



Technology use by, and to support, children and young people – a snapshot of the research evidence

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Background

The research outlined in the document was prepared by the Commissioner for Children and Young People's 2016-17 Thinker in Residence, Professor Jane Burns, held in two one-week phases – October 2016 and March 2017

The theme of the Residency was **Strengthening children and young people's mental health and wellbeing through technology and social media**, and the document provides some of the research and evidence base on which the program was based.

For more information on the 2016-17 Thinker in Residence, see Professor Burns' final Residency report, *Take Action Now*, available on the Commissioner's website www.cyp.wa.gov.au

Introduction

There exists a very strong evidence base supporting the role of technologies and the effectiveness and cost-effectiveness of e-mental health solutions, and yet that evidence is not necessarily translated to practice and policy.

Our report to the National Mental Health Commission, *Advice on Innovative Technologies in e-Mental Health*, outlined a system reimagined that is reoriented around the individual. It enshrines self-managed care, individually controlled data, and mass customisation to deliver a seamless pathway to the appropriate care for each person.³

Below is a snapshot of some of the evidence supporting the use of new and emerging technologies by children and young people, while acknowledging barriers in access and use.

Everyday use

Children and young people do not differentiate between the 'online' and the 'offline' world and, with the proliferation of smart phones and devices, technology is an integrated part of their everyday lives.

Internet use continues to change, "tweens' (nine to 12 years) usage patterns now resemble those of teenagers five to six year ago, and younger children's (five to eight years) usage is approaching that of tweens".⁴

Internet access of children and young people

- 79% of 5-8 year olds
- 96% of 9-11 year olds
- 97% of 12-14 year olds¹
- 99% of 16-25 year olds²

Broadband technology, easy-to-use software tools, gamification, artificial intelligence, wearable technologies and assistive technologies has seen a transformation from Web 1.0 (a static, one-way method of delivering information), to Web 2.0 (an interactive, participatory and collaborative approach that encourages self-expression and the building of online communities) to Web 4.0, or the 'Internet of Things' (the interconnection via the Internet of computing devices embedded in everyday objects, enabling users to send and receive data). This is a world that is rapidly evolving and increasingly global.

Young people use the internet to connect with others and engage in activities such as social networking, messaging, playing online games and emailing.^{5 6} The use of social networking sites increases with age, with children (eight to 11 years) more likely to connect with others via online games and those over 12 years using social networking sites.⁷

Within the Residency, discussions with Aboriginal leadership clearly debunked some of the myths and assumptions that young people who are Indigenous do not use technology. Researcher, Bronwyn Carlson, highlights the potential for social media to provide a strong sense of community and support for young people. Our own research into social networks highlights the role of technology in building communities of support, valuing participation and providing children and young people with a voice to discuss issues they care about; and the role they can play in suicide prevention. Aboriginal young people are avid users of social media, spending about 20 per cent more time on social media than other Australians their age, highlighting the important role of storytelling, digital content creation and advocacy.⁸

Technology and suicide prevention

While adolescence is a significant period where the risk of suicide is heightened,^{9 10} children and young people experience concerns regarding suicide, self-injury and self-harm. During 2012 and 2013, Kids Helpline responded to 10,033 contacts from children and young people who stated that suicide was their main concern and, as the National Children's Commissioner highlights, this is not representative of children and young people who need help but is based on those who are actively seeking help.¹¹

Australia has seen significant mental health reform however it is a stark reality that traditional modes of service delivery are failing to reach many children and young people. Despite significant awareness-raising activities focused on stigma reduction, young people still face numerous barriers to receiving care, including a lack of youth-friendly services,¹² geographical location and isolation, stigma associated with mental illness, and complex state and federal funding models.¹³ Various inquiries also make clear that some children and young people are disproportionately affected by intentional self-harm and suicidal behaviour, including those living in regional and remote areas of Australia and Aboriginal children and young people.^{14 15} As *Learning*

from the message stick: The report of the Inquiry into Aboriginal youth suicide in remote areas makes clear, more innovative, culturally safe approaches are required to address this significant issue.¹⁶

Why online?

Integral to suicide prevention is a public health approach that bridges young people's online and offline worlds. Young people are concerned about mental health¹⁷ and are using technology to proactively support each other (see for example [#zottiedottie](#) and [#yarnupforchange](#)). Disregarding this ingrained and powerful element of young people's daily socialisation and knowledge base significantly reduces the capacity of our communities and any service to make positive change.

Innovative use of technology provides an opportunity to reach children and young people outside of conventional methods and in a way that works for them. Children and young people describe the online space as an environment in which they feel safe, secure and in control. Our early research showed that the internet was accessible, anonymous, engaging and informative, and provided a space where young people can feel empowered and confident to talk about sensitive issues¹⁸ like depression.¹⁹ Other research highlights the role of technologies in areas such as sexuality or sexually transmitted diseases²⁰ and physical activity and nutrition.²¹

Social media is evolving quickly, often faster than the research that might help us understand its role in suicide prevention. A study by the Young and Well CRC in partnership with Dr Jo Robinson at Orygen outlines there are benefits for individuals and organisations to the use of social media for suicide prevention.²² From the perspective of individuals, positive sentiment was expressed at the ease of being able to share their experiences with others in a safe and supportive environment.²³ Organisations were found to be using social media primarily as a tool for promotion and networking purposes.²⁴

The increased engagement of mental health professionals with social media could see this online space serve as a meaningful adjunct to traditional care; allowing young users a flexible and accessible source of support that does not compromise the therapeutic relationship.²⁵ That said, work conducted by Dr Michelle Blanchard showed that service providers, mental health professionals and policy makers have grappled with the way children and young people use social media and social networking services like Facebook, and as a result have failed to capitalise on new and emerging technologies as a valuable tool.²⁶

It was originally imagined that the service gaps left by traditional modes of information, care and treatment could be filled by e-mental health platforms.²⁷ With the rapid proliferation of innovative technologies however, power is placed back in the hands of the young people using the service, giving them access to the care they

need at a time and place that suits them. Technology also allows for customised support services to be easily provided to groups that are more difficult to engage, for example, young men.^{28 29}

Increasing the reach of services and support networks

As the capacity of the internet grows with new services and updated technologies, it becomes better able to offer a practical medium for health behaviour interventions. For example, social marketing campaigns can now be disseminated to a large population online via social networking services, at a fraction of the cost.

There are a number of significant benefits associated with the use of social networking services including:

- delivering educational outcomes
- facilitating supportive relationships
- identity formation
- promoting a sense of belonging and self-esteem.

Furthermore, the strong sense of community and belonging fostered by social networking services has the potential to promote resilience, which helps young people to successfully adapt to change and stressful events.³⁰ The Young and Well CRC was a proactive partner with social networking giants, Facebook, Twitter and Google, as frankly they have the potential to reach large populations, at scale, and in a medium that resonates with young people. Careful consideration should be given to the amount of investment in media and marketing strategies designed to promote awareness. Australia's young people are psychologically literate, can identify the signs and symptoms of depression, anxiety and drug and alcohol problems and yet this knowledge has not translated to behaviour change.

Increasing mental health literacy and promoting early help-seeking

Online platforms for mental health information provision and service delivery allow young people (and those who care for them) to educate themselves, and establish support connections, to be accessed online or offline; the two spheres can coexist.³¹ There is a substantial opening for the sector to capitalise on the high technological and mental health literacy of young people, to invest in and create services that are designed to appeal to this generation. Good evidence exists that technologies can be used effectively in improving mental health and wellbeing,^{32 33} especially among young people.³⁴

Twenty per cent of those surveyed in the 2008 headspace National Youth and Parent Community Survey had personally experienced a mental disorder, alcohol or other substance misuse problem in the five years prior to the survey.³⁵ When asked about the sources of information they had used to assist with this difficulty, 21 per cent of

12 to 17 year-olds and 34 per cent of 18 to 25 year-olds reported that they had specifically searched the internet for information to help themselves. Variables that predicted using the internet as an information source included being female and using the internet after 11pm.³⁶

The same study found that while 78 per cent of young people aged 12 to 25 years felt that the internet had helped a little or a lot with a mental health, alcohol or substance misuse problem, 85 per cent would recommend it to a friend or family member and 94 per cent felt somewhat satisfied or very satisfied with the information they received. Additionally, 55 per cent of 12 to 17 year olds and 45 per cent of 18 to 25 year olds felt the internet provided the kind of information they needed.³⁷ The study found that young people's first step to sourcing information online was consistently a search engine rather than direct access to a website, but once 'googled', mental health and generalist websites were more popular than forums, bulletin boards and discussion or peer support groups. While general information and question and answer forums rated highly, anonymity, the availability of fact sheets, online journals and other people's stories did not.³⁸ Given the changing nature of technology, its pervasive nature, and the shift from information only to social connectivity it is critical to involve children and young people in designing service technology use to know if this is still relevant in 2017.

Self-guided interventions

Online interventions for a range of mental disorders and problematic health behaviours (e.g. depression, anxiety, smoking, weight) have demonstrated efficacy, and the number of programs available is growing rapidly.³⁹ For those experiencing mental ill-health, the strategic use of technologies can help to overcome barriers to help-seeking such as physical access, confidentiality and stigma.⁴⁰ Acceptance of the use of technologies for improved mental health is high, as many young people have an affinity with mobile phones and the online environment.⁴¹

Research indicates that information about depression and interventions that use cognitive behaviour therapy and delivered via the internet are effective in reducing symptoms of depression.⁴² The effects of these self-guided interventions are enhanced by the guidance of a therapist.⁴³

Self-guided interventions are more effective with the support of trained professionals.

For those wishing to improve their overall wellbeing, technologies can assist in promoting social inclusion, access to material resources and freedom from discrimination and violence.^{44 45} While positive results are seen from the use of self-directed e-health interventions, there is some evidence that these are most effective

if used as part of a stepped care^a model⁴⁶, with the support of a trained professional^{47 48} or as an adjunct to face-to-face treatment.⁴⁹

Several Young and Well CRC developed apps show promising results in the promotion of wellbeing and the management of stressful life events, for example 'Music eScape', 'Breakup Shakeup', 'Appreciate a mate', 'Goalzie' and 'Recharge'. Other apps include strength-based apps such as 'Smiling Mind' and apps listed on 'headspace.org.au' can teach children and young people about the benefits of mindfulness. These apps have been designed with young people using the principles of participatory design. iBobbly, the world's first indigenous suicide prevention app, was designed by Black Dog Institute with young Aboriginal people in the Kimberley and is now undergoing a national trial. The app aims to deliver evidence-based content and therapy in a culturally relevant way.

Barriers to access, the digital divide and the digital disconnect

Children and young people experience barriers in gaining access to technology and to mental health services, with some segments of the population more under-served than others.^{50 51} During the Thinker in Residence several disparities in access to internet or mobile phone-based technologies were discussed, including for children and young people living in rural, regional and remote communities, children and young people with a disability and children and young people with low English literacy levels, and the fact that cost can be a prohibitive factor.

"We need to think about technology as a basic human right. The biggest barrier for people with a disability is not disability, it is poverty"

(Justin O'Meara, Interchange, at Thinker in Residence event)

Access to 'bricks and mortar' mental health services

The barriers faced by young Australians in need of mental health services suggest a diversity of need, indicating any approach we do take cannot be a 'one size fits all'. For example, geographical barriers can limit access to services for people too young to drive, particularly in rural and remote locations where public transport is not available.^{52 53} Physical constraints can prevent access for young people living with disability and chronic illness.⁵⁴ Cultural barriers, such as language and communication difficulties, can complicate service access for Aboriginal and culturally and linguistically diverse (CALD) young people.^{55 56} The contact hours of services is

^a Department of Health (2016) [Primary Health Networks Mental Health Tools and Resources](#) defines stepped care as an evidence-based, staged system comprising a hierarchy of interventions, from the least to the most intensive, matched to the individual's needs. Within a stepped care approach, an individual will be supported to transition up to higher intensity services or transition down to lower intensity services as their needs change. Stepped care is central to the Australian Government's mental health reform agenda.

also a barrier to support, as young people are more likely to experience psychological distress after 11pm when mental health services are less available.⁵⁷

Parents and carers of children and young people with mental disorders also report barriers to accessing services. Within the second Australian Child and Adolescent Survey of Mental Health and Wellbeing (Young Minds Matter) survey parents of children (aged four to 11 years) identified accessibility (problems in getting to a service, not being able to afford it, not being able to get to an appointment) and issues related to mental health literacy (unsure if their child needed help, where to get help or thinking the problem would get better by itself) as the main reasons for not seeking help or not seeking more help. However, parents of young people (12 to 17 years) identified the main reason as the young person refusing help, not turning up for appointments or because the young person did not think they had a problem.⁵⁸

Access to digital mental health services

It is important to consider the role of technologies in achieving greater levels of health equity, as well as the inequities generated by barriers to access to technologies, known as the 'digital divide'.

Access to the internet has been linked to income, class, ethnicity, disability status, and levels of education.^{59 60 61} Metropolitan families with children under 15 years of age in higher income brackets are more likely to use computers and the internet, while groups who are less likely to have access are the unemployed, people with low incomes, people living with a disability and Aboriginal people.⁶² Consideration of structural factors therefore, is important in understanding how to remove barriers to internet access.^{63 64}

As children and young people are less likely to access physical services, the literature suggests that removing barriers to internet access can be useful in improving mental health outcomes for young people. Young people with mental health problems are less likely than adults to seek help from GPs or clinic-based services⁶⁵ and children (four to 11 years) with mental disorders less likely to use services than adolescents.⁶⁶ Recent studies demonstrate that young people prefer to access support online^{67 68 69} and that online services can transcend many of the barriers faced by traditional clinical services, such as temporal and geographical constraints. This research, combined with recent policy documents,⁷⁰ present a strong case for the potential role of mental e-health services in improving both access to services, and rates of usage by young people.⁷¹

A better understanding of how children and young people, parents and carers access support through the internet is important when considering how to improve equity of access and reduce the digital divide. One Australian study found that 43 per cent of young people at greater risk of mental health problems accessed the internet at

home, with libraries, schools, internet cafes, workplaces, and youth centres cited as other points of access.⁷² Studies in the US and Germany have found evidence of increased access to the internet through mobile phone usage in disadvantaged populations of young people, indicating the importance of mobile phone applications.^{73 74}

The use of social media to bolster social inclusion is also indicated by a study that found 57 per cent of young people creating online content using Web 2.0 platforms in the US belong to racial minorities.⁷⁵ Further research undertaken with young Australian men reported that those experiencing psychological distress were significantly more likely to seek mental health information through the internet, with 95 per cent reporting they were satisfied with information they received.⁷⁶ As such, it is important for any organisation to work with the children and young people who are their service users to understand their particular technology access and use.

The Youth Disability Advocacy Network (YDAN) and Disability in the Arts, Disadvantage in the Arts WA (DADAA) is to be commended for their work in fostering social inclusion and addressing the digital divide. Throughout the Thinker in Residence program, YDAN and DADAA outlined the variety of ways in which technology provides opportunities to have a voice, share their stories, connect with peers and, for some, enabling them to be members of communities that they otherwise would be excluded from, supporting their wellbeing as social connections are important to one's ability to cope with challenges to mental wellbeing.

DADAA in particular has had a long focus on addressing the digital divide for young people with disability, placing young people at the centre of strategies, empowering and customising approaches to those young people. For example, [touchpad training](#) considers how the person interacts with the device, what support they will need (e.g. will they operate with their hand, foot etc.) and what they enjoy doing. DADAA then partners with the young person to deliver information to support workers and families about the different technologies and apps that they use – empowering parents, carers and professionals.

“Technology is very important for mental health because you can connect and belong. When you feel that sense of belonging you feel a little bit happier about the world”

(YDAN representative at Thinker in Residence event)

Access constrained by service offerings

Service providers, mental health professionals and policy makers have grappled with the way children and young people use technologies and as a result have failed to capitalise on new and emerging technologies as a valuable tool. As noted previously, online interventions can be more effective when used with support from trained professional – thus, building the capacity of professionals to be able to leverage the

opportunity of technology in their practice is critical to support the wellbeing of children and young people, particularly those who are not accessing traditional modes of care.

The work of Dr Michelle Blanchard⁷⁷ indicates that professionals see a range of benefits to using technology with regard to mental health and wellbeing of children and young people. However, there is a disconnect between how professionals would like to use technology and the actual use of technology across health promotion, prevention, early intervention and treatment. Barriers to technology use can include:

- a lack of guidelines or policies to support safe and effective use of technologies
- a lack of awareness regarding which technology based strategies or approaches are most effective for children and young people under particular circumstances and
- a paucity of good technological infrastructure
- prohibitive policies, and
- unsupportive management.

These barriers are not dissimilar to those raised with me in discussions throughout my Residency. Professionals in Dr Blanchard's study and those working within the Thinker in Residence partner organisations expressed a desire and need for information that would help them make professional decisions about use of technology, and for organisational policy and infrastructure that enabled technology use. To effectively use e-mental health solutions, professionals requested:

- improved technology infrastructure
- policies which support the use of technologies
- access to resources which provide them with information regarding technology-based interventions and the evidence for their use training.

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