

May 2020

ABSTRACT

J Tieman

Digital health is evolving rapidly and provides a range of opportunities for its use within palliative care. Digital interventions could support improvements in care and assist with an increasing demand for palliative care. It is an increasing area of interest for health professionals, patients and the community as well as for policy makers.

Australia's technology use

ABS data shows that around 86% of Australian households have internet access with desktop or laptop computers and smart phones being common forms of connection¹.

Internet access is important because it is an increasingly important avenue for health information access and use. Google reports that around one in 20 Google searches are for health-related information². The profile of online health consumers includes not only patients but also family carers, relatives and friends as well as the public in general who may not have a specific health problem. This has led to an increasing interest in health seeking behaviours in the internet³. There is also interest in what affects consumer use of health technology⁴, and how digital technologies can help us understand and advance public health and population health initiatives⁵.

However, digital inclusion assumes that everyone should be able to make full use of digital technologies. The Australian Digital Inclusion Index 2019 shows that Australians with low levels of income, education, employment or in some regional areas are significantly less digitally included⁶. Technology development must address barriers such as price and familiarity and enablers such as usefulness and ease of use to support technology use and digital inclusion⁷.

Our digital health strategy

The Australian Digital Health Agency has been established by the governments of Australia with the intent of developing digital health capability

through innovation, collaboration and leadership. It undertook an extensive consultation to develop a digital health strategy. Australia's National Digital Health Strategy is predicated on the belief that digital information can transform the quality and sustainability of health and care. Importantly, in a life course approach to health needs, the strategy includes end of life as a social point where digital health could support outcomes.

Palliative care context

Palliative care is also increasingly using digital health in its care delivery and service practices. A recent editorial in Palliative Medicine highlighted three connected areas where digital technologies could have direct and immediate impact on patients and health professionals, namely, the use of electronic health records; the ability of patients and family caregivers to create, record, gather and share self-generated health data; and remote monitoring of symptoms⁸. A wide range of technologies have been used in palliative care studies including prototype websites, videoconferencing, email prompts, telemonitoring and SMS text messaging. Most studies used technology to provide information or education or for decision support. A smaller proportion used technology to assist with symptom assessment or management. The review authors noted digital health research in palliative care is emergent and that "scalable innovations are sorely needed to improve quality of life at EOL while reducing the costs of care"⁹. The need for more rigorous evaluation of telehealth interventions was echoed in Hancock et al's review of telehealth use in the UK¹⁰.

A scoping review of patients' experiences of telehealth in palliative home care suggests that the use of telehealth in palliative home care is feasible and could improve access to health care professionals. Patients seem to experience a genuine relationship with their health care professionals promoting feelings of being cared for and secure¹¹.

Phone apps have also enjoyed an increasing rate of development and use in palliative care. One review identified 46 palliative care applications targeting clinicians. The apps covered a range of purposes relating to clinical guidelines, advance care planning, training materials, and pharmaceutical tools, and platforms for distributing current palliative care news, articles, and opinions¹². A companion review focusing on apps for patients and family members identified 25 apps. The largest subcategory of these apps related to advance care planning while other apps looked at information provision around hospice, grief and bereavement, and end of life or legacy creation, enabling users to record messages for friends and family and make funeral plans¹³.

Into the future

As digital health platforms and applications develop, palliative care has access to an increasing range of digital health opportunities. It is difficult to imagine the rapidity and diversity of the digital health futures. The Medical Futurist website provides an overview of emerging topics such as 3D printing, AI, cyborgization, health sensors and trackers, space medicine and augmented reality. Palliative Care Australia's opinion piece on emerging technologies highlights the role of data at the individual and macro level in influencing medical forecasting and treatments. While clinical treatments will be informed by medical advances and technologies, the author notes that 'technology needs to be balanced with the counterforce of human contact and kindness together with the expertise to advise and guide people about what is best for them'¹⁴.

REFERENCES

1. Australian Bureau of Statistics (ABS). Household Use of Information Technology [Internet]. 2018 [cited 2020 May 11]; ABS cat. no. 8146.0. Available from <https://www.abs.gov.au/ausstats/abs@.nsf/mf/8146.0>
2. Ramaswami P. A remedy for your health-related questions: health info in the Knowledge Graph. 2015 Feb 10 [cited 2020 May 11]. In: Google. The Keyword [Internet]. Google. Available from: <https://www.blog.google/products/search/health-info-knowledge-graph/>
3. Turan N, Kaya N, Aydin GO. Health Problems and Help Seeking Behavior at the Internet. *Procedia Soc Behav Sci*. 2015 July 3;195:1679-1682.
4. Zhao JY, Song B, Anand E, et al. Barriers, Facilitators, and Solutions to Optimal Patient Portal and Personal Health Record Use: A Systematic Review of the Literature. *AMIA Annu Symp Proc*. 2018 Apr 16;2017:1913-1922.
5. Gamache R, Kharrazi H, Weiner JP. Public and Population Health Informatics: The Bridging of Big Data to Benefit Communities. *Yearb Med Inform*. 2018 Aug;27(1):199-206.
6. Thomas J, Barraket J, Wilson CK, et al. Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2018. Melbourne: RMIT University, for Telstra. 2018.
7. Kavandi H, Jaana M. Factors that affect health information technology adoption by seniors: A systematic review. *Health Soc Care Community*. 2020 May 7.
8. Payne S, Tanner M, Hughes S. Digitisation and the patient-professional relationship in palliative care. *Palliat Med*. 2020 Apr;34(4):441-443.
9. Ostherr K, Killoran P, Shegog R, et al. Death in the Digital Age: A Systematic Review of Information and Communication Technologies in End-of-Life Care. *J Palliat Med*. 2016 Apr;19(4):408-20.
10. Hancock S, Preston N, Jones H, et al. Telehealth in palliative care is being described but not evaluated: a systematic review. *BMC Palliat Care*. 2019 Dec 13;18(1):114.
11. Steindal SA, Nes AAG, Godskesen TE, et al. Patients' Experiences of Telehealth in Palliative Home Care: Scoping Review. *J Med Internet Res*. 2020 May 5;22(5):e16218.
12. Meghani SH, MacKenzie MA, Morgan B, et al. Clinician-Targeted Mobile Apps in Palliative Care: A Systematic Review. *J Palliat Med*. 2017 Oct;20(10):1139-1147.
13. MacKenzie Greenle M, Morgan B, Sayani S, et al. Identifying Mobile Apps Targeting Palliative Care Patients and Family Members. *J Palliat Med*. 2018 Oct;21(10):1380-1385.
14. Deerein M. What will emerging technologies mean for the future of palliative care? [Internet] 2019 Mar 28 [cited 2020 May 11]. Available from: <https://palliativecare.org.au/palliative-matters/what-will-emerging-technologies-mean-for-the-future-of-palliative-care>