Ensuring a rapid evidence-informed response to optimal ongoing use of rural telehealth

Professor Sarah Larkins and Professor Jenny May AM, on behalf of the Spinifex Network, 15/6/2020

Context and issues

The role of telehealth in its widest sense has been increasingly a focus of health services and implementation research as a valuable mode of rural service delivery. The advent of COVID and the need to provide services at a safe distance in both metropolitan and rural settings led Minister for Health, Greg Hunt, to announce new MBS items for both video and telephone consultations for doctors, nurse practitioners and allied health professionals. These item numbers were enacted with a planned cessation date of 30 September 2020 but options for extension are now being considered.

The swift implementation of expanded item numbers in response to the COVID-19 pandemic precluded contemporaneous, comprehensive evaluation. With the rapid pivot required by all parts of the health sector to ensure access to care could be maintained, there have been a range of positive outcomes in terms of access to care and safety, but also some unintended negative consequences observed from telehealth initiatives, with potential concerns in terms of quality and continuity of care and effects on rural service providers. Multi-dimensional unintended consequences are inevitable in telehealth implementation[1] and an over focus on the technology itself can reduce attention to the complexity and context which determine the benefits for patients and providers.[2] **There is an urgent need to understand the conditions required for optimal utilisation of telehealth, particularly for those in rural and remote Australia.** This will allow parameters to be set for future telehealth usage as part of integrated systems of care.

Who are we?

The Spinifex Network is a collaboration of 61 rural health and medical research, service provider and policy organisations with a focus on supporting health service delivery and strengthening communities across rural, remote and regional Australia. Collectively, members have a long history of research into rural and remote health services including telehealth. Network members met on the 10th June and participated in a facilitated discussion to agree priority research questions that might be of value to the Department of Health. These, together with approaches are presented for your consideration (Table 1). Some can be assessed rapidly (weeks-months), while others require a longer term prospective evaluation strategy (months-years). Academic members of the Spinifex Network include health services researchers able to address these questions. **The Network itself stands ready to assist in framing, brokering or critiquing this important rapid research effort to inform good policy that will sustain and not undermine the rural communities in which we work.**

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[1] Bloomrosen, M et al. *J Am Med Inform Assoc*. 2011;18:82-90. Doi: 10.1136/jamia.2010.007567

[2] Alami, H et al. *Int J Health Policy Manag*. 2019;8(6):337-352. Doi: 10.15171/ijhpm.2019.12

What is needed?

A rapid evaluation of the outcomes and impact of the current item numbers, to inform policy decisions about which elements should be continued, refined and removed.

- Best practice in evaluation of telehealth initiatives involves a systematic consideration of: i) human factors (service provider factors and patient/client factors); ii) system factors (organisational factors and technological factors); and iii) environmental factors (societal/financial factors and regulatory factors). An effective evaluation should consider these factors against desired quadruple bottom line outcomes of quality of care (including equity), patient and provider satisfaction and cost-effectiveness.[3]
- Key to any research approach is the capacity to identify, explore and understand intended and unintended consequences, both direct and indirect. The rural health sector has additional complexity, with real potential to harm the viability of existing workforce through unregulated remote service provision.
- A rapid realist evaluation frame addressing what works in which contexts for whom would provide robust advice on best practice adoption.[4] There is need to highlight qualitative approaches to consider patient and provider experience, with clear distinctions made in comparing telehealth to 'no care' or to 'face to face' care where available.

Table 1 Provides an outline of research questions and proposed strategies to evaluate implementation of new telehealth item numbers. The overarching question addressed is: **What conditions are required for optimal utilisation of telehealth to allow equitable access to a wide range of safe, high quality health services, particularly for those in rural and remote Australia?** A few examples of current activity have been provided in the right hand column and we will circulate this to the Network and see if members can further populate.

[3] Chang, H. *Healthcare Informatics*. 2015. 21(4):230-238. Doi: 10.4258/hir.2015.21.4.230

[4] Saul, J et al. *Implement Sci.* 2013. 8:103. Doi: 10.1186/1748-5908-8-103

Table 1. Research questions and proposed strategies to evaluate implementation of new telehealth item numbers

Overarching question: What conditions are required for optimal utilisation of telehealth to allow equitable access to a wide range of safe, high quality health services, particularly for those in rural and remote Australia?				
Research focus	**Data needed**	**Suggested questions**	**Proposed approach**	**Comments and current activity**
Item number utilization and reach	1. Item numbers claimed over time 2. Service Providers – rurality of residence, size/type of practice – e.g. Private, ACCHO; govt PHC centre), gender, age; whether the usual service provider or not. 3. Service provided – telephone consultations, video-consultations (and which platform used ideally); length of consultation; security of platform. 4. Patients - age, gender, Indigenous status, rurality of residence, ”vulnerable” category. 5. Timing of service-in hours and afterhours	What impact have the new items had on access to allied health and specialist services and timeliness of care? Since new telehealth item numbers introduced, what proportion are billed by bricks and mortar capable providers and by telehealth only providers? Of GP item numbers, what proportion are billed by patient’s usual provider? Proportion conducted by telephone or video by different cadres of HCPs? Where are the provider and the recipient located?	MBS database, combined with health workforce data Comparison of billing/utilization patterns pre and post introduction of new COVID item numbers. Review of connectivity and cost in non-urban areas (Sky Muster uptake for instance)	Spinifex Network members already actively collating some of this information by month E.g. https://coh.centre.uq.edu.au/telehealth-and-coronavirus-medicare-benefits-schedule-mbs-activity-australia
Patient experience and perceived quality of care (acceptability, continuity, safety, satisfaction)	Patient self-rated satisfaction with overall quality of care, continuity of care, safety of care (5-point Likert scales) of telehealth episodes Patient demographics and rurality of residence Provider data – locality, usual provider Telehealth data – modality used, duration	How does self-rated satisfaction with telehealth vary according to whether or not there is a pre-existing relationship (usual provider versus new provider for GP services)? Does satisfaction with telehealth consultations vary systematically between different patient demographic groups or different modalities? How many elements of primary care attended to (e.g. Presenting complaint, ongoing conditions, prevention/health promotion, health-seeking behaviour).	Large mostly quantitative online survey, with nested qualitative interview study. Large community online survey distributed through consumer health organisations and PHNs. Subgroup who give consent contacted for follow up telephone interview.	

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	How satisfaction varies according to provider, modality and whether or not it is their usual provider	Qualitative exploration of quality of care – comprehensiveness, accessibility, acceptability, appropriateness from patient perspective	Targeted sampling of patients from special groups, e.g. residential aged care, group homes.	
Provider experiences in terms of satisfaction, support and implications of telehealth service provision	Reasons for HCP decisions about telehealth modality Provider perceptions about training received and required Provider satisfaction about their own provision of telehealth services (access, quality, safety) Provider perceptions about telehealth services delivered to their patients by other providers (access, quality, safety, effect on own practice)	What influences health care providers in their choice of telemedicine modality? What training and support is required for ongoing delivery of quality telehealth services? What is different about service delivery by telehealth? Are there activities that are less or more amenable to telehealth care? (motivational interviewing, procedural skills Which digital modality should we be using for which purpose/cohort? What are the positive and negative implications of the introduction of new telehealth item numbers?	Sequential exploratory mixed methods study. Provider survey through PHNs Qualitative interview study, with GPs, allied health providers, mental health providers and specialists delivering telehealth services	Some small local work on readiness https://www.wqphn.com.au/uploads/documents/WQPHN%20Publications/WQPHN_Telehealth-care_CSP_Survey_Inforgraphics_A4_May2020_V2.pdf
Practice and system level outcomes	Item number provided by usual provider or alternative provider Mix of services provided Quality of care Referrals for ED/after-hours care (+/- transfer)	What is the role of telehealth in innovative and integrated PHC centered care in rural and remote areas? Does the service mix change if practitioners do not need to be close to the patient?	Answering these questions requires a longer-term study. Multiple case study approach of longer term impact of telehealth implementation.	Second phase

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	Number and range of local service providers (pre and post implementation)	Does the use of telehealth lead to more or less referrals, emergency care on site or with transfer? Does the use of telehealth by specialists for rural patients improve or degrade continuity of care and patient relationship with their GP? How does it impact on end of life decision-making? Does it matter if telehealth service is managed by those not familiar with the patients (flying squad) or local range of services? Does telehealth provide a tipping point for loss of other services? -particularly in the regional specialist space?	Five to six purposively sampled regions, representing a range of contexts/ruralities. Quantitative data collection, supplemented with interviews with HCPs and regional managers.	
Quality of care outcomes-including a cost-benefit analysis	Item numbers billed and duration Cost-benefit Potentially preventable hospitalization rates by region Age-standardized mortality rates Consider intermediate indicators reflection control of chronic diseases	What is the impact of new telehealth item numbers on all elements of quality of care? How does this vary in different contexts? What factors affect the acceptability, sustainability and reach of telehealth services as an integral part of the broader health care system? What training, regulatory and technical factors need to be considered to optimize this?	Requires a much larger prospective comprehensive outcomes and impact evaluation. Could be established to guide ongoing implementation. May need further provider and client survey as part of this evaluation.	Second phase