Experiences of telehealth in general practice in Australia: research protocol for a mixed methods study

White, Sarah J; Nguyen, Amy; Roger, Peter; Tse, Tim; Cartmill, John A;
Willcock, Simon Mark

DOI: <https://doi.org/10.3399/BJGPO.2021.0187>

To access the most recent version of this article, please click the DOI URL in the line above.

Received 03 October 2021

Revised 12 October 2021

Accepted 13 October 2021

© 2021 The Author(s). This is an Open Access article distributed under the terms of the Creative Commons Attribution 4.0 License (<http://creativecommons.org/licenses/by/4.0/>). Published by BJGP Open. For editorial process and policies, see: <https://bjgpopen.org/authors/bjgp-open-editorial-process-and-policies>

When citing this article please include the DOI provided above.

Author Accepted Manuscript

This is an 'author accepted manuscript': a manuscript that has been accepted for publication in BJGP Open, but which has not yet undergone subediting, typesetting, or correction. Errors discovered and corrected during this process may materially alter the content of this manuscript, and the latest published version (the Version of Record) should be used in preference to any preceding versions

TITLE

Experiences of telehealth in general practice in Australia: research protocol for a mixed methods study

AUTHORS

Sarah J White, BA (Hons), PhD.

Macquarie Medical School, Faculty of Medicine, Health and Human Sciences, Macquarie University, NSW Australia, sarah.white@mq.edu.au

Amy Nguyen, BMedSc, PhD.

1. Centre for Health Systems and Safety Research, Australian Institute of Health Innovation, Macquarie University, NSW, Australia;

2. St Vincent's Clinical School, UNSW Medicine, UNSW Sydney, NSW, Australia

Peter Roger, MB BS (Hons), PhD.

Department of Linguistics, Faculty of Medicine, Health and Human Sciences, Macquarie University, NSW Australia.

Tim Tse BMed, MD, MMed, FRACGP.

Department of Primary Care, Faculty of Medicine, Health and Human Sciences, Macquarie University, NSW Australia

John A Cartmill, BSc(med), MBBS, MM, FRACS.

Macquarie Medical School, Faculty of Medicine, Health and Human Sciences, Macquarie University, NSW Australia

Simon Willcock MBBS, PhD, FRACGP.

Department of Primary Care, Faculty of Medicine, Health and Human Sciences, Macquarie University, NSW Australia

ABSTRACT

Background: Due to the COVID-19 pandemic, use of telehealth has expanded rapidly. However, little is known about the impact of delivering care through telehealth on communication between clinicians and patients. At an interactional level, the ways in which

clinicians establish rapport and connection with their patients in telehealth consultations is not well understood.

Aim: This study will explore interactional practices of general practitioners (GPs) and patients in telehealth consultations to develop evidence-based resources to improve communication.

Design & setting: The study will be conducted within the Australian general practice setting.

Methods: Conversation analysis and sociolinguistic discourse analysis of recorded telehealth consultations will provide direct evidence of specific elements contributing to successful and less successful instances of telehealth communication. This analysis will be complemented by co-design techniques such as qualitative and reflective interviews and collaborative workshops with telehealth users, including both general practitioners and patients.

Conclusion: Effective communication is critical for telehealth consultations and is central to achieving optimal clinical outcomes and patient satisfaction. This study will co-develop with end-users, evidence-based guidelines encompassing effective telehealth communication strategies.

General practice, telehealth, clinical communication, telemedicine, digital health

HOW THIS FITS IN

There is a rapidly growing body of work on telehealth due to the COVID-19 pandemic. By using a mixed-methods, multi-stage approach, we will create a comprehensive picture of how telehealth works in practice, what communication strategies are unique to telehealth, and how doctors and patients experience telehealth. This will be translated into evidence-based guidelines and training resources, helping bridge the gap between evidence and practice.

Introduction

Telehealth is not new to Australia, having long been used, albeit to a limited extent, in rural and remote settings (1). However, it is new to the great majority of Australian doctors, with the Australian government introducing temporary new Medicare benefit schedule items in response to the COVID-19 pandemic. Since this rapid escalation in the availability of telehealth services, ongoing (and constantly changing) isolation and physical distancing restrictions in different parts of the country have made telehealth an imperative (2). There have been limited opportunities to support this major transition, particularly regarding approaches to communicating effectively. Clinicians have largely learned to manage telehealth interactions by trial and error and by accessing ad hoc web resources. The shift in relationship-building and other communication practices from face-to-face consultations to a phone or video call may significantly impact upon patient satisfaction and clinical outcomes.

While there is little information on interactions between GPs and patients during telehealth consultations, existing studies provide evidence of challenges relating to communication and establishing rapport and trust through a digital connection (e.g. 3, 4). These issues are largely around difficulties in clinicians being unable to perceive nonverbal cues (e.g. 5). Interactional research on telehealth has been minimal, although more interest is developing in the space with work on decision-making (6) and examination using videoconferencing (7). A systematic review (8) found only 45 articles exploring communication during telehealth and revealed that training in communication skills specifically for telehealth delivery was consistently mentioned as required in the papers, across various disciplines and settings.

Existing advice regarding telehealth tends to focus on the technological and practical sides of the phenomenon with little guidance about the communication itself (e.g. 9). Advice on avoiding distractions and ensuring sufficient signal strength is important, but the real hazards lie at the deeper communicative levels of the interaction. Advice to "[u]se strategies and evidence-informed practices to reflect the standard of care expected in a face-to-face consultation, as far as possible" (9) is to be expected from a guideline and, taken at face value, appears to be sensible; but is ultimately naïve. The modalities are very different and so will be the hazards and pitfalls. For example, in pilot research on telehealth in specialist care, the ability to raise new concerns or questions was more limited in telehealth consultations, relying more on a patient's initiative than opportunities provided by the doctor (10).

This paper describes the research protocol for a project focused on telehealth in general practice in Australia. The project has three interrelated aims, to:

1. Systematically analyse interactional practices of general practitioners (GPs) and patients in telehealth consultations to develop evidence-based resources based on interactional elements and patterns associated with desired consultation outcomes.
2. Examine how telehealth influences both GPs' and patients' perceptions of the clinical relationship to ensure that guidelines we develop help both parties to build positive clinical relationships through this novel mode of communication.
3. Determine the key concerns of GPs in relation to communication and telehealth in order to inform new evidence-based advice and resources that directly address these concerns.

Our interdisciplinary approach, which involves close collaboration between medical practitioners, clinical communication and health services researchers, will ensure that the research is driven from the outset by the needs of practitioners and generates tangible outcomes that are relevant in guiding improvements to telehealth practice.

This research will drive a fundamental shift in the way that best practice standards in telehealth are determined. Importantly, it will bridge the gap between “work-as-imagined” and “work-as-done” (11) in the implementation of telehealth in Australian general practice. Although telehealth guidelines for medical practitioners exist, such guidelines have often been compiled quickly in response to the rapid roll-out of telehealth and are thus based on the kinds of problems that could be ‘imagined’, rather than being grounded in evidence that comes from the systematic study of actual experience.

Effective communication is essential to safe clinical practice and outcomes of the proposed research will ensure that there is relevant, evidence-based advice available for best practice in the ongoing use of telehealth. The recent research literature on telehealth often alludes to the challenges in building rapport and trust. Grenda, Whang and Evans (12) note that the “patient-physician relationship has traditionally been developed during face-to-face interactions, which will be a shift from our current culture” (p. e169). What is missing from the current evidence base, however, is information on precisely *how* these trusting clinical relationships can best be built and maintained through the telehealth medium. This is a key outcome that the current study will provide.

Method

We will use a mixed methods approach, with a variety of connected data sources and both qualitative and quantitative methods used. There are three phases in the project. The project will have two data collection and analysis phases to gain a deep understanding of how communication varies between face-to-face and telehealth consultations, and in what contexts. The third phase will involve telehealth guideline and training development.

Phase 1 – Interaction analysis of telehealth consultations

Five General Practitioners (GPs) will be recruited to the study, and each will be asked to record at least six telehealth consultations to reach a sample size of 30 telehealth consultations. In addition, five patients (one per each GP recruited) who regularly have telehealth consultations with the same GP will be asked to participate in a tracking component, with collection of every consultation between the GP and patient occurring across a three-month period. It is anticipated that this will yield another 30 consultation recordings. Participants will also be invited to complete post-visit surveys regarding their perceptions of the visit and experience of telehealth.

The consultations will be recorded through videoconferencing software or, for audio-only calls, using mobile phone audio-recording functions or an external digital recorder while the phone is on speaker. Most data will be by videoconference. This study will deliberately forego the information that could be gained through additional video coverage of the participants as it is of little relevance to the narrower focus of attention in telehealth and would be difficult to achieve given current COVID-19 proximity restrictions. Post-visit surveys will be sent via email or text and will have a 72-hour time-limit for completion.

We will use methods of interaction analysis, specifically conversation analysis (13) and sociolinguistic discourse analysis (14). Analysing recorded consultations preserves the features of the talk used, which means we do not rely on memory and reporting and are able to repeatedly observe the talk as it actually occurs. Recordings also allow for collaborative analysis. Validity in these methods is established through multiple processes, such as interactional evidence for effectiveness of communication practices (e.g. how did the communication phenomenon being described impact conversational flow), team analytic process with individual and group analyses and consensus, relational analysis with other data types (e.g. surveys and interviews). These methods are well established in medical consultation research, with a strongly established theoretical and applied research foundation (15, 16).

The post-visit survey includes the use of two validated surveys, the CARE Patient Feedback Measure (17) and the Telehealth Usability Questionnaire (18). These surveys were chosen

because they provide insight into patient perceptions of the consultation and of the impact of telehealth on the consultation. Analysis of the survey data will be conducted with reference to the linked consultations and the analyses of those interactions along with statistical analysis of the aggregated quantitative data and thematic analysis of qualitative data across the surveys.

Phase 2 – Qualitative interviews with GPs and patients who have used telehealth

Participants from Phase 1 will be invited to participate in Phase 2 of this project. Additional participants will be recruited through specific calls through professional networks, social media, and participating clinics.

In this phase, we will conduct post-Phase 1 interviews with the participating GPs to identify key areas of strength and concern for GPs in relation to telehealth and to explore findings from Phase 1, e.g. situations where key concerns are more likely, how concerns can be addressed. Between 10 and 20 interviews will be conducted with GPs. The five tracking patients from Phase 1 will also be interviewed to explore experiences of telehealth and how they connect with the patient's perspective of the clinical relationship.

Semi-structured interviews will provide insight into the personal experiences and perspectives of users of telehealth consultations i.e., clinicians and patients as users are experts in their own lived experiences. A thematic analysis approach (19) will be used to identify themes and subthemes raised by interview participants. Thematic analyses of interviews with end-users has been used in qualitative research methodologies, in particular in the design of health technologies (e.g. 20). Question guides will be iteratively reviewed as more interviews are conducted to ensure that questions cover important arising themes from prior interviews. To ensure that all perspectives are covered, interviews will be conducted until thematic saturation (the point at which no new themes arise) is reached. Additional reflexive analysis interviews (21), which include viewing vignettes of videos collected in Phase 1, will be conducted with the five participating GPs to explore their perceptions of and reflections on their own communication. Reflexive analysis draws on the expertise of the participants within the consultations and provides insight into the motivations for particular communication choices as they occurred. This complements both the interaction and thematic analysis, connecting practice, attitudes, and reflection. This is an established research method in healthcare and beyond (e.g. 22).

Phase 3 – Intervention: telehealth guideline and training resource development

Drawing on findings from Phases 1 and 2, we will create easy-to-use advice and training resources for general practitioners to support them in engaging in telehealth effectively. Using a co-design approach (e.g. 23), which is designed to ensure healthcare improvements and their implementation are tailored to meet the unique needs identified by end-users, we will work with GPs and relevant stakeholders to design guidelines and training resources based on our analyses of both recorded telehealth consultations and interviews. These guidelines and related training resources will be developed in collaborative workshops with the recruited GPs as well as other relevant stakeholders, including telehealth patients and health consumers, to ensure feasibility. These will be evaluated through participant surveys with a follow-up plan for a future intervention study to assess how evidence-based training influences practice.

As the intervention phase includes development of training resources, action research (24) will be used to support iterative refinement. Validity in action research is established through use of multiple data points and collaborative analytic approaches. As with the methods described above, the rigorous, collaborative, and transparent application of the research methods allow for the establishment of their trustworthiness.

Discussion

While telehealth has been used over the past decade, it was not until 2020 that it became widely available in Australia, an imperative driven by the COVID-19 global pandemic. Even after the peak of the pandemic passes, telehealth is likely to continue to be an important part of health care into the future, as we begin to discover the benefits of this new normal. The evidence produced through this project will highlight the strengths, barriers, and concerns of GPs and patients in how they have experienced telehealth. This will contribute much-needed depth to ongoing health policy discussions.

Effective communication is arguably even more crucial for telehealth consultations as all elements are conducted through interaction without aspects of physical examination. Doctors are learning “on the job” how to translate their face-to-face skills to deliver care to patients over the phone, as there is insufficient evidence about how telehealth interactions work in practice. This study will determine important parameters of effective telehealth communication strategies and, based on this evidence, develop robust guidelines and resources for GPs about best practice for telehealth communication. The fact that these guidelines will be developed in close consultation with GPs for use in general practice will ensure their relevance to real-world telehealth practice situations. Importantly, it will “level the field” in terms of quality of care,

providing resources to ensure that telehealth care in Australian general practice is of a high standard that is comparable to in-person consultations.

This research protocol has been externally and independently reviewed and funded by the Avant Foundation (2021/00001).

Ethical review and approval by Macquarie University Human Research Ethics (52021953432097).

Acknowledgements

The authors wish to acknowledge the funding provided by the Avant Foundation that will enable us to conduct this research.

Conflicts of interest

Dr White is on the editorial board of the BJGP Open and is the guest editor for the special collection on Telehealth in Primary Care. She had no involvement in the decision making regarding this paper.

References

1. Bradford NK, Caffery LJ, Smith AC. Telehealth services in rural and remote Australia: a systematic review of models of care and factors influencing success and sustainability. *Rural Remote Health*. 2016;16(4):3808.
2. Hardie R-A, Sezgin G, Dai Z, Georgiou A. The uptake of GP telehealth services during the COVID-19 pandemic. *COVID-19 General Practice Snapshot*; 2020.
3. Imlach F, McKinlay E, Middleton L, Kennedy J, Pledger M, Russell L, et al. Telehealth consultations in general practice during a pandemic lockdown: survey and interviews on patient experiences and preferences. *BMC Fam Pract*. 2020;21(1):269.
4. Reeves JJ, Ayers JW, Longhurst CA. Telehealth in the COVID-19 Era: A Balancing Act to Avoid Harm. *J Med Internet Res*. 2021;23(2):e24785.
5. Donelan K, Barreto EA, Sossong S, Michael C, Estrada JJ, Cohen AB, et al. Patient and clinician experiences with telehealth for patient follow-up care. *Am J Manag Care*. 2019;25(1):40-4.
6. Pappas Y, Vseteckova J, Mastellos N, Greenfield G, Randhawa G. Diagnosis and Decision-Making in Telemedicine. *J Patient Exp*. 2018;6(4):296-304.

7. Seuren LM, Wherton J, Greenhalgh T, Cameron D, A'Court C, Shaw SE. Physical Examinations via Video for Patients With Heart Failure: Qualitative Study Using Conversation Analysis. *J Med Internet Res*. 2020;22(2):e16694.
8. Henry BW, Block DE, Ciesla JR, McGowan BA, Vozenilek JA. Clinician behaviors in telehealth care delivery: a systematic review. *Adv Health Sci Educ Theory Pract*. 2017;22(4):869-88.
9. Australian Health Practitioner Regulation Agency. Telehealth guidance for practitioners 2020 [Available from: <https://www.ahpra.gov.au/News/COVID-19/Workforce-resources/Telehealth-guidance-for-practitioners.aspx>].
10. White SJ, Nguyen AD, Cartmill J. Telehealth in practice: comparing interaction in telehealth and face-to-face consultations. 18th International Conference on Communication in Healthcare; Online2020.
11. Clay-Williams R, Hounsgaard J, Hollnagel E. Where the rubber meets the road: using FRAM to align work-as-imagined with work-as-done when implementing clinical guidelines. *Implement Sci*. 2015;10(1):125.
12. Grenda TR, Whang S, Evans NR, 3rd. Transitioning a Surgery Practice to Telehealth During COVID-19. *Ann Surg*. 2020;272(2):e168-e9.
13. White SJ. Conversation Analysis: An Introduction to Methodology, Data Collection, and Analysis. In: Liamputtong P, editor. *Handbook of Research Methods in Health Social Sciences*. Singapore: Springer Singapore; 2018. p. 1-20.
14. Gumperz JJ. On interactional sociolinguistic method, Talk, Work and Institutional Order: Discourse in Medical, Mediation and Management Settings. In: Sarangi S, Roberts C, editors.: *De Gruyter Mouton*; 1999. p. 453-72.
15. Yates L, Dahm MR, Roger P, Cartmill J. Developing rapport in inter-professional communication: Insights for international medical graduates. *Engl Specif Purp*. 2016;42:104-16.
16. Barnes RK. Conversation Analysis of Communication in Medical Care: Description and Beyond. *Res Lang Soc Interact*. 2019;52(3):300-15.
17. Mercer SW, Maxwell M, Heaney D, Watt GC. The consultation and relational empathy (CARE) measure: development and preliminary validation and reliability of an empathy-based consultation process measure. *Fam Pract*. 2004;21(6):699-705.
18. Parmanto B, Lewis AN, Jr., Graham KM, Bertolet MH. Development of the Telehealth Usability Questionnaire (TUQ). *Int J Telerehabil*. 2016;8(1):3-10.

19. Braun V, Clarke V. What can "thematic analysis" offer health and wellbeing researchers? *Int J Qual Stud Health Well-being*. 2014;9:26152-.
20. Nguyen AD, Frensham LJ, Baysari MT, Carland JE, Day RO. Patients' use of mobile health applications: what general practitioners think. *Fam Pract*. 2019;36(2):214-8.
21. Iedema R, Merrick ET, Rajbhandari D, Gardo A, Stirling A, Herkes R. Viewing the Taken-for-granted from under a Different Aspect: A Video-based Method in Pursuit of Patient Safety. *Int J Mult Res Approaches*. 2009;3(3):290-301.
22. Carroll K, Iedema R, Kerridge R. Reshaping ICU Ward Round Practices Using Video-Reflexive Ethnography. *Qual Health Res*. 2008;18(3):380-90.
23. Brett L, Nguyen AD, Siette J, Dove-Pizarro J, Hourihan F, Georgiou A. The co-design of timely and meaningful information needed to enhance social participation in community aged care services: Think tank proceedings. *Australas J Ageing*. 2020;39(1):e162-e7.
24. Koshy E, Koshy V, Waterman H. *Action Research in Healthcare*. London: SAGE Publications Ltd; 2011 2021/10/03.