

Telehealth and Australian general practice in 2020

A survey exploring patients' perspectives in the Adelaide Hills

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Background and objective

COVID-19 and Medicare Benefits Schedule rebates have driven the increased use of telehealth in Australian general practice. The aim of this study was to gain an understanding of patients' perspectives towards telehealth in general practice.

Methods

A 10-question online survey was designed and distributed to patients in the Adelaide Hills via direct email invitation, social media posts and flyers between 6 June and 17 July 2020.

Results

A total of 154 responses were obtained, 84% indicating interest in ongoing use of telehealth. Telephone consultations made up 100% of consultations. Six per cent of patients would have preferred video consultations. Seventeen per cent would pay an out-of-pocket fee, while the remaining would only use telehealth if bulk billed. No concerns regarding privacy, technical difficulty or lack of confidence in assessments were expressed.

Discussion

The reception of telephone consultations in general practice has been strongly positive. Key drivers towards this success should be considered by governing bodies if there is to be continued innovation within the area of remote healthcare delivery.

COVID-19 HAS LED TO MANY CHANGES in the population's day-to-day practices, particularly in the healthcare sector.^{1,2} With the introduction of Medicare Benefits Schedule (MBS) rebates for telehealth in general practice, there has been a significant increase in the use of telehealth throughout Australia.³ Although there is an established literature on the use of telehealth and its benefits, there is a significant gap in knowledge about the patient's perspective towards this service, especially within the pandemic setting of COVID-19.⁴⁻⁷

The aim of this online study was to further understand:

- overall patient acceptance of telehealth
- factors that influence patient acceptance of telehealth
- patients' preferred mode of telehealth
- willingness to pay an out-of-pocket fee for telehealth.

Methods

Study design

A short, anonymous 10-question survey was designed using the SurveyMonkey platform. This platform was chosen because of its user-friendly interface. Data collection took place within the Adelaide Hills region, and respondents aged ≥ 18 years who had a recent telehealth consultation were eligible to participate. To assess the survey design and format, three doctors and three members of the public were chosen to complete and evaluate the survey. Feedback was obtained on the length, structure, syntax and readability of the survey; through group consultation, a consensus was reached on the final version to be used in the study. Only minor changes to wording were required.

Patients were made aware of the survey and invited to respond using the following methods:

- flyers – printed flyers containing the title of the study, survey link and QR code were handed out at 10 participating centres, consisting of four general practice clinics and six pharmacies that made up part of the various centres in the region
- social media posts – an open invitation including the study title and survey link was posted onto the social media page of a participating clinic within the region

- direct email link – six participating doctors used standardised introductory statements to obtain permission to collect patient email addresses after each telehealth consultation. These addresses were forwarded to the study team, after which survey invitations were sent directly to the patients.

On accessing the links, all respondents were provided with a one-page plain language summary regarding the study and were made aware of the survey's anonymous and voluntary nature prior to commencing the questionnaire. Respondents were required to fully complete the questionnaire prior to submission. The questionnaire administered is shown in Table 1.

Human Research Ethics approval was obtained through Flinders University, South Australia (Project number: HEL 1934), and no funding was received to undertake this study.

Statistical analysis

Descriptive statistics were used to describe survey responses and are represented as overall count and percentage.

Pearson's Chi-squared tests were used to investigate any associations between demographic factors, employment history, government benefit status, general practice consultation details and preferences regarding telehealth services.

Separate logistic regression analyses were used to model odds ratios (ORs) for associations between the dependent variable and the independent variables.

All statistical comparisons were two-tailed, and statistical significance was set at $P < 0.05$.

Statistical analysis was performed using commercial statistical software STATA (ver. 16; StataCorp, TX, USA).

Sample size calculations were conducted in STATA/IC 16.1 using the *sysampsi* command for surveys with a dichotomous outcome variable, with a proportion of 0.5 assumed to have the expected outcome, an error rate of 10%, a response rate of 70%, and a 95% confidence interval. This gave an estimated required sample size of 137 subjects.

A proportion of 50% was used as the expected proportion to be in favour of

using telehealth after COVID-19 has resolved, as this represented a balanced estimate of probability for a unique event (COVID-19) for which there were no previous data on expected rate for outcome of interest. A 70% response rate was chosen as it was deemed achievable and also considered ideal as a response rate for surveys in the literature.⁸ A 10% margin of error was used, as this has been deemed appropriate in the literature.⁹ Responses were collected until this sample size was met, with an intended timeframe of six weeks. The study was to continue in two-week increments beyond six weeks if the desired sample size was not achieved.

Results

The key variable of interest for this study was the likelihood of using telehealth services after the COVID-19 environment has resolved. Explanatory variables relate to patient demographics, employment history, government benefit status and general practice consultation details. All included variables are summarised and described in Table 1, together with summary statistics.

Data collection took place over a six-week period from 6 June 2020 until 17 July 2020, during which 154 responses were obtained.

A total of 216 direct email links were sent out, and 131 responses were obtained. Forty-four emails were unopened, 10 emails bounced and three respondents opted out. In 28 cases, email invitations were opened but the survey was not attempted. Twenty-three responses in total were obtained via weblink (both via flyers and social media link).

The response rate for direct email links was estimated to be 60.6%.

There were no responses excluded, nor were there any technical issues reported to the study team.

Observing the age demographics of respondents, 23% (the largest proportion) were aged 30–39 years, while on both ends of the age spectrum (18–29 years and >75 years) the proportions of respondents were observed to be lower.

Employment status differed when compared with state-wide data, where

employment in South Australia is noted at 56% (compared with 60% in the present study) and unemployment at 8.8% (compared with 6% in the present study) of the population.¹⁰ This reflects the trend that has been observed in previous census data and could be related to the growing establishments in the Adelaide Hills region.¹¹

All respondents indicated that their telehealth consultation was undertaken via telephone, and only 6% would have preferred video consultation. Telehealth usage prior to COVID-19 was small, with only 11% indicating they had previously used telehealth.

When looking at the types of consultations, 'test results' made up the largest group (30%), followed by 'repeat prescriptions' (23%) and 'management of pre-existing illnesses' (10%).

Of these consultations, 92% were able to be addressed by the treating doctor at the time of the telehealth consultation, with only 6% (10 respondents) asked to rebook for a face-to-face consultation. None of the respondents indicated technical difficulty or low confidence in the assessment done via telehealth, with only one respondent indicating they were unhappy with the management plan/advice provided.

Overall sentiment towards telehealth services was positive, with 84% indicating they would be keen to use this service after the COVID-19 pandemic has resolved. Seventeen per cent indicated they would be willing to pay standard out-of-pocket fees, while 67% would only use telehealth services if bulk billed.

Of the 17% respondents who were not keen to use telehealth services, 12% preferred face-to-face consultations, while 5% stated 'other reasons'. One respondent stated, 'Every consultation is for different reasons; should an examination be needed, it would be a great waste of time to have to wait to book another appointment'. None of the respondents declined ongoing use of telehealth because of privacy concerns or lack of familiarity with technology, although it must be remembered that telephone consultations made up 100% of the mode of delivery.

To further assess the overall acceptance of telehealth (Question 9 of survey,

Table 1. Summary of responses (n = 154)

	Percentage	Number		Percentage	Number
1. Please select your current age group			7. What was the reason for your recent consult? Cont'd		
18-29	15%	23	Test results	30%	46
30-39	23%	36	New medical illness	9%	14
40-49	21%	32	Management of pre-existing medical condition	10%	16
50-59	18%	28	Mental health consult	4%	6
60-75	14%	21	Pregnancy care	1%	2
>75	9%	14	General medical advice	8%	13
2. Please select your gender			Prefer not to answer	1%	1
Male	32%	49	8. Was your doctor able to address the reason for your consult via telehealth?		
Female	68%	105	Yes	92%	142
Other	0%	0	No, I was asked to rebook for a face-to-face consultation	6%	10
3. What is your current employment status?			No, I was not confident with the assessment done via telehealth	0%	0
Student	6%	9	No, I was not happy with the management plan/advice provided	1%	1
Employed	60%	93	No, I experienced technical difficulty	0%	0
Unemployed	3%	5	No, other reasons (please specify)	1%	1
Unemployed due to COVID-19	3%	4	9. If telehealth services are still in place, are you likely to use these services after COVID-19 has resolved?		
Disabled, unable to work	0%	0	Yes, and willing to pay standard out-of-pocket fees for the service	17%	26
Stay-at-home parent	8%	13	Yes, only if bulk billed	67%	103
Retired	19%	30	No, I prefer face-to-face consultations	12%	18
4. Are you a Department of Veterans' Affairs, Health care card or Pensioner card holder?			No, I am concerned regarding privacy issues	0%	0
Yes	31%	47	No, I am not tech savvy	0%	0
No	69%	107	No, other reasons (please specify)	5%	7
5. Have you used telehealth services prior to COVID-19?			10. If you answered yes to the previous question, would you prefer phone or video consults?		
Yes	11%	17	Phone consult	79%	121
No	89%	137	Video consult	5%	8
6. Did you have a phone or video consult at your recent doctor's appointment?			I answered 'No'	16%	25
Phone consult	100%	154	<i>Note: Percentages may not total 100% due to rounding.</i>		
Video consult	0%	0			
7. What was the reason for your recent consult?					
Repeat prescription	23%	36			
Referral	8%	13			
Medical certificate	5%	7			

'If telehealth services are still in place, are you likely to use these services after COVID-19 has resolved?') a collapsing of answer categories was used to allow for two distinct methods of statistical analysis to be performed. The survey originally contained six answer categories:

1. Yes, and willing to pay standard out-of-pocket fees for the service
2. Yes, only if bulk billed
3. No, I prefer face-to-face consultations
4. No, I am concerned regarding privacy issues
5. No, I am not tech savvy
6. No, other reasons [into three categories].

The first method of analysis involved collapsing the possible answers into three broad categories, these being:

1. Yes, and willing to pay standard out-of-pocket fees for the service
2. Yes, only if bulk billed
3. No [options 3–6 combined].

This facilitated analysis in the form of a Pearson's Chi-squared test (Table 2).

Within the three-group analysis, there were no significant associations found.

The second method of analysis involved collapsing the possible answers into two broad categories, these being:

1. Yes [options 1–2 combined]
2. No [options 3–6 combined].

With the dichotomised method described above, both Pearson's Chi-squared test and logistic regression were used as statistical methods, and corresponding effects sizes reported as ORs and 95% confidence intervals (CI). The data can be found in Appendix 1, available online only.

No significant relationship was found for the likelihood to attend telehealth for all explanatory variables on Chi-squared analysis and logistic regression analysis.

To assess if there was a difference between responses collected via direct email link and those collected via weblink, a sensitivity analysis was performed. Chi-squared testing revealed that the groups were overall well balanced except for their reason for consultation.

When compared with the weblink group, the direct email link group had many more individuals with test results (34%, compared with 9%) and general medical advice (10%, compared with 0%) as a reason for consultation. The weblink group had many more individuals with new medical illness (17%, compared with 8%) and management of a pre-existing condition (35%, compared with 6%) as a reason for consultation.

While the reason for this discrepancy is unclear, a possible explanation could be that flyers with weblinks were handed out at clinics/pharmacies, and the likely reason for patients to present to these centres after a telehealth consultation would be to pick up a prescription or medication to manage a new medical illness/pre-existing condition. Most respondents who had a telehealth consultation for test results or general medical advice would not have had an opportunity to receive the weblink flyers, as those reasons for consultation would generally have been addressed without needing to present to a clinic or pharmacy afterwards.

Discussion

The responses obtained show that the use of telehealth in general practice has been well received, with 84% of respondents indicating they would be keen to use this service after the pandemic has resolved.

Although the number of respondents appears to be smaller in the age groups of 18–29 years and >75 years, the former is likely due to the low number of general practice presentations within this demographic, while in those aged >75 years, computer literacy in accessing the online-based survey may have acted as a barrier.¹²

Easing COVID-19 restrictions one month prior to the data collection period meant that rather than telehealth being the default, patients were more likely to have had the option to choose the most suitable form of consultation (telehealth or face to face) depending on their reason for the consultation.^{13,14} Considering that 92% of consultations were successfully addressed using telehealth, patients were likely making the appropriate choice when deciding between booking their general practice appointments via telehealth or face to face, leading to the overall satisfactory experience of telehealth.

Telephone consultations were the only mode of telehealth delivery within the studied population, and this is consistent with national data published by Snoswell et al.¹⁵ This could be attributed to the rapid shift towards telehealth due to COVID-19, as practices may not have had the infrastructure or time to incorporate video services into their day-to-day practice. As familiarity with Zoom and other video platforms grow, more patients and practices may begin

Table 2. Association between likelihood to attend telehealth and explanatory variables (three-group analysis)

Variable	Three-group analysis	
	χ^2	P value
Age (years)	13.4397	0.200
Gender	1.6273	0.443
Employment status	8.6194	0.569
Department of Veterans' Affairs/Health care card/Pensioner card status	4.9654	0.084
Used telehealth services prior to COVID-19	4.6271	0.099
Reason for recent consultation	20.2345	0.320
Reason addressed at telehealth appointment	0.7587	0.684

to use videoconferencing for telehealth because of the added value that it may bring to a consultation, including the ability to perform certain examinations as well as improved rapport through non-verbal cues, which could also reduce misunderstandings between doctors and patients.^{16,17} Conversely, concerns regarding privacy and technical complications may also start to emerge with an increase in use of video consultations.

MBS rebates introduced by the Australian Government were a catalyst towards the success of telehealth in general practice. The mandatory bulk-billing clause for patients at risk of COVID-19 further meant that many patients had the opportunity to trial this service without financial risk.³ Considering the large proportion of respondents indicating their ongoing use of telehealth only if the service is bulk billed, there may be a significant drop in its use should the MBS item numbers cease at the end of this pandemic. However, if consumers are given the option of receiving a service with no out-of-pocket cost, this is likely to be the choice for many. The number of patients who are keen to pay out-of-pocket fees may grow over time because of the convenience telehealth provides. As stated by one of the respondents, 'It's a much better thing waiting at home rather than the waiting room for close to an hour most times'.

Limitations

As this study was assessing the population at a local level, it may not be representative of responses Australia wide; therefore, external validity and generalisability remains a limitation of this study. However, since commencement, there have been additional data published within Australia that have produced comparable findings to those described in the present study.^{15,16,18}

The potential of recruitment bias must be considered, as it may have been difficult for participating doctors to discuss the opportunity to contribute to this study if they had a challenging telehealth consultation with the patient. As a result of the larger number of responses collected via direct email link, the likelihood of

this bias affecting the results could be higher. Elimination of this bias would require participant recruitment to be done by a party independent of the patient's telehealth consultation, and this could be considered in future telehealth studies.

The term 'telehealth' encompasses both video and telephone consultations. However, considering the lack of video consultations, the results of this study are only representative of the user experience of telephone consultations.

Finally, the findings from this study are hypothesis generating and may provide valuable data for future studies looking to assess the applicability, use and perceived importance of telehealth. Formal conclusions would require a larger sample size that was beyond the scope of this study and could be addressed in the future with a larger multicentre/state-wide study with the aforementioned recommendations.

Conclusion

On the basis of the responses provided, it can be concluded that the overall acceptance rate of patients towards telephone consultations in general practice has been overwhelmingly positive. If there is to be continuous growth and innovation within the area of remote healthcare delivery, key factors including the ongoing provision of MBS rebates should strongly be considered and advocated by governing bodies.¹⁹ As we progress through the various reforms, healthcare practitioners should be encouraged to engage in continued education and research to enable effective integration of telehealth services within the current model of primary care. Finally, further studies in the area of video consultations should be considered once their use in general practice is more largely established.

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