

Bond University

Australian Journal of
Clinical Education



Volume 9

Issue 1

2021

2020 Year of the nurse: COVID-19 highlights nurses' use of digital health technology is a legitimate nursing function

Carey A Mather
University of Tasmania

Kathleen Tori
University of Tasmania

Follow this and additional works at: <https://ajce.scholasticahq.com/>



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 4.0 Licence](https://creativecommons.org/licenses/by-nc-nd/4.0/).

2020 Year of the nurse: COVID-19 highlights nurses' use of digital health technology is a legitimate nursing function

Carey A Mather,* Kathleen Tori*

* School of Nursing, University of Tasmania

The World Health Organisation declared 2020 the year of the nurse and midwife (International Council of Nurses, 2019). Nurses are actively contributing in many different capacities across all countries in the healthcare challenges that the COVID-19 pandemic presents (International Council of Nurses, 2019). Classified as frontline workers, nurses face significant risks responding to workforce surges to assist in healthcare delivery for the critically ill (Stokes-Parish et al., 2020). Despite being highly visible in social media the portrayal of nurses has been likened to that of 'superhero' status, and while generally perceived as a compliment, the distortion detracts from nursing professionalism (Stokes-Parish et al., 2020). Reframing the narrative to emphasise that nurses are highly educated and knowledgeable visible leaders, dexterous clinicians, teachers and compassionate patient advocates is essential (Stokes-Parish et al., 2020).

There is a causal relationship between nurse-patient ratios and the quality of patient outcomes as was highlighted in a recent review conducted by the New South Wales (NSW) Nurses and Midwives' Association (2017). Substantial evidence purports that better staffing results in more favourable patient outcomes (McHugh et al, 2021). Whereas insufficient nursing ratios potentially lead to increased negative consequences for patients (NSW Nurses and Midwives' Association, 2017), so too can lack of timely access to up-to-date information via multimodal digital health technologies. Both sufficient nurse-patient ratios and lack of nurses' access to digital health technologies are of concern to the nursing profession and can adversely affect patient outcomes (McHugh et al., 2021; Lasater et al, 2020). This concern is not only during the recent pandemic.

The severity of the COVID-19 pandemic has created a surge in patient admissions, and as a result, nurse-patient ratios have been reduced globally (Carbajal, 2020). Countries with the highest nurse-patient ratios, such as Germany, with 13.2 nurses per 1000 population have the lowest death rate from COVID-19 (Bogossian et al., 2020), supporting this causal relationship.

While there is no doubt the value of nurses and nursing practice has been highlighted as nations seek to meet increased healthcare demands with strategies including the utilisation of pre-licensure nursing students, reinstatement of non-practising and retired nurses to combat this highly infectious disease (Australian College of Nursing, 2020), the pandemic has also highlighted resourcing concerns. Alongside the need for a skilled workforce to meet the global shortfall of nurses (International Council of Nurses, 2019) this pandemic highlights the current deficit regarding access to, and the sanctioned use, of digital health technology by nurses and students seeking and retrieving information at point of care (Mather et al., 2017).

The rapid spread of COVID-19 has been well documented, however, the research is primarily medically focused (Zeng & Zhen, 2020). Research relates to disease epidemiology, virology, and mental health consequences for healthcare workers (Liu et al., 2020; Rodriguez-Morales et al., 2020). The use of emerging technologies such as telehealth by medical practitioners is also emphasised (Greenhalgh et al. 2020). Comparatively, there is less research from a nursing perspective that could provide valuable insights regarding nursing, recipients of care and significant other interfaces (Chen et al., 2020; Mather et al., 2018). There is also a distinct lack of the voice of nurses as clinical leaders as they are silenced, or are viewed more as a "commodity and a transactional element" rather than being included and viewed as principals in managing the pandemic (Daly et al., 2020). Concurrently, the emergence of COVID-19 further highlights the known lack of preparedness of nurses in utilising digital health technology at the point of care (Mather et al., 2018). The inability to access and use digital health technology at the point of care is perpetuated by lack of governance and organisational and professional leadership (Mather et al., 2018).

Nurses are the largest proportion of the health and social care workforce (Stokes-Parish et al., 2020) and are inadequately prepared for digitally augmented healthcare environments. Inability to access digital communication in real-time may lead to confusion, distrust and fear, and potentially jeopardise quality and safety of healthcare service delivery, or potentially increase risk to frontline or student nurses in practice (Chen et al., 2020). Additionally, nurses have not been prepared for the digital communication demanded by recipients of care and their relatives while placed in isolation (Waka, et al., 2020). The authors strongly recommend that nurses are

educationally prepared to access digital health technologies including those communication platforms hosted on mobile or portable devices or by using telehealth. Education needs to include learning about digital professionalism and how use of digital health technologies will augment seeking and retrieving information and influence clinical decision making.

It is acknowledged that over the last 10 years implementation of digital technology in health and social care has escalated exponentially (Mather et al., 2018). Governments globally have developed strategies and frameworks to support the implementation of a range of digital health technologies to improve administration and clinical education and research in healthcare environments (Australian Digital Health Agency, 2017; Australian Digital Health Agency, 2020; Cummings et al., 2015; National Health Service, 2017). Access and use of digital health technology in health service delivery can create challenges, risks, barriers and benefits that influence workflow, diagnostic accessibility and may include unintended outcomes such as breaches of privacy, security and confidentiality (Greenhalgh et al., 2020). However, technological solutions have contributed greatly during these unpredictable times. Novel digital health solutions have minimised the disruption of health education, prelicensure and ongoing professional development (Remtulla, 2020) as well as enabling clinician proximity for patient care while ensuring physical distancing (Wilson, 2020). Continued inability of nurses, or students to use, or to be 'permitted' to use, digital health technology at point of care in healthcare environments is highlighted by crises such as the COVID-19 pandemic (Mather et al., 2017). While there are lessons to be learned and achievements to be shared during this pandemic, digital healthcare provision for nurses at point of care needs to be sustained by embracing this healthcare tool as a legitimate nursing function. Enhancing digital professionalism within nursing promotes the delivery of high quality, contemporary, effective and safe care that can be accessed in a timely manner, when and where needed. Conversely, the inability to access digital health technologies to assist in clinical decision making, or to augment learning, within nursing practice hinders digital professionalism (Mather & Cummings, 2019), and can potentially place patients at risk (Alotaibi & Federico, 2017; Ting et al., 2020). The ability to be digitally professional will augment capability of nurses to implement digital health technologies, assisting the nursing profession to model digital professionalism to others, and lead digital healthcare service delivery during the next decade.

All nurses across the continuum of the profession require educational preparation including developing digital professionalism to utilise contemporary digital health technologies to advance nursing practice and support critical decision making. Integration of digital health technologies, encouraging timely access and development of concise and appropriate resources to support engagement and educational preparation is required to embed digital health technology use as a legitimate nursing function (Mather et al., 2017; Mather & Tori, 2020). As this pandemic evolves it is evident that nurses are well-placed to utilise digital health technology for disseminating accurate information at an individual and organisational level, within and external to the workplace. Modelling enhanced use of digital technology at point of care by nurses as a legitimate nursing function must occur to reduce propagation of incorrect information about the COVID-19 pandemic and to promote contemporary, effective and safe care. In the year of the nurse and midwife it is essential that frontline health professionals' voices are heard. Development and implementation of appropriate governance structures to support development of digital professionalism and comprehensive understanding of digital health technology by learners within educational programs is imperative at both the pre-registration and post-registration curricula levels. Augmenting integration of digital professionalism into the discipline of nursing will promote and support the legitimisation of using digital health technologies to enhance patient outcomes.

References

- Alotaibi, Y.K., Federico, F. (2017). The impact of health information technology on patient safety. *Saudi Medical Journal*. 38(12), 1173-1180. <https://doi.org/10.15537/smj.2017.12.20631>
- Australian Digital Health Agency. (2017). *Safe, seamless and secure: Evolving health and care to meet the needs of modern Australia*. <https://www.digitalhealth.gov.au/sites/default/files/2020-11/Australia%27s%20National%20Digital%20Health%20Strategy%20-%20Safe%2C%20seamless%20and%20secure.pdf>
- Australian Digital Health Agency (2020). *National Nursing and Midwifery Digital Health Capability Framework*. <https://www.digitalhealth.gov.au/about-the-agency/workforce-and-education/National%20Nursing%20and%20Midwifery%20Digital%20Health%20Capability%20Framework%20publication.pdf>
- Bogossian, F., McKenna, L., & Levett-Jones, T. (2020). Mobilising the nursing student workforce in COVID-19: The value proposition. *Collegian*. 27(2),147-149. <https://doi.org/10.1016/j.colegn.2020.04.004>
- Carbajal, E. (2020). California nurses struggle as nurse-to-patient ratios stretched amid COVID-19 surge. *Becker's Hospital Review*. <https://www.beckershospitalreview.com/nursing/california-nurses-struggle-as-nurse-to-patient-ratio-stretched-amid-covid-19-surge.html>
- Daly, J., Jackson, D., Anders., R., & Davidson, P.M. (2020). Who speaks for nursing? COVID-19 highlights gaps in leadership. *Journal of Clinical Nursing*. 29(15-16), 2715-2752. <https://doi.org/10.1111/jocn.15305>
- Chen, X., Tian, J., Li, G., & Li, G. (2020). Initiation of a new infection control system for the COVID-19 outbreak. *The Lancet Infectious Diseases*, 20(4), 397-398. [https://doi.org/10.1016/S1473-3099\(20\)30110-9](https://doi.org/10.1016/S1473-3099(20)30110-9)
- Cummings, E., Borycki, E., & Madsen, I. (2015). Teaching Nursing Informatics in Australia, Canada and Denmark. *Context Sensitive Health Informatics*, 218, 39-44.
- Greenhalgh, T., Wherton, J., Shaw, S., & Morrison, C. (2020). Video consultations for covid-19: An opportunity in a crisis. *BMJ* 2020, 368(m998). <https://doi.org/10.1136/bmj.m998>
- International Council of Nurses. (2019). *2020 International year of the nurse and midwife: a catalyst for a brighter future health around the globe*. https://www.icn.ch/sites/default/files/inline-files/PR_59_%202020%20International%20Year%20of%20the%20Nurse%20and%20Midwife.pdf
- Lasater, K.B., Aiken, L.H., Sloane, D.M., French, R., Martin, B., Reneau, K., Alexander, M., & McHugh, M.D. (2020). Chronic hospital undersatffing meets COVID-19: An observational study. *BMJ Quality and Safety*, 30, 639-647. <https://doi.org/10.1136/bmjqs-2020-011512>
- Liu, Z., Han, B., Jiang, R., Huang, Y., Ma, C., Wen, J., Ma, Y. (2020). Mental Health Status of Doctors and Nurses During COVID-19 Epidemic in China. <http://dx.doi.org/10.2139/ssrn.3551329>
- Mather, C., & Cummings, E. (2019). Developing and sustaining digital professionalism: a model for assessing readiness of healthcare environments and capability of nurses. *BMJ Health & Care Informatics*, 26(1), 115-120. <https://doi.org/10.1136/bmjhci-2019-100062>
- Mather, C. A., Cummings, E. A., & Gale, F. (2018). Advancing mobile learning in Australian healthcare environments: Nursing profession organisation perspectives and leadership challenges. *BMC Nursing*, 17(1), 44. <https://doi.org/10.1186/s12912-018-0313-z>

- Mather, C.A., Gale, F., & Cummings, E.A., (2017). Governing mobile technology use for continuing professional development in the Australian nursing profession, *BMC Nursing*, 16,17. <https://doi.org/10.1186/s12912-017-0212-8>
- Mather, C., & Tori, K. (2020, March 7). *Unpacking the mobile technology paradox* [Paper presentation]. Redesigning the Future of Health Symposium, Hobart, Tasmania.
- McHugh, M.D, Aiken, L., Sloane, D.M., Windsor, C., Douglas, C., & Yates, P. (2021). Effects of nurse-to-patient legislation on nurse staffing and patient mortality, readmissions and length of stay: A prospective study in a panel of hospitals. *The Lancet*, 397(10288), 1905-1913. [https://doi.org/10.1016/S0140-6736\(21\)00768-6](https://doi.org/10.1016/S0140-6736(21)00768-6)
- National Health Service. (2017). *A Health and Care Digital Capabilities Framework: Building a Digital Ready Workforce Programme and Health Education England's Technology Enhanced Learning Programme*. United Kingdom.
- NSW Nurses and Midwives' Association. (2017). *Professional Issues No.6: Ratios and safe patient care*. <https://www.nswnma.asn.au/wp-content/uploads/2019/02/Ratios-and-safe-patient-care-FINAL.pdf>
- Remtulla, R. (2020). The present and future applications of technology in adapting medical education amidst the COVID-19 pandemic. *JMIR Medical Education*, 6(2), e20190. <https://doi.org/10.2196/20190>
- Rodriguez-Morales, A. J., Cardona-Ospina, J. A., Gutiérrez-Ocampo, E. G., Villamizar-Peña, R., Holguin-Rivera, Y., Escalera-Antezana, J. P., Sahaf, R. (2020). Clinical, laboratory and imaging features of COVID-19: A systematic review and meta-analysis. *Travel Medicine and Infectious Disease*, 34, 101623. <https://doi.org/10.1016/j.tmaid.2020.101623>
- Stokes-Parish, J., Elliott, R., Rolls, K., & Massey, D. (2020). Angels and heros: The unintended consequences of the hero narrative. *Journal of Nursing Scholarship*, 52(5), 462-466. <https://doi.org/10.1111/jnu.12591>
- Ting, D.S., Carin, L., Dzau, V., Wong, T.Y. (2020). Digital technology and COVID-19. *Nature Medicine*, 26(4), 459-61. <https://doi.org/10.1038/s41591-020-0824-5>
- Waka, G., Montgomery, J., Biesterveld, B., & Brown, C. (2020). Not dying alone – modern compassionate care in the Covid-19 pandemic. *The New England Journal of Medicine*, 382, e88. <https://doi.org/10.1056/NEJMp2007781>
- Ward, K. (2020). *A message from our CEO*. Australian College of Nursing eNews. <https://acn.informz.net/informzdataservice/onlineversion/ind/bWFpbGluZ2luc3RhbmNlaWQ9MjEzNTc1OSZzdWJzY3JpYmVyaWQ9NTEyNTIxODE2>
- Wilson, R. (2020). Digital technology: Why nurses need to be at the centre of new developments. *Nurse Researcher*, 28(2), 6-8. <https://doi.org/10.7748/nr.28.2.6.s2>
- Zeng, Y., & Zhen, Y. (2020). Chinese medical staff request international medical assistance in fighting against COVID-19. *Lancet Global Health*, 8(8), e995. [https://doi.org/10.1016/S2214-109X\(20\)30065-6](https://doi.org/10.1016/S2214-109X(20)30065-6)