Building on the momentum: Sustaining telehealth beyond COVID-19

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Abstract

The current coronavirus pandemic (COVID-19) has resulted in tremendous growth in telehealth services in Australia and around the world. The rapid uptake of telehealth has mainly been due to necessity – following social distancing requirements and the need to reduce the risk of transmission. Although telehealth has been available for many decades, the COVID-19 experience has resulted in heightened awareness of telehealth amongst health service providers, patients and society overall. With increased telehealth uptake in many jurisdictions during the pandemic, it is timely and important to consider what role telehealth will have post-pandemic. In this article, we highlight five key requirements for the long-term sustainability of telehealth. These include: (a) developing a skilled workforce; (b) empowering consumers; (c) reforming funding; (d) improving the digital ecosystems; and (e) integrating telehealth into routine care.

The COVID-19 pandemic has resulted in a rapid increase in telehealth use globally. Since the beginning of the pandemic, the UK has seen a rapid expansion in videoconsultations (1000% increase in Scotland during a two-week period in March).[1] Similarly, in Australia, the proportion of consultations provided by videoconference increased from 0.2% in February 2020 (prior to funding changes) to 35% provided by telephone and videoconference in April 2020.

Many healthcare workers have used telehealth for the first time, and consumers have had the opportunity to receive care directly into their homes. This experience has highlighted both the benefits and the challenges of delivering care via telehealth.[4–6] At large, the expectations on how care can be provided are shifting and an opportunity now exists to redesign our healthcare system. Consequently, it is timely and important to consider the role that telehealth will play in the future delivery of healthcare.

The broader use of telehealth during COVID-19 has exposed important gaps in the readiness of health services to deliver telehealth on a routine basis. These include knowledge and capacity gaps within the current health workforce, unsustainable funding arrangements, limited telehealth and system interoperability, and data sharing challenges.[7] Solutions are required to reduce these issues so healthcare providers can appropriately design their services. Further, governments and other funding agencies require guidance on how telehealth should be financed and regulated for the future.

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In order to sustain the use of telehealth during and beyond the COVID-19 pandemic, we outline five key requirements. These requirements are based on the most common barriers and enablers reported in the telehealth literature; a selection of which were articulated in a recent report on the role of telehealth during COVID-19[6] and include: (a) developing a skilled workforce; (b) empowering consumers; (c) reforming funding arrangements; (d) improving the digital ecosystems; and (e) integrating telehealth into routine clinical workflows. These recommendations are summarised in Table 1.

Develop a workforce skilled and competent in using telehealth

Providing care via telehealth requires additional skills and appropriate support.[8] COVID-19 has highlighted that a large proportion of the workforce has not been trained in how to deliver care via telehealth.[9,10] The rapid rollout of telehealth demanded creative models of training and support to ensure staff develop the necessary skills to deliver telehealth services.[11] For instance, within a three-week period, Duke Private Diagnostic Clinic in the USA implemented a telehealth call centre which supported the delivery of telehealth services through a train-the-trainer telehealth-skills programme. The programme enabled 1300 health professionals to become telehealth-ready and within four weeks the volume of telehealth consultations increased from $< 1\%$ of total visits to 70% of total visits, allowing more than 1000 video visits per day.[11]

Following the COVID-19 pandemic, we anticipate higher rates of telehealth to continue to be delivered compared to pre-COVID times. Evidence suggests that the more clinicians use telehealth and perceive it as useful, the more likely they are to continue to use it.[12,13] However, early analysis from the USA suggests that the rapid increase in telehealth use that occurred during COVID-19 is now steadily declining.[14] In part this is likely due to certain in-person services which were originally put on hold during COVID-19 (e.g. imaging, cancer care) recommencing since the early onset of COVID-19. Another reason that clinicians may be reducing their use of telehealth is that they lacked prior training and were not ready to adopt telehealth in their clinical practice. The development of a skilled workforce needs to focus on both current and future health workers.[15]

Provide ongoing technical support and staff training

Access to ongoing technical support and training is necessary to support staff with the use of telehealth technologies. Careful selection of accessible and easy to use systems will also be crucial in maintaining staff willingness and engagement with different models of care. This transition period from our current crisis with COVID-19 to a sustainable model is an ideal time to focus on training and ensuring the use of best practices.

Consider professional associations accreditation for recognised training

Support and skill enhancement through suitable qualifications and accreditation will strengthen the workforce of the future. Telehealth competencies should be required to ensure the current workforce maintain their skills and the emerging workforce develop those skills. Services may consider formalising staff training through suitable qualifications and accreditation processes. Depending on the level of skill required, accreditation of staff may range from attendance of a telehealth workshop to multi-week micro-credential courses to post-graduate courses.[16] Additionally, at the service-level some organisations are seeking independent evaluations of their telehealth service to ensure they are meeting consumer, regulator and funders standards.[17]

Update discipline-specific guidelines to include guidance around telehealth

Clinical practice guidelines and professional resources need to be reviewed and updated to include guidance around telehealth use. Examples of telehealth guidelines (including general telehealth standards and profession-specific guidelines) are available through organisations such as the American Telemedicine Association,[18] the International Society for Telemedicine and eHealth, and the Australasian Telehealth Society.[19] National professional groups and associations play a critical role in this process and should ensure appropriate resources are available to support responsible use of telehealth. For example, this approach has been taken to develop national teledermatology guidelines in Australia.[20]

Build telehealth skills into university and other health training curricula

Universities and other health worker training facilities should ensure future health professionals are proficient in telehealth skills by incorporating telehealth use in their course curricula.[21] To build the competency and confidence of the future workforce, telehealth modules should be incorporated into clinical degrees such as the telehealth competency course being developed by the Association of American Medical Colleges[22] and

the elective subjects offered to medical, nursing and allied health students at The University of Queensland in Australia.[23]

Empower consumers to advocate for telehealth

Public awareness of telehealth has increased since the beginning of the pandemic. For many, this has been a positive experience. For example, an Australian consumer survey reported more than 80% of participants considered their telehealth service to be excellent or good quality.[24] Further, a recent study on the perception of telehealth before and after COVID-19 demonstrated overall satisfaction with care delivered by telehealth.[25] For others, however, the rushed nature of the transition and technology issues may have resulted in a less than ideal introduction to telehealth. The consumer needs are central to reforms in the health sector.

Build partnerships with consumer groups and align advocacy efforts

Given their experience with telehealth during the pandemic, many consumers expect telehealth to be an option in particular for low-acuity problems or as a supplement to in-person visits. Harnessing these consumer expectations and determining which aspects of care they are likely to benefit from the most given the alternate delivery models, is important. This may be achieved through partnerships with established consumer groups. Healthcare providers also need to be cognisant of a person's digital and health literacy when customising care, to ensure the 'digital divide' does not result in vulnerable population groups becoming further disadvantaged. Consumer groups are critical for sense-checking information provided about telehealth and developing inclusive strategies for vulnerable population groups (e.g. including a support person in the appointment to facilitate the technology aspect).

Capture routine data on patient experience and self-reported outcomes

Patient experience is frequently routinely captured through patient-reported outcome measures (PROMS)[26] and patient reported experience measures (PREMS). These administrative datasets and clinical registers must add the modality of care (e.g. in-person, videoconference, telephone) to enable evaluation of how the modality of care impacts patient experience and self-reported outcomes. In services, were PROMS and PREMS are not routinely collected, mechanism needs to be developed to support this.

Reform funding to focus on high-value care

To reduce COVID-19 transmission and enable care to be provided at a distance, many payers either introduced telehealth reimbursement or eased restrictions on existing remuneration arrangements. For example, China's national health insurance agency agreed to cover the cost of telehealth.[1] In the USA, the Centres for Medicare and Medicaid Services temporarily relaxed a range of regulations to enable maximum flexibility in telehealth-delivered care such as allowing beneficiaries from any geographic area, delivery of teleconference via smart phones and some services to deliver care by telephones.[28,29] Similarly, in Australia, the government's public health insurance scheme (Medicare) relaxed geographical constraints on which patients were entitled to reimbursement for videoconsultations and introduced payment for telephone consultations for the first time.[30]

These sweeping but temporary financial reimbursements paved the way for the tremendous growth in telehealth use. To maintain telehealth activity, sustainable funding models are needed beyond the initial temporary measures.[31]

Funding measures should be used to drive broader, value-based healthcare reforms

It is key to include patients in the design of these models to ensure that they reward overall clinical outcomes and more person-centric care.[27] Calls for sustained funding[32] are mainly aligned with the continuation of temporary COVID-19 reforms. While these reforms were critical in the short-term, simply making these changes permanent may not be the best strategy for the long-term. Concerns have been raised that COVID-19 telehealth funding schemes may have resulted in over-servicing (e.g. doctors requesting multiple appointments rather than providing repeat prescriptions).[33] Another expressed concern is that such payment strategies will facilitate the entry of large telehealth corporations threatening local healthcare providers and leading to greater segmentation of care.[34] When the funding over compensates for the effort required to provide telehealth, there will be increased risk of misuse.

Broader funding reforms should be considered that involve alternatives to the fee-for-service model, for example, capitation or value-based payments.[35] Payment via capitation shifts the focus to clinical and patient-centred outcomes and high-value care, and

gives clinicians the flexibility to use whichever tele-health modality is best suited for the patient's needs. A sound funding model will have reimbursements commensurate with the effort and skill required to provide the consultation.[36] These models may also lead to additional reforms such as increasing the role of a lower cost workforce such as nursing and allied health professionals. Further, these reforms should incentivise system improvements that will benefit patients and promote continuity of care.

Funding reforms need to be inclusive of the various forms of telehealth

Some funding models, such as the reimbursable tele-health items in Australia,[30] limit telehealth use to videoconferencing and telephone and pay for them equally. There are two main issues with this approach. First, early analysis demonstrates that within the Australian context, the telephone has been heavily favoured over videoconsultations.[2] While telephone-based interventions can be highly effective in some clinical circumstances[37] (especially in regard to triaging[38] and the management of chronic disease[39]), videoconsultations generally improve diagnostic accuracy and decision-making accuracy when compared to the telephone.[40] As such, videoconferencing visits should be paid at a higher rate to encourage greater use.

Second, the focus on phone- and videoconsultations only restricts other telehealth models such as store-and-forward, remote patient monitoring and group consultations. These alternate models of care are particularly useful for enhancing the long-term management of chronic conditions,[41,42] encouraging peer support,[43] and supporting evidence-based innovations such as tel-edermatology that uses a store-and-forward approach.[44] This is critical as many countries face aging populations with growing rates of chronic conditions.

Improve the digital health ecosystem

With the sudden transition to telehealth, the variation in technology infrastructure across countries and within countries has become apparent. Populations with greater access to broadband and hardware such as mobile computers and/or tablets, software licences that support videoconferencing and peripheral devices such as cameras and microphones, were able to adapt to videoconsultations. Conversely, countries such as Italy did not have the required hardware and technical resources to make this shift.[1] In Australia, many general practitioners have largely relied on the telephone over other modalities such as videoconferencing.[2] The lack of suitable infrastructure and/or familiarity with

using videoconferencing platforms (on both patient and provider-end) are likely reasons for limited uptake of videoconsultations. Further, without long-term funding strategies practitioners are unlikely to make the up-front investment in technology.[45]

Develop national information technology (IT) infrastructure to support telehealth

To combat these issues, some countries such as Sweden[46] are lobbying government for increased tele-health infrastructure. Partnerships between medical associations and videoconferencing providers aim to increase access to appropriate software among providers. For example, in the UK, the Attend Anywhere service has partnered with the National Health Service (NHS) provider 'Involve', accelerating adoption of videoconsultations. The partnership enables 24/7 IT support for clinicians adopting the Attend Anywhere model. In Australia, the Government has funded the telehealth technology company Health Direct to provide a videoconsultation service option for general practitioners.[47] When brokering these partnership, health services should consider how much administrative support is required to run clinics via telehealth, and include this within budgeted costs of running services remotely. Additionally, these solutions need to be embedded within larger whole-of-system strategies that includes appropriate networking and facilitates public access to high-speed internet and appropriate technologies so that population groups with limited resources (e.g. low socio-economic status, geographically remote) are not further disadvantaged.

Improve the interoperability between systems

To deliver safe and effective care remotely via telehealth, healthcare providers need convenient access to patient medical records, including information on medical history, medications, and test results. Further, efficient use of telehealth requires services to connect with patients (e.g. in their homes, workplace or residential aged care facility) and retrieve their medical information from other service providers involved in their care (e.g. hospitals, primary care and community-based services). The ease in which this can occur varies greatly between countries. Asia's early success in combating the pandemic was reported to be due in part to the agility in which the delicate balance between laws, privacy and public health can be navigated.[48] In many instances, the COVID-19 experience has exposed logistical problems that make the use of telehealth more cumbersome than it should be. Countries now need to consider whether data sharing laws can be relaxed whilst still ensuring preservation of personal

information protection. Moving forward, countries need to focus on improving the digital health ecosystem and shifting activities online (e.g. ePrescribing, eReferrals). Health services require support to design their services in a way that is compatible with these innovations.

Potentially this will involve cloud-based platforms that enable scheduling, electronic referrals, clinical document exchange as well as virtual meeting rooms and billing. Additionally, electronic health records increase the adoption of telehealth as they enable the efficient exchange of patient and treatment information[49] and allow providers to access and share digital copies of patient information across the system, improving the continuity of care and reducing redundancies in treatment.

Set targets

The UK was more prepared than most countries to scale telehealth. In part this was because the health system was already working towards a 10-year plan based around a 30% delivery target for clinical appointments to be delivered by telehealth by 2023.[50] Having a system-wide telehealth plan and clear targets for telehealth uptake meant the system was able to expand. This has included a national rollout of technology equipment with approximately 10,000 laptops deployed across England with a similar number approved for distribution.[51] Other countries should follow suit by setting clear targets and developing whole-of-system telehealth plans. As proposed by Scott and Mars[52] a whole system approach is best achieved through a comprehensive e-health strategy that takes into account contextual considerations, known barriers and addresses prioritised health needs.

Integrate telehealth into routine care

Develop clear implementation plans

The long-term sustainability of telehealth relies on implementation planning to ensure effective integration of telehealth within complex health systems. As described by Professor Trish Greenhalgh 'don't think of [telehealth] as installing a technology; think of it as improving a service, and address the organisational, logistical, cultural changes and work flow issues'.[53] Organisations wishing to maintain and enhance the delivery of telehealth services beyond COVID-19 should embed an implementation strategy into their operation plans, and ensure that these requirements are adequately funded.[54]

Table 1. Recommendations for telehealth sustainability beyond the COVID-19 pandemic.

Develop a workforce skilled and competent in using telehealth
- Provide ongoing IT support and staff training
- Consider peak body accreditation for recognised training
- Update discipline-specific guidelines to include guidance around telehealth
- Build telehealth skills into university curricula

Empower consumers to advocate for telehealth
- Capture routine data on patient experience and self-reported outcomes
- Build partnerships with consumer groups and align advocacy efforts

Reform funding to focus on high-value care
- Consider capitation or value-based funding mechanisms
- Ensure reimbursement is commensurate with the effort and skills required
- Include mechanisms for remote patient monitoring and store-and-forward modalities for care to be reimbursed

Improve the digital ecosystem
- Develop national IT infrastructure to support telehealth
- Improve interoperability between health information and communication systems
- Set targets based around comprehensive system-wide strategies

Integrate telehealth into routine care
- Develop clear implementation plans
- Integrate telehealth into clinical workflows
- Maintain staff willingness by developing a clear vision and a sense of ownership

Integrate telehealth into workflows

Initial support to integrate telehealth into workflows mitigates the risk of extra workloads resulting from inefficient processes and is beneficial for the long-term adoption of an effective telehealth service.[55] This may involve processes such as mapping (e.g. with diagrams or flowcharts) the current activities that occur within a service. Through discussion with clinicians, administrative staff and consumers, services may reflect on the best processes to meet their service aims. This may result in redesigning a service that can integrate both telehealth and facility-based models of care.

Consider how to maintain staff engagement with telehealth

Clinician willingness and acceptance can be a major barrier to telehealth uptake and sustainability.[10] During COVID-19, we've seen clinicians willingly change practice to keep both their patients and themselves safe. However, once the immediate threat has passed, it is unclear how clinician views might change. Maintaining staff willingness to use telehealth

is in part reliant on ensuring telehealth is as simple and easy to use as possible, aligns with clinical workflows and is appropriately reimbursed.[56] Additionally, key factors associated with long-term success are ensuring staff have a clear and realistic vision of the telehealth aspect of the service, a sense of ownership and efficient processes for managing service activity.[54] Telehealth 'champions' (people who advocate for telehealth and encourage others to try it) are also important to support this work and promote future use of telehealth.[57] However, services should not rely on the enthusiasm of individuals but rather build more sustainable, long-term strategies.[57] Consumer feedback can be used to highlight the personal and clinical benefits of telehealth. Lastly, sharing telehealth success and failures between services such as via communities of practice may help clinicians more efficiently implement telehealth models of care.

When the initial disruption of the pandemic eases, and we return to business as usual in the wake of COVID-19, a critical juncture lies ahead: return to previous care models or create the 'new normal' with telehealth firmly embedded as an integrated part of care delivery. The latter requires considered reflection about what has and has not worked in the past, and proactive action from consumers, clinicians, health services, clinical associations and government. Moving forward, we must be prepared for change, aware of the benefits and limitations of telehealth, and align clinical training, guidelines, remuneration and technological integration accordingly. Innovation, co-ordination and willingness willingness to practice telehealth were cruical to enable health systems to adapt to COVID-19 and should continue to play an integral role beyond the pandemic and for any future pandemics that arise.

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