to health assessment, diagnosis, intervention, consultation, supervision and information across distance'.[3] Research undertaken on telehealth prior to COVID-19 demonstrated that, compared with face-to-face healthcare, telehealth can provide lower cost care with similar service use and outcomes.[4 5] Telehealth has also been demonstrated to be acceptable to patients and health professionals and is associated with high levels of satisfaction.[4 5] Despite its benefits, telehealth can present a barrier for those who are challenged in accessing or using technology.[1]

## INTRODUCTION

After more than two years since the first cases of COVID-19 were identified in Wuhan, China, the long-term impact of the pandemic on future health system design in Australia and internationally is becoming clear. Governments are exploring ways to provide healthcare more efficiently and safely, drawing on experiences from the pandemic. In Australia, primary healthcare (PHC) provides the front

A key challenge to implementing telehealth within health systems has been the complexity of the change to service delivery. Regulation, professional accountability, funding structures and individual preferences and skills have slowed the implementation of digital systems.[6 7] The capacity for telehealth to impact widely on future PHC service delivery will be dependent on the PHC workforce being confident and competent to use these new technologies and integrate them within usual care models to optimise patient outcomes. Given its novelty and rapid roll-out, there remains limited evidence relating to the use of telehealth across diverse Australian PHC professions.[8] This paper reports on findings from a national multidisciplinary PHC survey which explored experiences of using telehealth during the rapid upscaling of this service that occurred during the COVID-19 pandemic.

## METHODS

This paper reports on a cross-sectional survey undertaken as part of a mixed methods study exploring PHC professionals' experiences of the introduction of telehealth in Australia. Data from the subsequent qualitative interviews are reported elsewhere.

### Participants and recruitment

Australian PHC professionals were surveyed online between December 2020 and March 2021 via Qualtrics.[9] People were eligible to participate if they were doctors, nurses or allied health professionals employed in a PHC setting. As there is no central register of PHC professionals in Australia it was not possible to identify or contact these individuals directly and so the survey was distributed via a multifaceted strategy. This included dissemination of the survey link via social media (LinkedIn, Facebook, Twitter) and email/newsletters produced by key professional organisations, including the Australian PHC Nurses Association, Allied Health Professions Australia and Australian College of Nursing. Snowballing was also used to distribute the survey via relevant professional networks.

Determining sample size in descriptive studies is challenging, particularly when the size of the population is not known. In this study, we sought to recruit 10 participants for each key item in the instrument.[10] Given there were 20 key items, we sought to recruit 200 participants. During the study period, 217 eligible participants completed the survey.

### Instrument

A survey tool was developed based on existing literature and previous research undertaken related to COVID-19 by the researchers[1 11 12] (online supplemental file 1). The survey was divided into four sections. The first section collected demographic information about the participants and their employment. The second section investigated participants' experiences of establishing telehealth in their practice. The third section explored the experience of delivering telehealth consultations, the quality of telehealth consultations and the perceptions of telehealth. The impact of telehealth on consultations was measured by eight items rated on a 5-point Likert scale from 'strongly disagree' to 'strongly agree'. The quality of telehealth was measured by nine items modified from Bhandari *et al*.[13] Each item was rated on a 4-point Likert scale from 'strongly disagree' to 'strongly agree'. The final section explored the future of telehealth. This section sought key messages that participants would like to send policy makers/governments about telehealth and its future in clinical practice. Prior to dissemination, the survey tool was reviewed by five multidisciplinary clinician researchers to ensure face validity and ease of completion. This resulted in a few minor modifications to wording or survey logic before the survey was distributed.

### Patient and public involvement

Insights into issues related to the impact of COVID-19 on PHC professionals were gleaned from previous research by the authors and personal insights from professional engagement. There was no other patient or public involvement.

### Data analysis

Survey data were exported from Qualtrics[9] into SPSS V.25.0.[14] The data were summarised using descriptive analyses, including means, SDs and frequency distributions. Given the relatively small number of allied health professionals from each discipline these were collapsed into a category of 'allied health' for analysis. Statistical significance was set at $p < 0.05$.

## RESULTS

### Participants

Two hundred and seventeen participants who met the inclusion criteria responded to the survey. Most participants were female (n=182; 83.9%) and employed in a group general practice (n=96; 44.2%) (table 1). Participants' mean age was 48.2 years (SD 12.3) and they had been practising for a mean of 20.4 years (SD 13.4). Some 65.0% (n=141) of participants were employed in metropolitan areas.

Half of the participants (n=110; 50.7%) had not completed any specific training/education about telehealth technology or equipment use. Similarly, 47.0% (n=102) of participants had not completed any specific training/education about how to deliver a telehealth consultation prior to the COVID-19 pandemic. However, since the start of the COVID-19 pandemic, 34.6% (n=75) of participants had engaged in training/education about how to deliver a telehealth consultation and 29.9% (n=65) of participants had engaged in training/education about telehealth technology or equipment use.

### Use of telehealth

Eighteen (8.3%) participants described regularly using telehealth in their practice prior to the COVID-19

**Table 1** Participant demographics

| | n | % |
|---|---|---|
| **Professional group** | | |
| Nurse | 84 | 38.7 |
| General practitioner | 66 | 30.4 |
| Speech pathologist | 21 | 9.7 |
| Practice manager | 8 | 3.7 |
| Psychologist | 7 | 3.2 |
| Dietitian | 6 | 2.8 |
| Exercise physiologist | 6 | 2.8 |
| Physiotherapist | 4 | 1.8 |
| Other allied health | 15 | 6.9 |
| **Age (mean 48.2 years; SD 12.3)** | | |
| ≤30 years | 22 | 10.1 |
| 31–40 years | 43 | 19.8 |
| 41–50 years | 42 | 19.4 |
| 51–60 years | 76 | 35.0 |
| 61+ | 34 | 15.7 |
| **Years practising (mean 20.4 years; SD 13.4)** | | |
| <10 | 66 | 30.4 |
| 11–20 | 47 | 21.7 |
| 21–30 | 48 | 22.1 |
| 31–40 | 42 | 19.4 |
| 41–50 | 12 | 5.5 |
| Missing | 2 | 0.9 |
| **Place of employment** | | |
| Solo general practice | 21 | 9.7 |
| Group general practice | 96 | 44.2 |
| Corporate general practice | 12 | 5.5 |
| Solo allied health practice | 15 | 6.9 |
| Group allied health practice | 27 | 12.4 |
| Other | 33 | 15.2 |
| NP clinic | 5 | 2.3 |
| Missing | 8 | 3.7 |
| **State/territory of employment** | | |
| New South Wales | 79 | 36.4 |
| Victoria | 51 | 23.5 |
| Queensland | 45 | 20.7 |
| South Australia | 13 | 6.0 |
| Australian Capital Territory | 13 | 6.0 |
| Western Australia | 10 | 4.6 |
| Tasmania | 2 | 0.9 |
| Northern Territory | 1 | 0.5 |
| Missing | 3 | 1.4 |
| **Employment location** | | |
| Major city/metropolitan | 141 | 65.0 |
| Regional | 63 | 29.1 |

Continued

**Table 1** Continued

| | n | % |
|---|---|---|
| Remote/very remote | 11 | 5.1 |
| Missing | 2 | 0.9 |
| **Employment type** | | |
| Full-time employee | 60 | 27.6 |
| Part-time employee | 59 | 27.2 |
| Self-employed (contractor/associate) | 49 | 22.6 |
| Practice owner | 30 | 13.8 |
| Casual employee | 15 | 6.9 |
| Other | 3 | 1.4 |
| Missing | 1 | 0.5 |

NP, Nurse practitioner.

pandemic, while 53.9% (n=117) had never used telehealth prior to COVID-19. Since the outbreak of COVID-19, 92.2% (n=200) of participants had undertaken telehealth consultations. Of these, 40.6% (n=88) described undertaking telehealth consultations via phone only, while 49.3% (n=107) identified that they had undertaken telehealth consultation via both telephone and videoconference. The only participants who reported using videoconferencing alone were five (2.3%) allied health professionals. The most used software to deliver telehealth was Zoom (n=55; 25.3%), followed by Skype (n=28; 12.9%), FaceTime (n=22; 10.0%) and Microsoft Teams (n=19; 8.8%).

## Telehealth consultations

Despite the widespread uptake of telehealth, face-to-face remained the predominant mode of consultation. Indeed, 43.3% (n=94) of participants reported that more than three-quarters of their consultations were still being conducted face-to-face. Only 22.6% (n=49) of participants reported undertaking fewer than half of their consultations face-to-face. Just under half of participants (n=102; 47.0%) used phone consultations for up to a quarter of their consultations. While most general practitioners (GP) (n=61; 93.8%) and three-quarters of the nurse participants (n=52; 78.8%) conducted over half of their consultations face-to-face, only 67.3% (n=33) of allied health undertook more than half of their consultations in person.

There was a statistically significant association between the use of video and professional group. Significantly fewer allied health professionals than doctors (p=0.0005) or nurses (p=0.004) undertook less than half of their consultations via video. There were also significant associations between telephone use and professional group. Significantly more doctors compared with nurses (p=0.01) and significantly more nurses than allied health professionals (p=0.02) undertook less than half of their consultations via phone. This demonstrates the differences in modes of telehealth between professional groups.

**Table 2** Type of consultation most used in various presentations

| | Video consult | | Phone consult | | Face-to-face consult | | n/a | |
|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % |
| COVID-19 concerns (eg, symptoms or screening) | 11 | 5.1 | 111 | 51.2 | 25 | 11.5 | 29 | 13.4 |
| Usual ongoing chronic disease care | 21 | 9.7 | 59 | 27.2 | 110 | 50.7 | 10 | 4.6 |
| Prescription request | 6 | 2.8 | 90 | 41.5 | 46 | 21.2 | 42 | 19.4 |
| Worsening of symptoms of a chronic condition | 17 | 7.8 | 42 | 19.4 | 111 | 51.2 | 18 | 8.3 |
| Usual ongoing care of mental health issues | 16 | 7.4 | 48 | 22.1 | 99 | 45.6 | 32 | 14.7 |
| Worsening of symptoms related to mental health issues | 10 | 4.6 | 37 | 17.1 | 100 | 46.1 | 35 | 16.5 |
| A new physical health symptom | 10 | 4.6 | 27 | 12.4 | 117 | 53.9 | 18 | 8.3 |
| A new injury | 5 | 2.3 | 16 | 7.4 | 110 | 50.7 | 33 | 15.2 |
| A new mental health issue | 14 | 6.4 | 27 | 12.4 | 101 | 46.5 | 32 | 14.7 |
| Regular health/follow-up assessment | 25 | 11.5 | 71 | 32.7 | 116 | 53.5 | 8 | 3.7 |

There was diversity in decision-making as to whether a consultation was conducted via telehealth or face-to-face, with most participants describing a combination of approaches to decision-making. While 45.6% of participants (n=99) indicated that patients were asked their preference when booking a consultation and 31.3% (n=68) described patients indicating a preference during online booking, other described reception staff (n=88; 40.6%) or health professionals (n=78; 35.9%) triaging consultation mode at booking. Only 11.5% (n=25) of participants indicated that the online booking system helped patients to decide the best consultation mode.

While approximately half of participants described face-to-face consultations as most appropriate for different consultation types (table 2), phone consultations were felt to be more appropriate for COVID-19 concerns and prescription requests.

### Barriers to telehealth

The factors participants indicated constrained the delivery of telehealth most were the availability of physical examination/tests (mean 3.06), opportunity to deliver a physical intervention (mean 2.96) and the availability of visual cues (mean 2.61) (table 3). Factors reported to have the least impact on telehealth were the participants' telehealth (mean 1.78) and information technology (IT) skills (mean 1.70). Factors such as IT support or connection quality were reported to have minimal impact for most participants.

**Table 3** Barriers to telehealth use

| | Not at all | | A little | | A moderate amount | | A great deal | |
|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % |
| Availability of physical examination/tests | 14 | 8.5 | 30 | 18.2 | 53 | 32.1 | 68 | 41.2 |
| Opportunity to deliver a physical intervention | 14 | 8.5 | 45 | 27.3 | 39 | 23.6 | 67 | 40.6 |
| Availability of visual cues | 21 | 12.7 | 63 | 38.2 | 41 | 24.8 | 40 | 24.2 |
| IT skills of patients | 23 | 13.9 | 65 | 39.4 | 45 | 27.3 | 32 | 19.4 |
| Data speed/connection quality | 50 | 30.3 | 52 | 31.5 | 34 | 20.6 | 29 | 17.6 |
| Audio quality difficulties | 38 | 23.2 | 71 | 43.3 | 31 | 18.9 | 24 | 14.6 |
| Availability of internet access | 63 | 38.4 | 46 | 28.0 | 30 | 18.3 | 25 | 15.2 |
| Access to IT support to set up systems | 55 | 33.3 | 61 | 37.0 | 28 | 17.0 | 21 | 12.7 |
| Access to ongoing IT support/troubleshooting | 53 | 32.1 | 65 | 39.4 | 26 | 15.8 | 21 | 12.7 |
| Establishing rapport | 58 | 35.2 | 64 | 38.8 | 28 | 17.0 | 15 | 9.1 |
| My own telehealth consultation skills | 77 | 46.4 | 60 | 36.1 | 17 | 10.2 | 12 | 7.2 |
| My own IT skills | 87 | 52.4 | 51 | 30.7 | 18 | 10.8 | 10 | 6.0 |

IT, information technology.
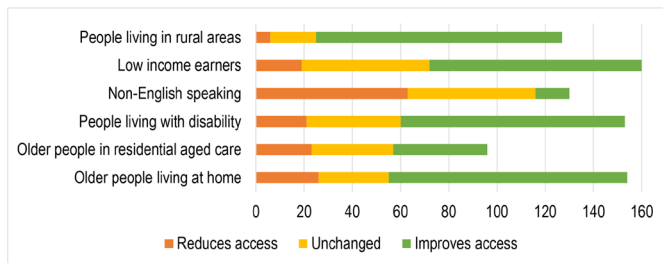
**Figure 1** Impact on access.

## Access to care

A higher proportion of participants perceived that people from non-English-speaking backgrounds experienced reduced access to care because of telehealth compared with other vulnerable groups (figure 1). A higher proportion of participants perceived that older people living at home, people living with a disability, low-income earners and those living in rural areas had improved access to care following the introduction of telehealth.

## Quality of care

While 39.2% (n=85) of participants felt that the quality of care delivered via telehealth was about the same as face-to-face care, 27.2% (n=59) described it as somewhat and 3.2% (n=7) described it as much worse. In contrast, only 6.9% (n=15) of participants described care delivered via telehealth as somewhat as or much better than face-to-face care. There was no significant difference in the perceptions of care quality between doctors, nurses and allied health professionals (p>0.05).

Compared with face-to-face consultations for a similar presenting issue, 56.3% (n=98) of participants described telehealth consultations as being a little (n=72; 41.4%) or a lot (n=26; 14.9%) shorter. However, 8.6% (n=15) of participants described telehealth consultations for a similar issue as being longer than face-to-face consultations. There was no significant difference in perceived length of consultation between professional groups (p=0.152).

Fifteen participants (6.9%) identified that they had undertaken telehealth consultations that had resulted in a negative or potentially negative outcome. A further 28 (12.9%) participants indicated that they may have undertaken telehealth consultations that resulted in a negative or potentially negative outcome. Most of these negative outcomes (n=25; 60%) were related to missed or delayed diagnosis. There was no significant relationship between negative outcomes and practice location, practice type, professional group, age or previous use of telehealth (p>0.05).

## Future of telehealth

Participants overwhelmingly stated that they would like to continue to use telehealth beyond COVID-19. While 46.7% (n=78) of participants wanted to continue to use telehealth as deployed during the pandemic, 43.7% (n=73) of participants considered that improvements

to future models of telehealth could be made through four key areas, including: improved funding for service provision, enhanced platforms and software for telehealth delivery, greater use of videoconferencing and increased patient education for engagement in telehealth consultations. Most participants (n=110; 65.9%) would reconsider their use of telehealth if the MBS items (government funding) for telehealth were ceased. Of these, 46.1% (n=77) reported that they would stop delivering telehealth consultations and 19.8% (n=33) would only provide a limited telehealth service if funding were discontinued.

## DISCUSSION

### Summary

This paper has explored the experiences of Australian PHC doctors, nurses and allied health professionals in upscaling telehealth use during the COVID-19 pandemic. Participants identified that telehealth was largely conducted via telephone and was most suited to consultations which did not require physical assessment. Telehealth was perceived to provide improved access to healthcare for some patient groups and quality of care was predominately reported as being better or comparable to face-to-face consultations.

### Strengths and limitations

Exploring telehealth across PHC professions was a key strength of this study as it sought to capture a multidisciplinary perspective. However, given the modest sample size, the number of participants in each professional group made it difficult to explore the differences between groups. Despite a gender-neutral focus in recruitment, most participants were female. This is, in part, due to the number of nurses recruited and the female dominance of the nursing profession. The modest sample size likely reflects the heavy workloads and workforce challenges during the pandemic that left limited time for research engagement. While the use of an online survey may have facilitated participation across a wide geographical area, it may also have impacted response as it required participants to access the online platform. Additionally, those who responded may have a more polarised view about telehealth than those who did not participate. Finally, this survey only presents the experiences of PHC professionals. Further research to explore the perceptions of various patient groups is important to provide a multidimensional picture of the impact of this model of care.

### Comparison with existing literature

The COVID-19 pandemic has resulted in the increased use of telehealth internationally, as a means of providing safe clinical services to support traditional face-to-face health provision.[15 16] As identified in our study, the successful uptake of telehealth is reported in various studies according to factors such as familiarity with and availability of video equipment,[11] patient and health

professional preference[16 17] and the nature of consultations.[18] Most studies exploring the use of telehealth focus on its use by medical practitioners,[6 19] nurses[8 11] and patient experiences.[20] This study builds on existing reports, focusing on its use in PHC in diverse clinical consultations by multidisciplinary health professionals.[3 21]

Our findings that telephone consultations were the preferred method for delivering telehealth were in keeping with other international literature.[22] It is also perhaps not surprising with telephone technology being readily available in all PHC settings and patient homes, and familiar to both health professionals and patients. However, various studies have explored experiences of using video in preference to telephone or face-to-face consultations.[4 23–25] A systematic review undertaken prior to the COVID-19 pandemic by Rush *et al.*[26] found that from the perspective of patient outcomes, video consultations were comparable with telephone consultations and had the additional benefit of being able to undertake visual assessment when required. Our study identified that a lack of visual cues and ability to undertake physical assessment was a major barrier to telehealth use. This finding suggests that wider use of video as the mode of telehealth consultation may assist in expanding the scope of problems managed via telehealth in the future. While video consultation may require additional equipment, software and IT skills both for the provider and the patient, its advantages were overlooked by many of our study participants. The widespread use of videoconferencing platforms by individuals and families during the pandemic suggests that this should be more widely considered by health professionals in future telehealth service planning.

Participants in this study mostly perceived consistency between the quality of healthcare delivered via telehealth and face-to-face care. This is consistent with the findings of a study of Australian health consumers,[27] which found consumers' telehealth experience just as good or better than traditional consultations. Despite reports of high patient satisfaction, there has been limited exploration of the impact of telehealth on care quality and there are few tools to measure the impact of telehealth on quality of care. In some studies, the issue of not being able to identify subtle visual cues during a telehealth consultation has been identified as a potential threat to care quality and risk to patients.[8 28] Such observations highlight the importance of health professionals being educated and skilled in delivering quality consultations virtually. However, the issues around mode of healthcare delivery and care quality are an area that should be further investigated as telehealth is increasingly used to deliver healthcare.

Participants in this study perceived that many patient groups would have improved access to healthcare because of telehealth. These included people living in rural areas, low-income earners, those with a disability and older people. Seeing telehealth as an enabler of access to care has been reported in other PHC studies.[1 11] The value of being able to have consultations without needing to travel and wait in a clinic, being able to access prescriptions through virtual consultations and not having to physically risk attending the clinic are reported advantages of telehealth.[1] However, as noted in the findings of this study and the literature,[1 29] not everyone experiences improved access to care. This highlights a need, as we develop telehealth models, to ensure that the specific needs of individuals and groups, particularly those who are vulnerable, are considered to ensure that care access remains equitable.

Telehealth became the flagship of Australia's COVID-19 response. The importance of ongoing funding via the MBS to support this model of care was considered critical by participants in this study. Previous reasons for the government's risk averse approach to funding telehealth services in general practice have been cited to be related to provider overservicing, fraud and individual overutilisation.[30] The importance of reviewing funding models to sustain, modify and expand the future use of telehealth across health settings has become an important focus internationally as reviews of health system responses to COVID-19 are undertaken.[31–33] The Australian government appears to have listened to the calls for permanent MBS item numbers for telehealth, with an announcement in April 2022 that MBS telehealth introduced on a temporary basis in response to the COVID-19 pandemic will become permanent. These include services provided by GPs, medical practitioners, nurse practitioners, midwives, allied health providers and dental practitioners.[34] As we move into a new era of blended healthcare delivery it is important that the integration of telehealth within the PHC model of care is critically evaluated to ensure that it enhances access, quality of care and outcomes for both providers and patients.

### Implications for practice

Telehealth uptake in Australia and internationally has rapidly grown because of the disruptive influence of COVID-19. This study has demonstrated that telehealth has the potential to improve access and deliver care of comparable quality as face-to-face consultations by PHC professionals. While participants in this study have embraced the use of telehealth, several issues need to be addressed to effectively embed telehealth in the new normal of postpandemic PHC. First, further research is needed to understand the reasons for the predominance of telephone consultations over videoconferencing and to determine which modality achieves the best outcomes. Additionally, while telehealth improved access to care for some, it marginalised others. Support is needed to ensure that the community can adapt to and access telehealth delivered care. This study highlighted that missed or delayed diagnoses can be an issue in telehealth. Further investigation of such outcomes is required to determine causation and identify strategies to mitigate this risk. Finally, the continuation of telehealth in Australia is contingent on ongoing funding to support this mode of

healthcare delivery by all health professionals across the multidisciplinary PHC workforce.

## CONCLUSION

The COVID-19 pandemic has provided an opportunity to shift PHC delivery to incorporate telehealth within usual care. While that has a range of advantages, some caution remains around ensuring that PHC professionals are supported to develop skills in telehealth consultations and that there is access to quality IT equipment to promote quality of care. Additionally, ongoing funding of telehealth models is vital to ensure the sustainability of this mode of care delivery. As we transition into the new era of healthcare it is vital that there are ongoing critical evaluations around the use of telehealth to ensure that it enhances accessibility, promotes efficiency and ensures quality of PHC service delivery to optimise patient health outcomes.

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# Telehealth in Australian Primary Care during COVID-19

## INFORMATION SHEET

### PURPOSE OF THE RESEARCH

We invite you to participate in a study being conducted by primary care researchers from the University of Wollongong (UOW), University of Notre Dame Australia (Sydney), The University of Sydney and Bond University.

This project seeks to explore the implementation of telehealth in primary health care from the perspective of GPs, practice nurses and allied health professionals, particularly in relation to the COVID-19 Pandemic. These data will provide important insights that can be used to inform current policy and practice, as well as post-pandemic reflections on telehealth implementation. The purpose of the survey is to collect data on how primary care providers currently use telehealth, future uses and to understand the barriers and facilitators to its uptake.

### INVESTIGATORS

University of Wollongong - Prof Liz Halcomb, Dr Susan McInnes; University of Notre Dame - Dr Anna Williams; The University of Sydney – A/Prof Sarah Dennis; Bond University – Prof Nick Zwar, Prof Mark Morgan

Contact: Prof Liz Halcomb Email: ehalcomb@uow.edu.au Phone: 02 4221 3784

### WHAT WE WOULD LIKE YOU TO DO

If you choose to participate, we would ask you to complete the online survey. This survey should take no more than 10 minutes. Questions will ask you a bit about yourself, your practice and your experiences of delivering or using telehealth since the COVID-19 pandemic commenced. At the end of the survey you may provide your contact details if you would like to be added to the mailing list for updates about the project and/or opportunities to participate in an individual interview about your experiences. These contact data will be separated and not stored with your survey responses.

## POSSIBLE RISKS, INCONVENIENCES AND DISCOMFORTS

Apart from the time taken to complete the survey we anticipate no risks associated with your participation. As all surveys are anonymous, once you have submitted the survey online it will not be possible to withdraw the data. For those who indicate a willingness to be contacted about subsequent interview participation these contact data will be stored separate to the survey data. All data will be stored electronically for a period of five years following the publication of results before being permanently destroyed as per the Australian Code for the Responsible Conduct of Research 2019.

## CONFIDENTIALITY & USE OF DATA

Findings from the study will be made available to policy makers and professional organisations to inform current and emerging policy. Formal reports will be published in peer-reviewed journals and presented at professional conferences. Confidentiality is assured, no individual participant will be identified in any part of the research. Decisions regarding participation in the study will not impair any existing or future relationships between the participant and the researchers, participating institutions or any other stakeholders involved in the research.

## FUNDING AND BENEFITS OF THE RESEARCH

This study is funded by a grant from the University of Notre Dame Australia (Sydney). The research will provide an understanding of the implementation of telehealth in general practice to inform advocacy and current health policy, as well as later reflections on workforce planning.

## ETHICS REVIEW AND COMPLAINTS

This study has been reviewed by the Human Research Ethics Committee of the University of Wollongong and participating institutions. If you have any concerns or complaints regarding the way this research has been conducted you can contact the UOW Ethics Officer on (02) 4221 3386 or email rso-ethics@uow.edu.au.

## DEMOGRAPHICS

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**Section 1**

The following questions seek to find out about you and your primary workplace.

Indicate your professional group. (Select only 1 response)

○ General Practitioner

○ GP Registrar

○ Registered Nurse

○ Enrolled Nurse

○ Nurse Practitioner

○ Physiotherapist

○ Dietician

○ Exercise Physiologist

○ Psychologist

○ Podiatrist

○ Occupational Therapist

○ [                    ] Other (please specify below)

How many years have you been practising in your profession? (Please specify whole number)

[                                                        ]

What is your age in years? (Please specify whole number)

What is your gender? (Select only 1 response)

O Male

O Female

O Non-binary

What is your employment status in your main clinical position? (Select only 1 response)

O Full time employee

O Part time employee

O Casual employee

O Self-employed (contractor / associate)

O Practice owner

O [              ] Other (please specify below)

In which State / Territory do you predominately work? (Select only 1 response)

O New South Wales

O Queensland

O Victoria

O Tasmania

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○  South Australia

○  Western Australia

○  Northern Territory

○  Australian Capital Territory

Which best describes the location of your Practice? (Select 1 response only)

○  Major city / Metropolitan

○  Inner regional Australia

○  Outer regional Australia

○  Remote

○  Very Remote

Which type of Practice best describes your primary place of employment? (Select 1 response only)

○  Solo general practice

○  Group general practice

○  Corporate general practice

○  Solo allied health practice

○  Group allied health practice

○  [          ] Other (please specify below)

**USE OF TELEHEALTH**

**Section 2**

The following questions are interested in finding out about your experience of setting up telehealth services in your practice. **In this survey we are using the term "telehealth" to refer to the delivery of health care to a patient by a health professional via telephone or video conferencing. The term video conferencing is used to  broadly describe any modality of telehealth that involves a combination of both audio and visual connection between the patient and provider (e.g. FaceTime, Zoom, WebEx, Skype).**

Have you undertaken telehealth consultations since the onset of COVID-19?

○ Yes - via telephone only

○ Yes - via video conference only

○ Yes - via both telephone and video conference

○ No

Why have you not used telehealth during COVID-19?

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Had you used telehealth prior to the onset of COVID-19?

○ Yes - I have always regularly used telehealth in my practice

○ Yes - I have sometimes used telehealth in my practice prior to COVID-19

○ No

Have you received any specific training / education in how to deliver a telehealth consultation? (select 1 response only)

○ No

○ Yes - prior to COVID-19

○ Yes - since COVID-19

○ Yes - both prior to COVID-19 and since COVID-19

Have you received any specific training / education about telehealth technology / equipment use? (select 1 response only)

○ No

○ Yes - prior to COVID-19

○ Yes - since COVID-19

○ Yes - both prior to COVID-19 and since COVID-19

**TELEHEALTH CONSULTATIONS**

**Section 3**

The following questions aim to find out about your experience of delivering telehealth since the outbreak of COVID-19.

What technology does your primary practice use to provide telehealth services to patients? (Select all that apply)

☐ Phone

☐ Skype

☐ Zoom

☐ Microsoft Teams

☐ Web Ex

☐ Cisco

☐ Polycom

☐ Pexip

☐ FaceTime

☐ Unsure/Don't know

☐ [          ] Other (please specify below)

How is the decision made whether a consultation is conducted via telehealth or face to face? (select all that apply)

☐ Patients indicate a preference in online booking

☐ Online booking system helps patients to decide best consultation mode

☐ Patients asked their preference when making booking via receptionist

☐ Admin / Reception staff triage patients making a booking

☐ Health professionals triage patients making booking

☐ All consultations face to face

☐ All consultations via telehealth

☐ [          ] Other (please specify below)

In the last fortnight what was the approximate distribution of consultation types that you conducted?  (the total % should add up to 100)

| | |
|---|---|
| % Video consultations | 0 |
| % Telephone consultations | 0 |
| % Face to face consultations | 0 |
| Total | 0 |

How does this number of consultations compare to the same period of time last year?

| | Less than last year | About the same as last year | More than last year | Not consulting via this mode |
|---|:---:|:---:|:---:|:---:|
| Video consultations | ○ | ○ | ○ | ○ |
| Telephone consultations | ○ | ○ | ○ | ○ |
| Face to face consultations | ○ | ○ | ○ | ○ |

What type of consultation are you currently using most often for each type of presentation? (Select all that apply)

Telephor

COVID-19 concerns (e.g. symptoms or screening) ☐

Usual ongoing chronic disease care ☐

Telephor

Prescription request ☐

Worsening of symptoms (exacerbation) related to chronic condition ☐

Usual ongoing care of mental health issues ☐

Worsening of symptoms related to mental health issues ☐

A new physical health symptom ☐

A new injury ☐

A new mental health issue ☐

Regular health / followup assessment ☐

Other (please specify below) ☐

How many patients do not attend telehealth consultations?

○ Less than face to face (or consultations before COVID)

○ About the same as face to face (or consultations before COVID)

○ More than face to face (or consultations before COVID)

Thinking about the duration of consultations, how do telehealth consultations compare to the duration of face to face consultations for a similar issue?

○ A lot shorter

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○ A little shorter

○ About the same

○ A little longer

○ A lot longer

To what extent do you agree with the following statements?

| | Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree | N/A |
|---|---|---|---|---|---|---|
| Telehealth leads to me being less likely to prescribe some medications. | ○ | ○ | ○ | ○ | ○ | ○ |
| Telehealth leads to me being more likely to prescribe some medications. | ○ | ○ | ○ | ○ | ○ | ○ |
| It is challenging to have sensitive conversations with patients via telehealth. | ○ | ○ | ○ | ○ | ○ | ○ |
| Telehealth promotes self-management as the provider is distant to the patient | ○ | ○ | ○ | ○ | ○ | ○ |
| Telehealth promotes engagement with services outside of the practice | ○ | ○ | ○ | ○ | ○ | ○ |
| Telehealth promotes opportunistic preventative health | ○ | ○ | ○ | ○ | ○ | ○ |

|  | Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree | N/A |
|---|---|---|---|---|---|---|
| Patients are less likely to undergo pathology tests ordered by telehealth | ○ | ○ | ○ | ○ | ○ | ○ |
| Patients are less likely to followup with referrals made via telehealth. | ○ | ○ | ○ | ○ | ○ | ○ |

## QUALITY OF TELEHEALTH CONSULTS

How would you rate the quality of care delivered in telehealth consultations when compared to face to face care?

○ Much better

○ Somewhat better

○ About the same

○ Somewhat worse

○ Much worse

To what extent do the following factors impact on your delivery of telehealth consultations? (select 1 response per row)

|  | Not at all | A little | A moderate amount | A great deal |
|---|---|---|---|---|
| My own IT skills | ○ | ○ | ○ | ○ |

|  | Not at all | A little | A moderate amount | A great deal |
|---|---|---|---|---|
| IT skills of Patients | ○ | ○ | ○ | ○ |
| My own telehealth consultation skills | ○ | ○ | ○ | ○ |
| Access to IT support to set-up systems | ○ | ○ | ○ | ○ |
| Access to IT services to provide ongoing support (troubleshooting) | ○ | ○ | ○ | ○ |
| Audio quality difficulties | ○ | ○ | ○ | ○ |
| Availability of Internet access | ○ | ○ | ○ | ○ |
| Data speed / connection quality | ○ | ○ | ○ | ○ |
| Establishing rapport | ○ | ○ | ○ | ○ |
| Availability of visual cues | ○ | ○ | ○ | ○ |
| Availability of physical examination/tests | ○ | ○ | ○ | ○ |
| Opportunity to deliver a physical intervention | ○ | ○ | ○ | ○ |

What impact does telehealth have on access to primary care services by vulnerable groups within your practice? (Select 1 response in each row)

|  | Reduces access | Unchanged | Improves access | n/a |
|---|---|---|---|---|
| Older people living at home | ○ | ○ | ○ | ○ |
| Older people in residential aged care | ○ | ○ | ○ | ○ |
| People living with disability | ○ | ○ | ○ | ○ |
| Non-English speaking | ○ | ○ | ○ | ○ |
| Low income earners | ○ | ○ | ○ | ○ |
| People living in rural areas | ○ | ○ | ○ | ○ |
| Other (please specify below) | ○ | ○ | ○ | ○ |

## PERCEPTIONS OF TELEHEALTH

Have you experienced any telehealth consultations during COVID-19 that have resulted in or potentially resulted in a negative outcome such as patient injury, missed or delayed diagnosis?

○ Yes - potential negative outcome

○ Yes - negative outcome

○ Maybe

○ No

Which of the following best describes the type of event or 'near miss'?

○ Missed or delayed diagnosis

○ Patient injury

○ Treatment complication

○ [          ] Other (please specify below)

To what extent do you agree with the following statements? (Select 1 response per line)

| | Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree |
|---|---|---|---|---|
| Telehealth improves patient access to healthcare services. | ○ | ○ | ○ | ○ |
| Telehealth provides for some of the healthcare needs of my patients. | ○ | ○ | ○ | ○ |
| Telehealth significantly improves the lives of my patients. | ○ | ○ | ○ | ○ |
| Telehealth is a convenient way for my patients to access medical services. | ○ | ○ | ○ | ○ |
| I think the visits provided over the telehealth system are adequate replacements when in-person visits are difficult or impossible. | ○ | ○ | ○ | ○ |
| I like using telehealth. | ○ | ○ | ○ | ○ |
| Telehealth is an acceptable way to provide healthcare services. | ○ | ○ | ○ | ○ |

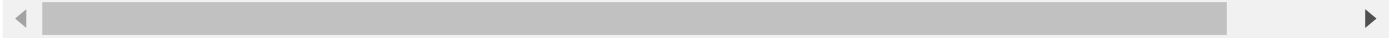Overall, I would rate the telehealth delivered in my workplace as excellent.

Overall, I believe the telehealth delivered in my workplace is a positive thing for the community.

|  | Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree |
|---|---|---|---|---|
| | ○ | ○ | ○ | ○ |
| | ○ | ○ | ○ | ○ |

## THE FUTURE OF TELEHEALTH

### Section 4

The following questions aim to find out about your intentions of delivering telehealth into the future.

Would you prefer to continue to use telehealth beyond the COVID-19 period?

○ Yes, in the same way as the service has been deployed

○ Yes, but with improvements

○ No

What would the improvements be?

Does your practice charge patients an out of pocket fee for telehealth consults?

○ Never

○ Sometimes

○ Always

Would the cessation of MBS item numbers for telehealth impact your decision to keep using telehealth?

○ Yes - would stop if no item numbers

○ Yes - would only provide a limited service with no item number

○ Unsure

○ No - would provide telehealth service regardless of MBS funding

○ No - would continue to offer telehealth service with charge to patients

What two key messages would you like to give to policy makers / government about the future of telehealth within Australian primary care?

Key Message 1

Key Message 2

Please provide your contact details below if you are willing to consider participating in an interview about your experiences delivering telehealth in primary care during COVID-19. You may choose to participate or decline if we contact you.

Name:

Email:

Contact phone:

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