

Pushing the boundaries: Using telehealth to improve regional access and care

Child health inequities are differences in health, development and wellbeing that arise due to a child's social, geographic or economic circumstances. They are unfair, unacceptable and avoidable.

(CSDH, 2008; Goldfeld, Hiscock, & Dalziel, 2019).

This Policy Brief highlights the opportunity to use existing services more effectively to embed secondary and specialist paediatric expertise in regional primary care via telehealth. It has the potential to enhance the quality of care, provide more equitable access to paediatric expertise in regional and rural Australia, enhance the skills of clinicians and practitioners, and increase the confidence of providers and parents in care closer to home.

Why is this issue important?

All Australian children should have equitable access to the services and support they need to thrive and meet their potential, no matter where they live or the economic circumstances of their families (Uchitel et al., 2019). This is recognised in the goals of Australia's National Action Plan for the Health of Children and Young People 2020-2030: to ensure that Australian children and young people - from all backgrounds and all walks of life - have the same opportunities to fulfil their potential, and are healthy, safe and thriving (Australian Government, 2019).

Key messages

- Children living in remote and regional areas experience poorer health outcomes than their urban peers.
- Access to affordable, local and timely quality health care is one of the key drivers of differential outcomes for rural and regional children.
- Embedding specialist paediatric expertise in primary care via telehealth could improve efficiency, access and quality of care for regional and rural communities.

National health care systems aim for equity as 'a fundamental element of quality' (Asaria et al., 2016). Despite this, analysis of Australian data indicates that Medicare expenditure for children 0-11 years of age favours those in higher socioeconomic groups, while younger children and those from lower income families receive less spending on specialist care (Dalziel, Huang, Hiscock, & Clarke, 2018).

The National Action Plan also identifies the opportunity for primary health care to be more patient focused, more accessible, and better able to support preventive health. Effective primary care is critical because equitable high quality, locally designed health care provided by a well-trained and supported primary care workforce is regarded as the best way to ensure population health (WHO and UNICEF, 2018).

This Policy Brief proposes a model of care that seeks to enhance regional care by embedding secondary and specialist paediatric expertise into primary care using telehealth.

Telehealth is the use of digital information and communication technologies to deliver health and health-related services remotely. Telehealth funding has been available to people outside major cities since 2011, but prior to the pandemic, uptake has been slow and patchy. The widespread adoption of telehealth in 2020 provides an opportunity to realise the potential to deliver more equitable outcomes in a range of circumstances (Duckett, Mackey, Stobart, Swerissen, & Parsonage, 2020).

Key concepts

Primary health care

Primary health carers provide a first point of contact with the health system. Primary health care covers health care that is not related to a hospital visit, including health promotion, prevention, early intervention, treatment of acute conditions, and management of chronic conditions. This includes health care delivered by general practitioners (GPs) and general practice nurses, child and family health nurses, Aboriginal community-controlled health centres and community based allied health.

Patient-centred medical home (medical home)

The patient-centred or family medical home (medical home) is at the heart of a coordinated health system that wraps around the patient. In Australia, this medical home is typically a general practice or Aboriginal health service. The approach facilitates a partnership between individual patients, their usual treating GP or other primary care provider, and an extended healthcare team, which enables better-targeted and effective coordination of clinical resources to meet patients' needs (Australian Medical Association, 2016; RACGP, 2016).

We must act early

Early childhood is a critical window for prevention and early intervention, and to ensure high-quality health and education resources are in place in order to reap benefits that last a lifetime (Black et al., 2017; Clark et al., 2020; Moore, Arefadib, Deery, Keyes, & West, 2017; National Academies of Sciences, 2019; Shonkoff & Richter, 2013; Sweeny, 2014; Zeanah & Zeanah, 2018). The health sector has a vital role in supporting early childhood development in the earliest years, particularly the first 1000 days which are most significant for brain development (Britto et al., 2017; World Health Organization, United Nations Children's Fund, & World Bank Group, 2018).

Regional and remote communities, however, face challenges in attracting skilled specialist workforces and delivering viable models of preventive health care (Arefadib & Moore, 2017; Australian Institute of Health and Welfare, 2019). This threatens to undermine their access to quality care. If regional families are required to travel substantial distances to access health care, they experience direct financial costs as well as opportunity costs that can affect the whole family (see Figure 1). These costs and other barriers can limit access to treatment, prevention and early intervention, and are often most significant for families who need the greatest support. Investigation of paediatric healthcare expenditure, shows that inequity in Medicare funding is particularly pronounced for specialist services for non-urban children and children aged under one year (Dalziel et al., 2018).

Barriers to access for Australian children in regional and remote areas contribute to poorer health and development outcomes compared to those of their urban counterparts (Arefadib & Moore, 2017). These gaps - which are growing - continue into adulthood and contribute to multi-generational cycles of disadvantage (Clark et al., 2020; Goldfeld, Wright, & Oberklaid, 2003; Shonkoff, Boyce, & McEwen, 2009).

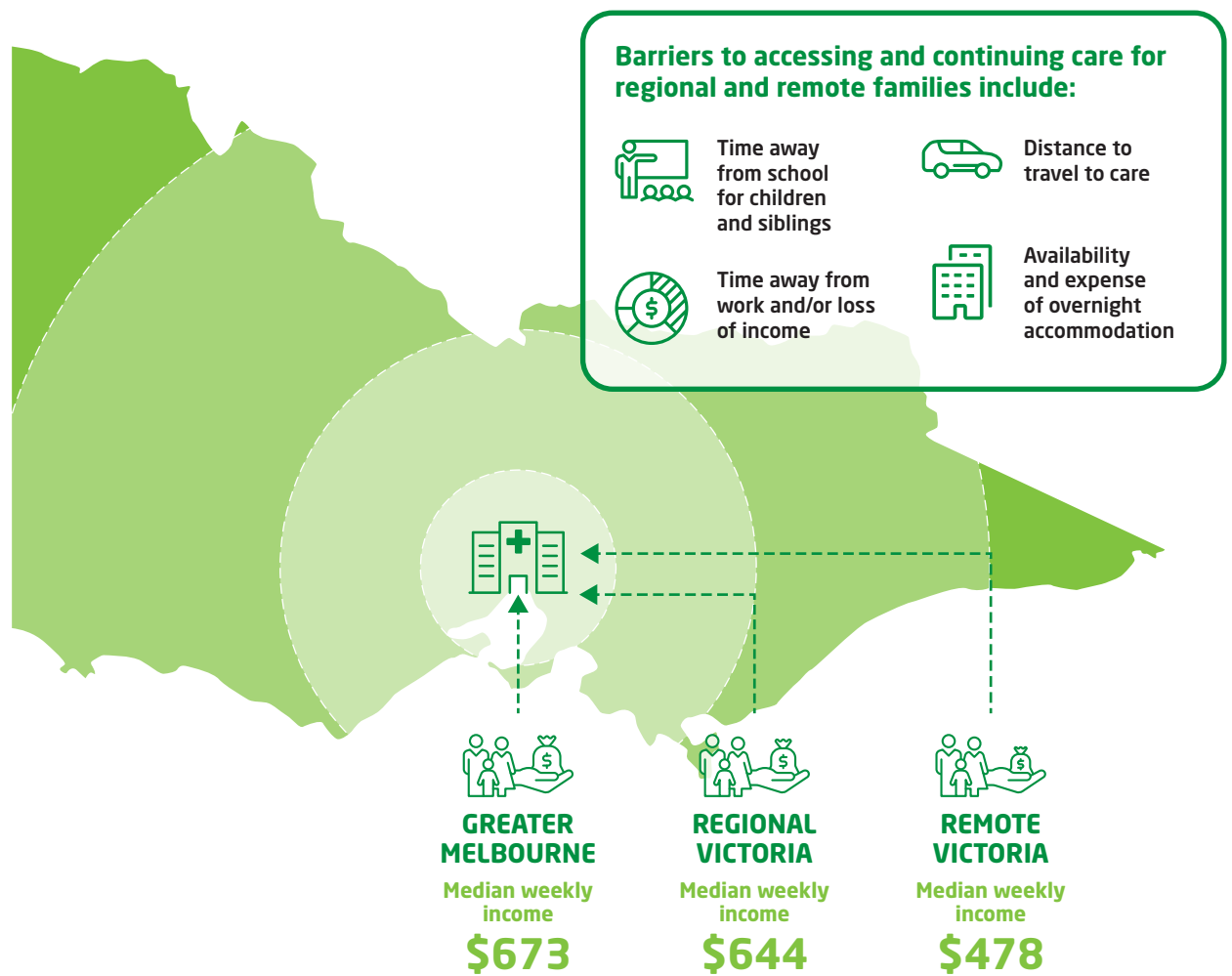


Figure 1: Barriers to accessing care for regional and remote Victorians.

Needs are changing

Over the past 20 years, Australia's population aged 0-4 grew by 23 per cent (Australian Bureau of Statistics, 2020). While this group make up an ever-smaller proportion of GP visits (Freed et al., 2013), they are the largest group attending Victorian emergency departments (Freed, Gafforini, & Carson, 2015). Over the last three years, referrals to Victoria's Royal Children's Hospital outpatient clinics increased by 100 per cent, with 12-18 months wait lists at some clinics (Hiscock, 2019).

Longer wait times, which may 'worsen the child's underlying condition, mental health, quality of life, school and family functioning' (Hiscock, Gulenc, Efron, & Freed, 2018), have occurred because the burden of chronic non-communicable disease management limits GP time to develop and maintain expertise in preventative paediatrics or form strong clinical alliances with other child-focused

community health professionals. This 'crowding out' of GP paediatric expertise is compounded by changing parent expectations and a reluctance of paediatricians to discharge children to care in the community (Fraser, Grant, & Mannix, 2016; Freed, Turbitt, Gafforini, & Kunin, 2017; Kunin et al., 2017; Turbitt, Kunin, Gafforini, & Freed, 2017).

Over the past two decades there has been a profound shift in the nature of paediatric presentations, from acute care to developmental and behavioural problems, including conditions such as anxiety and sleep problems (Hiscock et al., 2017). These conditions are often referred for specialist assessment and treatment even when they are best suited to clinical management by primary care providers and in environments where there are local systems to support families.

A foundation for change

Medicare items to support delivery of telehealth in regional Australia have been in place since 2011. This funding aims to remove access barriers to general and specialist medical services for those who live outside Major Cities, as defined by the Australian Standard Geographical Classification. Medicare subsidies are also available for clinical support provided by certain health professionals during a video consultation with a specialist – this is called a supported consultation¹. A supported consultation can be delivered by a GP, nurse practitioner, Aboriginal health worker or practice nurse who may or may not be physically located with the patient in order to provide the support. While the uptake of telehealth under these funding arrangements has been slow, the 2020 coronavirus pandemic has been a catalyst for rapid change in health care including widespread funding and adoption of video and phone-based appointments.

The Australian Government national primary health care reform² agenda and the National Action Plan for the Health of Children and Young People: 2020-2030 (Australian Government, 2019) acknowledge the importance of early intervention to prevent poor health outcomes. The Action Plan – delivered prior to the pandemic – includes a focus on professional development, digital solutions, home-based care, and best practice in remote support.

The Action Plan provides a policy context for transforming paediatric health care in Australia. This is supported by The Royal Australian College of General Practitioners (RACGP, n.d) that recognises the crucial role of the medical home for providing comprehensive, coordinated and holistic health care, and its potential for improving health outcomes for children and reducing pressure on secondary and tertiary settings. The National Rural Health Alliance (2019) and the Victorian Community Health Reform agenda (Victorian Government, 2020) also identify the need to embed place-based and person-centred approaches in local communities that address access barriers and utilise telehealth technology.

What does the research tell us?

The benefits of telehealth

Data collected in 2020 at The Royal Children's Hospital (RCH) indicates that telehealth specialist outpatient consultations are highly acceptable to families. Across Australia, when Medicare funding for specialist telehealth became unrestricted, the proportion of consultations rose from less than one per cent in February 2020 to 37 per cent in April 2020, with total consultations remaining stable (Snoswell, Smith, & Caffery, 2020). RCH data indicates that uptake was even higher for paediatric outpatient appointments.

Uptake during the pandemic confirms that telehealth is efficient, effective and acceptable in addressing a range of healthcare needs (Duckett et al., 2020). It is one of the most promising ways of reaching rural and remote families despite previously being underutilised (Arefadib & Moore, 2017; Iacono, Stagg, Pearce, & Hulme Chambers, 2016).

Telehealth has been used successfully – either on its own or to complement face-to-face services – for a range of development issues, diagnoses and treatment including: identification/diagnosis of autism (Juarez et al., 2018; Stainbrook et al., 2019); managing challenging behaviours (Hoffmann, Bogoev, & Sellers, 2019; Wacker et al., 2013); fragile X (McDuffie et al., 2016); cerebral palsy (Edirippulige et al., 2016); and hearing loss (Behl et al., 2017; McCarthy, Leigh, & Arthur-Kelly, 2019).

A number of studies have found that telehealth with children and their families is as effective (or even more effective) than traditional face-to-face interventions (Behl et al., 2017; McCarthy, Leigh, & Arthur-Kelly, 2020; Laurie A. Vismara et al., 2016).

Other benefits of telehealth include the ability to deliver behavioural interventions in naturalistic settings (Vismara, Young, & Rogers, 2012; Wainer & Ingersoll, 2015); to deliver and spread interventions where budget is limited (Little, Wallisch, Pope, & Dunn, 2018); and provide emotional, social and therapeutic support for parents and other caregivers (Chi & Demiris, 2015; Owen, 2019; Peyton, Hiscock, & Sciberras, 2019).

1 See <https://www.servicesaustralia.gov.au/organisations/health-professionals/services/medicare/mbs-and-telehealth>

2 https://www.health.gov.au/sites/default/files/australia-s-long-term-national-health-plan_0.pdf

The benefits of embedded specialist care

The opportunity and appetite to strengthen primary care systems has been demonstrated in the UK Connecting Care for Children initiative and the Strengthening Care for Children (SC4C) pilot. The SC4K pilot paired paediatricians with primary health providers in North Western Melbourne to deliver co-consultations and peer-to-peer learning (Hiscock et al., 2019). This approach was acceptable to GPs as well as families, and was cost effective in diverting families from unnecessary referrals and prescriptions (Hiscock et al., 2020; Montgomery-Taylor, Watson, & Klaber, 2016). The benefits of embedding secondary and specialist paediatric expertise within primary health settings included:

- enhancing the **quality** of primary care
- improving **access** to paediatric specialists
- greater **collaboration** between primary and secondary care physicians
- greater **continuity** of care
- increasing the **confidence** of providers and families in GP care
- **reducing travel, disruptions and cost** to families.

A model of care that embeds specialist support provides a foundation for high quality care in a family-centred medical home where the GP or other trusted primary care professional coordinates health care with an extended

healthcare team (see Figure 2). The supported consultation for specialist appointments offers continuity of care and an opportunity for primary health providers to practice more confidently in areas of health care they may not be regularly exposed to (Knight et al., 2016). It could also help overcome a reluctance of paediatric specialists to discharge children.

It is currently possible to remotely embed paediatric clinicians in primary health using telehealth for supported consultations and begin to realise the benefits for clinicians and patient care. The model of care provides the benefits of telehealth, the benefits of specialist knowledge and the continuity of care from primary care providers who can continue to provide person-centred, comprehensive and coordinated health care to children and families in their communities.

Telehealth may not be suitable in all instances or when a particular physical examination or assessment is required, but when it is conducted in a supported consultation via a trusted local primary care provider who has knowledge of the child and family, many limitations can be overcome. With patient consent, the model can also facilitate the involvement of other family members, health professionals or interpreters where required. Hybrid models that combine some face-to-face support can also be used to maintain relationships or at key points in a diagnostic or treatment process.

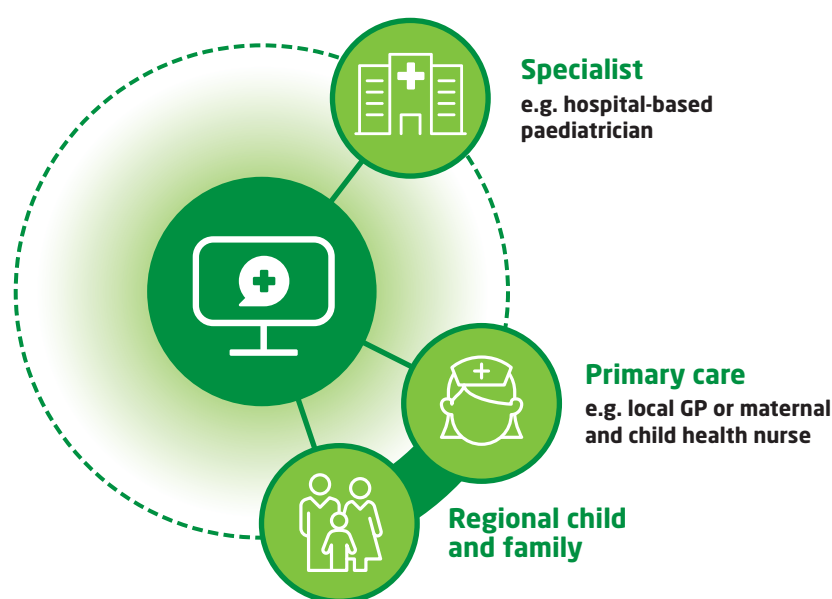


Figure 2: Embedding specialist care in primary health / telehealth supported consultations



In the Wimmera Southern Mallee, embedded paediatric telehealth is being trialled with maternal and child health nurses. This trial offers families easy access to paediatric expertise, relieving the anxiety of long wait lists, family disruption and travel costs, and gets treatment plans in place early. Collaboration is enhanced with case study seminars to share practice, support peer-to-peer learning and problem solve with other services. The paediatrician reports 'this is best medicine I get to practice. I work with skilled professionals who know the families and the local system, I receive high quality referral information and I know, that before, during and after the consultation, there is a skilled and trusted professional providing high quality expertise and support for the family in their own community. As we learn together, we establish professional relationships that support real time collaboration and connected communication, so families get consistent messages with no delays.' (Dr Billy Garvey, RCH Paediatrician)

Optimising telehealth

Many problems of access to specialist care for regional families could be resolved through telehealth supported consultations via a local primary health professional who has access to appropriate technology, reliable connection, an established relationship, and access to a patient's history and established local referral networks. In partnership with a specialist, local providers can also perform physical examinations and coordinate paperwork, treatment, referrals, assessments, pathology and facilitate triage if necessary.

For these supported consultations to be successful, a number of factors need to be in place. Telehealth requires safe spaces, good clinical preparation and fast reliable data. While families may value the opportunity to engage

in telehealth from their own homes, inadequate access to technology can be a barrier. This limitation may be partially addressed by making use of communications infrastructure in community settings such as libraries, schools and neighbourhood houses.

A shift to video-based clinical practice also requires training and preparation. Clinicians must have the appropriate skills, technology and physical environment, with suitable appointment and billing processes in place.

In order to realise the benefits of telehealth for delivering efficient, effective, and affordable paediatric healthcare services, policy needs to support the necessary technical, administrative, and operational infrastructure as well as support clinical practice (Wade, 2013).

Considerations for policy and practice

High quality, locally designed health care provided by a well-trained and supported primary care workforce is widely regarded as the best way to ensure population health (WHO and UNICEF, 2018). Specialist telehealth focused on resourcing and supporting primary care offers opportunities to improve the quality of local primary health in regional and rural Australia and enhance children's health and wellbeing.

Paediatric telehealth consultations could build alliances through a collaborative team-based approach, involving local practitioners and sub-speciality experts who can share knowledge and expertise, and work together to treat and manage patients in their own community. This model would link primary and secondary care, and create opportunities for specialists to support and grow the skills of primary care clinicians and develop relationships that would otherwise be difficult to establish.

Embedding this expertise within the primary care environments that form the family medical home could help bridge the gap between many disconnected patient services. Families would have greater choice and could lead their own care with the support of their local provider. This approach would increase access to care – wherever the family live – reducing unnecessary travel to cities to seek secondary care and minimise waiting lists, family disruptions and cost. This could improve continuity and quality of care through greater collaboration between health services and reduce the inequity in access to care frequently faced by rural and regional children.

From a funding perspective this model is possible right now but supportive policy and investment are required to build and sustain change. Attention must be given to:

- **Awareness:** promoting telehealth to primary health practitioners as an opportunity to enhance their skills, and as useful and efficient – particularly for triaging patients and directing them to the right service the first time. For caregivers and families, the benefits of managing conditions in their own community with the support of secondary care/specialists could be highlighted.
- **Acceptability:** informing caregivers/patients of the convenience and benefits of telehealth. Understanding the perspectives and needs of families and engaging them in the co-design of local telehealth models to support children's health and development.
- **Accessibility:** removing barriers to the implementation of telehealth by making it easy for patients and clinicians to navigate. Giving consideration to providing access to telehealth in places that families attend such as schools and community centres, and maintaining or extending Medicare-subsidised telehealth services.
- **Building capacity:** providing professional development and support to enable healthcare staff to develop the necessary technical, inter-personal and clinical skills, including the provision of peer support and education for working effectively with families and children. Identifying opportunities for building greater capacity within the maternal and child health service.
- **Infrastructure:** investing in improving and developing the technology required to meet the current and future needs of telehealth.
- **Research:** high quality research is required to evaluate the feasibility and acceptability of telehealth models of care that embed secondary and specialist expertise within primary health environments, and to ensure quality of care and equity of access.
- **Collaboration:** building on existing expertise, systems and strategies to support and enable participation in telehealth.

All children should have access to the services and support they need to thrive. In order for regional and remote families to reap the benefits of early intervention, we need local models of health care characterised by alliances between primary care providers and secondary and specialist services. An integrated model of paediatric care that embeds expertise and training for local primary care via telehealth offers an opportunity to enhance primary and secondary care to improve access and outcomes and take pressure off tertiary services.

The slow and patchy adoption of telehealth in Australia has been dramatically changed by the COVID-19 pandemic – it's fuelled an infrastructure and appetite for telehealth. We can keep people healthy while they are at home and should build on this momentum to use telehealth to provide more effective and timelier paediatric care that better meets the needs of children and families, and improves access for those who need it most.

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About the Centre for Community Child Health

The Centre for Community Child Health is a department of The Royal Children's Hospital and research group of Murdoch Children's Research Institute. For over two decades the Centre has been at the forefront of early childhood research and policy.

The Centre contributes to improving the health and wellbeing of children by identifying, synthesising and translating the best evidence to inform policy, service delivery, practice and parenting.

Our Policy Brief series aims to stimulate informed debate about issues that affect children's health development and wellbeing. Each issue draws on current research and evidence-informed practice.

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