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Title: The role of telehealth during the COVID-19 pandemic across the interdisciplinary cancer team: Implications for practice

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Abstract

Objective: This literature review aims to explore the role of telehealth during the COVID-19 pandemic across the interdisciplinary cancer care team.

Data Sources: Electronic databases including CINAHL, MEDLINE, PsychINFO, Scopus, and grey literature were searched using Google Scholar up until September 2020.

Conclusion: While the safe and effective delivery of cancer care via telehealth requires education and training for healthcare professionals and patients, telehealth has provided a timely solution to the barriers caused by the COVID-19 pandemic on the delivery of interdisciplinary cancer services. Globally, evidence has shown that telehealth in cancer care can leverage an innovative response during the COVID-19 pandemic but may provide a long-lasting solution to enable patients to be treated appropriately in their home environment. Telehealth reduces the travel burden on patients for consultation, affords a timely solution to discuss distressing side effects, initiate interventions, and enable possible treatment additions and/or changes.

Implications for Nursing Practice: Global public health disasters pose significant and unique challenges to the provision of necessary services for people affected by cancer. Oncology nurses can provide a central contribution in the delivery of telehealth through transformational leadership across all domains and settings in cancer care. Oncology nurses provide the “hub of cancer care” safely embedded in the interdisciplinary team. Telehealth provides a solution to the current global health crisis but could also benefit the future provision of services and broad reach clinical trials.

Introduction

Data from GLOBOCAN 2018 identified that there was 18.1 million new cancer incidences and 9.6 million cancer mortalities across the world in 2018.¹ It is estimated that 1 in 10 women and 1 in 8 men will be diagnosed with cancer during their lifetime.¹ Across 100 countries, cancer is ranked as the first or second cause of premature death. People with cancer may be immunosuppressed due to their disease and treatment and are therefore at greater risk for infections, such as coronavirus disease (COVID-19).²

The novel COVID-19 was first identified in Wuhan, China in December 2019.³ COVID-19 spread rapidly through human-human transmission and resulted in a pandemic affecting 216 countries across the globe.^{3,4} COVID-19 is a respiratory disease caused by a coronavirus called SARS-CoV-2 and as such the primary symptoms are fever, cough and shortness of breath.⁵ Additionally, evidence now suggests that symptoms of sore throat, diarrhoea, headache, muscle or joint pain, fatigue and loss of sense of smell and taste are associated with mild cases of COVID-19.⁶ As of the 17th of September 2020, there has been over 29 million cases and nearly 931,321 deaths associated with COVID-19 globally, resulting in a fatality rate of approximately 3%.⁴ Early evidence out of China highlighted that the fatality rate was higher for people with pre-existing comorbidities.⁷ In particular, people with cancer were seen to have a mortality rate of 5.6%.⁷ Further studies in Europe and America have supported these findings.⁸⁻¹¹

Impact of COVID-19 on Cancer Care

Strategies such as social distancing and quarantine requirements have been implemented globally to mitigate and contain the spread of COVID-19.⁸ These measures, as well as the distress associated with a pandemic, have resulted in widespread anxiety and a deterioration in mental health across the globe.¹² The level of distress cancer patients experience may be increased due to concerns about contracting COVID-19 and how the pandemic could affect their access to oncology services for care and treatment.³ Social distancing measures including the limitation of visitors in healthcare facilities may also affect a cancer patient's support network and sense of well-being.¹³

Telehealth and Cancer Care during COVID-19

Telehealth is defined by the Telehealth Resource Centre as a collection of means or methods for enhancing the healthcare, public health, and health education delivery and support using telecommunications technologies.^{14,15} Telehealth in cancer care is not new; it has been effectively used for cancer symptom management, survivorship care, providing remote chemotherapy supervision, palliative care, and psychological support.^{2,16,17} Nonetheless, the social distancing and

quarantine requirements instigated to reduce transmission of COVID-19 has led to an unprecedented, rapid and widespread adoption of telehealth technology.¹⁵

As people affected by cancer are at a higher risk of mortality from COVID-19, it is critical that their risk of contracting COVID-19 is reduced.¹⁶ The use of telehealth can aid this process by providing safe and appropriate care to the patient whilst minimising physical contact with a healthcare facility.¹⁸ Therefore, the aim of this literature review is to explore how telehealth has been utilised across interdisciplinary healthcare professional groups in cancer care and broad reach clinical trials delivery.

Telehealth Literacy

The rapid deployment of telehealth services during COVID-19 has resulted in a paradigm shift, where digital by default has become the new norm for healthcare delivery.¹⁹ It is postulated that these digital solutions have the potential to become a great equalizer, acting as a catalyst for change in populations impacted by social determinants of health.²⁰ However, the opportunities afforded by telehealth are only beneficial if the patient possesses the necessary skill set to effectively comprehend, navigate, and troubleshoot the required digital interfaces, otherwise there is a risk that health disparities will be further increased through the addition of a digital divide.²¹

This specific skill set is known as telehealth literacy and is defined as the aptitude to find, comprehend, and evaluate health information from electronic sources and apply the knowledge gained to addressing or solving a health problem.²² Telehealth literacy requires an interplay between six core literacies: traditional (reading and writing skills), information (how to locate and use relevant information), media (critical thinking and filtering trustworthy information), health (ability to appraise and act on health information), scientific (understand science based information) and computer (ability to use digital technology).²² Empirical evidence has identified specific vulnerable patient groups to telehealth literacy challenges which include those who are older, live rurally, have less formal education, lower socioeconomic status, come from culturally and linguistically diverse backgrounds, living with multiple chronic conditions and those who have less access to online resources.²³ Low levels of telehealth literacy can have significant implications for online security, particularly with the sensitive nature of health information, the need to understand complex privacy laws and the volume of unregulated health apps currently available.²⁴⁻²⁶

It has been observed that higher telehealth literacy levels empower cancer patients and caregivers to engage in shared decision making and has been linked to seeking a second opinion, effective

utilization of self-monitoring/self-management strategies outside of the clinical setting, as well as increased treatment compliance throughout the cancer care continuum.^{24,27} Patient, caregiver, and practitioner education in telehealth systems is vital to build capacity and smooth the transition to online delivery.^{24,28} Oncology nurses and members of the interdisciplinary team should consider administering a patient reported outcome measure, such as the eHealth Literacy Scales (eHEALS)²⁹ to determine the eHealth literacy levels of patients. This should be delivered prior to the implementation of online interventions, thus ensuring patients and caregivers continue to experience quality person-centered cancer care.³⁰ Moreover, telehealth literacy skills are crucial for people affected by cancer and their caregivers, as they must be able to interpret the information to make informed decisions about different avenues of cancer care, and possible participation in clinical trials.^{24,30}

Radiation Oncology: Implications of COVID-19

During the COVID-19 pandemic, radiation oncologists have followed guidelines that provide alternate treatment options. COVID-19 clinical guidelines³¹ have enabled patients to delay treatment, come for fewer fractions of treatment (hypofractionation) or, to exclude radiotherapy completely. Such considerations are important when access is reduced or visiting the hospital setting creates additional risk to the patient.³¹ For example, lung cancer patients have been given increased options for high dose stereotactic treatments to reduce visits to one to three sessions. Whereas prior to COVID-19, a more conservative approach (around 25 treatments) resulted in increased travel for treatments at an oncology centre.³¹ Elsewhere, international breast cancer clinical guidelines recommend several different options to ensure that hospital visits are kept to a minimum, which include: increasing the scope for the use of moderate hypofractionation (15 fractions), increased utilisation of FAST forward trial fractionation (5 fractions) or omission of radiation treatment altogether for some specific cohorts.³² In prostate cancer management guidelines created by a team of radiation oncologists from the United States (US) and United Kingdom (UK) recommend a combination of changes for different presenting stages of disease. Active surveillance is recommended for patients with low to favorable intermediate risk disease; whilst higher risk patients are managed with androgen deprivation treatment until radiotherapy is safe to be delivered. Again, hypofractionation is recommended in most cases when treatment does commence.³³

Telehealth in Medical Oncology

Telehealth models were developed in Australia a decade ago to improve the care of oncology patients, particularly in rural Australia.³⁴ Until the COVID-19 pandemic, telehealth use in medical

oncology was limited to rural patients and necessitated the presence of a general practitioner or nursing/allied health staff during the consultation. Despite the limited use, this model proved to be very successful and yielded high satisfaction among health care workers and rural oncology patients.³⁵ There is a dramatic change in this landscape since the current pandemic. Oncology practice all over Australia have now widely accepted and adopted to the telehealth model. Routine oncological reviews and the pre-chemotherapy assessments are now delivered through telehealth since the beginning of the pandemic (March 2020). This has significantly reduced the risk of exposure to the virus to immunocompromised patients by reducing the number of outpatient visits. There are studies supporting the benefit of telehealth in minimizing the risk of COVID-19 transmission among patients and healthcare workers.³⁶ Careful clinical history and inspection through a video assisted platforms have enabled clinicians to assess cancer related symptoms and toxicities of chemotherapy. Telehealth has provided many advantages to the patients and carers along with the healthcare workers. The recent change to telehealth has reduced the need to travel to the hospital, which is a major advantage for the cancer patients who have mobility issues and/or other physical disabilities. Telehealth has improved access to home based palliative care services for many patients. Telehealth can be safely used in discussing the advanced directives with patients/carers while optimizing end of life care both at patient's home and at health care facilities.³⁷ The visual features of telehealth are helpful in establishing rapport with the health teams and close connectedness with the treating team. This model may also be utilized to help maintain the patient's of quality of life and reduce the carer stress.³⁷

Telehealth Cancer Service Delivery

During the COVID-19 pandemic, oncology specialists have been required to alter methods of service delivery across the clinic and treatment areas. Telehealth implementation has been facilitated by swift policy changes from the Medicare Benefits Scheme to enable physicians to provide telehealth to vulnerable patients from the 13th of March 2020. Noteworthy, the previous telehealth Medicare codes had specific requirements which involved remote locations only, however, the new COVID-19 telehealth codes are now accessed by GP's, specialists, nurse practitioners, midwives and allied healthcare professionals for any consult where it was deemed clinically safe and appropriate. Furthermore, the COVID-19 telehealth model in Australia has also supported phone consultations with patients whereas previously, there were tight restrictions on video consults only.³⁸

Virtual Multidisciplinary Team Meetings

Many cancer centres have gone onto virtual cancer multidisciplinary team (MDT) meetings using various platforms including Microsoft Teams to ensure socially distant meetings.³⁹ This pragmatic

approach has been welcomed by all health disciplines to ensure that multidisciplinary cancer team discussions continue to occur in a timely and safe approach during the COVID-19 pandemic⁴⁰ This platform has allowed specialized clinicians and teams to access meetings remotely, having a presence in meetings they may not have had access to prior to the pandemic, providing high quality advice to teams and care to patients. It is important for healthcare organisations to ensure that such platforms are safe and secure in keeping with data protection legislation. Given the success of the virtual MDTs meetings, it is likely that they will continue even after the end of the current pandemic because attendance of healthcare professionals at MDT meetings has increased compared to previous face-to-face MDTs meetings.

Workforce/Interprofessional Education and Training

The COVID-19 pandemic has resulted in a shortage of accredited health placements due to social distancing, risk mitigation and isolation measures identified by placement partners.⁴¹ At the same time, there has been a growth in telehealth technologies, funding and services.³⁸ While there is some research supporting the use of telehealth placements within accredited health programs which includes medicine, nursing and allied health,⁴²⁻⁴⁴ the efficacy of telehealth for professional placements is underexplored.

Evidence shows that telehealth can deliver high quality healthcare;³⁶ transcends geographical, architectural and physical distancing restrictions;² and offers potential financial, access, monitoring and in-home advantages.¹⁶ Telehealth's functionality, to bring together expert clinicians and carers (even if geographically dispersed), facilitates interprofessional collaboration which is known to improve clinical performance, patient outcomes and patient satisfaction.⁴⁵ Interprofessional education (IPE) involves students from different professions learning with, from and about each other supporting the development of interprofessional learning competencies.⁴⁶ While some systematic reviews have been conducted to date examining the benefits of IPE in health education,⁴⁷ none have been conducted looking specifically at IPE through telehealth platforms. Telehealth has the benefit of being able to be delivered remotely, ensuring a safe learning environment for students and for vulnerable members of the population, such as oncology patients, during COVID-19.⁴⁸ Moving forward, the demand for qualified health professionals with competencies in the use of telehealth, such as the use of technology, digital literacy and communication skills⁴¹ is expected to rise.⁴⁸

Digital Pathology

The rapid growth of digital technologies in 1990s was associated with an increasing use of computational imaging techniques in diagnostic pathology, although with many technical challenges.

⁴⁹ The introduction of high-resolution digital cameras and the improvement of computational processing in the following years led to a better image quality and ease of access and brought about opportunities to help simulate actual microscopic examinations.^{50,51} These advancements consequently led to more sophisticated technologies which allowed for the whole slide imaging (WSI) of stained pathology glass slides in the clinical laboratory, to be viewed on the spot, sent to colleagues at distant places (telepathology), securely archived, or used for educational and research purposes.⁵²

Digital pathology encompasses WSI and related technologies such as image management system, laboratory information system, digital transcription, digital dashboard, work flow management, specimen labelling, tracking systems, digital image interpretation, and reporting tools.⁵²

There are many applications for digital pathology some of which are briefly mentioned here:

1. Primary diagnosis: scanned images of pathology slides can be sent to the laboratory information system and hospital information system, to be examined by the pathologist.⁵³ This is gradually becoming a standard practice, but different health care systems and labs vary in the extent to which they embrace this technology, from laboratories which have digitised a select histopathology subspecialty to the laboratories with a large-scale digitisation of whole pathology slides.⁵⁴
2. Receiving/ giving second opinions and information sharing between pathologists: Digital and telepathology can facilitate obtaining second expert opinion on previously examined pathology slides from another on-site or off-site pathologists.⁵⁵ This approach is particularly useful for difficult cases.⁵⁶
3. Remote or flexible working conditions: with situations such as the COVID-19 pandemic affecting the individuals' availability or mobility to and from the workplace, or even for the sake of flexible working situations, digital pathology provides an ideal platform where digital images of pathology slides can be electronically transferred to the pathologists far from their original labs (e.g. at their home office or even when they are away on a trip).^{55,57} Telepathology, can also be applied to improve the provision of pathology services to low- and middle-income countries⁵⁸, or even rural and remote areas in high-income countries which are facing challenges in accessing pathology services which are mostly concentrated in large cities.⁵² Another benefit of digital pathology and

telepathology is that the pathologist can view and examine digital slides on their computer, laptop or even mobile phones, using a WiFi internet, mobile internet, or a “virtual private network” (VPN) connection.⁵⁹

4. A more effective workflow: Digitisation of the workflow in the pathology laboratory has been indicated to be able to accelerate the turnaround times of pathology diagnoses.⁶⁰ For example, the Kalmar and Linköping Hospitals in Sweden have efficiently integrated their slide scanners to their laboratory workflow allocation, and their pathologists regularly receive digital slides for making primary diagnoses without much need for waiting for the glass slides to arrive.⁵⁵

5. Improved slide archiving and slide retrieval: Maintaining a digital slide archiving system makes the tedious task of slide retrieval more efficient and time-saving compared to the glass slides kept at storage cabinets.

6. Education: Digital and telepathology are increasingly used for educational purposes around the world and are gaining more acceptance among pathologists and academics.^{59,61} In Australia, a multi-university digital imaging online repository platform (partly related to human pathology) were launched in 2012. As of September 2020, this online platform contains over 20,600 medical and microscopic images which are being used for educational purposes at Australian and international universities.⁶² The availability of archived high quality digital images is contributing to quality education at universities around the world.^{55,56}

7. Improved ergonomic situations for pathologists: The use of digital pathology can improve the ergonomics of pathology slide examination, and in fact, many pathologists believe that it increases the efficiency of their work due to more comfortable working positions.^{60,63}

8. Research: WSI and digital pathology is increasingly used in clinical and collaborative research. Facilitated availability and same-time access to digital images by different researchers, will encourage collaborative intra- and inter-institutional research through sharing and pooling the digital images and the relevant information.⁵⁵

Having mentioned all the above, however, digital pathology and telehealth is in its developmental stages and there are several challenges ahead which should be overcome before the full digitisation of pathology imaging. Some of these challenges include the high cost of equipment as well as a need for standardisation of reporting systems⁶¹, standardisation of slide preparation and staining to prevent excessive variations in the slide quality^{53,56}, and computational complexities in the image analysis.⁵⁶

Physiotherapy

Internationally physiotherapists have incorporated telehealth practices for people affected by cancer to maintain services and contact without compromising their health. Using virtual communication methods, telehealth supports remote access to care for musculoskeletal assessments while maintaining social distancing.⁶⁴ Physiotherapists are an important member of the multidisciplinary team to help optimize function, movement, and quality of life for people affected by cancer.⁶⁵ Physiotherapy using telerehabilitation instead of conventional face-to-face care could be a lasting alternative to treat people diagnosed with cancer in their home environment after hospital discharge, but additional research is needed.⁶⁶

Telehealth/Broad-Reach Delivery of Lifestyle Interventions

Details of studies evaluating broad-reach delivery of lifestyle (including physical activity, diet and weight change) interventions that sought to improve health outcomes in those with cancer were first published in 2002. Specifically, these included a randomised controlled trial (RCT) that evaluated the effect of a telephone-delivered high-vegetable, low-fat diet on breast cancer events and death in women with early stage breast cancer (n=3088).⁶⁷ The other pilot, RCT⁶⁸ evaluated a telephone-delivered weight-loss intervention for obese women with breast cancer (n=48). Within 10 years since the publication of results from these trials, an exponential rise in the number of studies evaluating the effect of broad-reach lifestyle interventions for people with cancer was observed. This increase was likely due to the growing recognition of (i) the clear association between physical activity and weight, and survival outcomes following cancer⁶⁹, (ii) the growing evidence-base that supports lifestyle intervention (i.e., physical activity, exercise, weight loss and/or dietary intervention) leads to improvements in a range of health outcomes during and following treatment^{70,71}, and (iii) that face-to-face delivery of lifestyle interventions in clinical settings restricts access to a select group of oncology patients.

In 2015, Goode et al published a systematic review of this growing evidence base.⁷² Included within the review were 27 studies, evaluating 22 telephone-, 3 web- and 2 print-delivered physical activity (n=16), diet (n=2) or multiple behaviour (n=9) interventions. Studies involved samples with breast, colorectal, gynaecological or multiple cancer types, and evaluated interventions of varying length (range: 5 weeks to 4 years) conducted during treatment (n=8), following treatment (n=18) or spanning during and following treatment (n=1). Improvements at end of intervention for physical activity, dietary behaviour and/or weight for those in the intervention compared to control, were reported in the majority of trials (76%). Evidence to support maintenance of behaviour change beyond the broad-reach intervention was however less; only eight of 27 studies included in the

review evaluated behaviour change maintenance 3 to 12 months following the intervention, and of these less than half (40%) supported maintenance effect of at least one behavioural or weight outcome. Although not unique to this literature, the lack of attention to maintenance highlights a research gap to be addressed with future studies.

Effect sizes reported in the studies included within the systematic review ranged from small (0.2-0.49) to large (≥ 0.8). These review findings were similar to those reported following a review of non-broad-reach intervention trials (i.e., including highly supervised, clinic-based trials) involving those with cancer^{73,74}, as well as telephone-delivered lifestyle interventions in the general population.^{72,75} Further, one of the studies included in the review was a comparative-effectiveness trial, which demonstrated that a telephone-delivered 8-month exercise intervention was as effective for achieving improvements in fitness and quality of life, compared with the delivery of the same intervention face-to-face.⁷⁶ These findings, which include a preponderance of support for telephone-delivered interventions among cancer survivors, are particularly noteworthy since anecdotally there has been a reluctance by members of the cancer care team (including allied health professionals) to accept that broad-reach lifestyle intervention delivery can be safe, feasible and effective. Additionally, at least prior to COVID-19, funding models rarely allowed for telephone delivery of lifestyle advice and support. It seems that a virus pandemic rather than scientific evidence was needed to facilitate flexibility in the manner by which cancer care is and can be delivered.

With growing use of telehealth, it becomes particularly pertinent to highlight the limitations to the current evidence base in support of broad-reach delivery of lifestyle interventions. First, the majority of trials have involved women with breast cancer and most studies have targeted patients who had completed treatment. Second, representativeness of samples studied to date (including women with breast cancer) is unclear as the majority of studies have failed to compare the characteristics of participants with the wider population from which they are drawn. It seems plausible that those involved in broad-reach intervention trials are more likely to be those diagnosed with early stage disease (in particular, breast cancer), with few or no persistent-treatment related side effects or comorbidities, and are likely to be of moderate to high socioeconomic status living in more urban areas. Consequently, the extent to which broad-reach lifestyle delivery is safe, feasible and effective for the wider cancer population is arguably unclear. Nonetheless, examples of more recent research are demonstrating promise in this regard. Specifically, the Healthy Living after Cancer trial was a phase IV, dissemination and implantation trial evaluating the effect of a 6-month, telephone-based lifestyle intervention for cancer survivors delivered by four Australian state-based Cancer Councils as part of their telephone support service.⁷⁷ While the main outcomes from the study are currently

under review for publication, preliminary findings suggest the lifestyle intervention was feasible, safe and effective at improving a range of anthropometric, behavioural and psychosocial outcomes in a diverse sample (n=786) of cancer survivors post-treatment (including over 15 cancer types, varying socioeconomic status - low through to high, residing in urban and more regional/rural areas, and with the majority of participants reporting more than one other comorbidity). Preliminary findings from the ongoing ECHO trial also demonstrate that telehealth delivery of exercise during chemotherapy for newly diagnosed ovarian cancer is safe and feasible.⁷⁸ Of note, as a direct consequence of the telehealth mode of delivery, unlike the vast majority of lifestyle intervention trials, ECHO was able to continue even during the strictest COVID19 restrictions. We now await the results that will determine whether the intervention is also cost-effective at improving survival, quality of life and function.

Telehealth Exercise Interventions

There is a strong body of evidence to support exercise therapy as part of standard care for people affected by cancer.⁷⁹ Regular exercise has been shown to have a positive effect on reducing adverse treatment side effects, enhancing mental wellbeing, and improving cancer survival rates.⁷⁹ The COVID-19 pandemic poses a significant risk to people with cancer¹⁰ and most face-to-face exercise oncology services have ceased and have been modified to home-based or telehealth delivery to reduce the risk of infection, posing a risk of a reduction in uptake of these vital services.⁸⁰ It remains imperative for people diagnosed with cancer to engage in physical activity during these challenging times, particularly as the negative physical and mental health impacts of self-isolation and quarantine are becoming apparent.⁸¹

The need for safer options for the delivery of exercise services for people affected by cancer has recently become desirable, with the current COVID-19 pandemic forcing clinicians to re-think how they can safely deliver exercise interventions. Telehealth is one such option which has not traditionally been the main format of exercise delivery for people affected by cancer.⁸⁰ However some studies have already demonstrated its' feasibility^{75,82} and effectiveness in improving physical^{75,82,83} and psychosocial outcomes within cancer survivors.^{75,82-84} Currently the primary modes of Telehealth delivery have been via mobile applications⁸⁵, web-based platforms^{83,84}, telephone^{75,82}, or short messaging service (SMS).⁸⁶ To date, there is limited research exploring exercise interventions delivered via live video conferencing platforms such as Zoom, Skype, Microsoft Teams, WhatsApp or Facetime.

Challenges in Telehealth Exercise Delivery

Despite many clinics and facilities now adopting a Telehealth approach to exercise delivery⁸⁰ there are still some challenges to overcome. Studies show that this format reveals concerns surrounding confidentiality⁸⁷, poor eLiteracy²⁰, access to smart devices^{86,87}, and internet accessibility⁸⁶, all of which create barriers for individuals in accessing Telehealth exercise services. Safety is also another important consideration as health professionals find it difficult to measure and monitor physiological parameters such as temperature, blood pressure and pulse. Safety concerns could be minimised by ensuring that participants obtain medical clearance to exercise and are supervised remotely by qualified exercise professionals⁸⁰ (such as Accredited Exercise Physiologists/Clinical Exercise Physiologists and Physiotherapists/Physical Therapists). Despite the potential obstacles experienced by clinicians and participants, telehealth exercise interventions do remove geographic and many accessibility barriers, allowing the inclusion of individuals who are immunocompromised or located in rural and remote areas. Such approaches may be adopted long-term to reduce risk of virus transmission and support accessibility and inclusiveness, however further research, client and clinician education and training, along with support from primary institutions and adequate funding are vital for its success.⁸⁷

Implications for Oncology Nursing

The use of telehealth in the oncology setting is not new and in recent years has mainly been used to facilitate medical access for those individuals living in remote and rural areas.²⁸ During the early stages of the COVID-19 pandemic, oncology nurses across the world were required to rapidly change to a telehealth service and adapt to provide safe and effective care to people living with cancer.¹³ Rapid decisions were made, which included developing criteria for in-person versus remote care and developing equitable platforms for telehealth. Noteworthy, most decisions were made with limited guidelines or evidence for practice related to the pandemic.¹³ Oncology nurses observed that telehealth may provide both a means for patients to be treated appropriately in their home environment without having to travel long distances for consultation, affording a timely solution to discuss side effects, interventions, and possible treatment additions and/or changes.⁸⁸ However, a barrier for oncology nurses who are involved in the provision of telehealth services includes the inability to perform a physical assessment (e.g auscultation) of the patient. This limitation, however, can be overcome using local healthcare professionals, who must ensure clear communication both written and verbal back to the team.

Fundamental to the success of telehealth delivery is reliant on the patient being able to use the technology appropriately.²² Other issues can include, and are not limited to, data speeds impacting

and interrupting consultations, poor quality or low-resolution cameras which might be problematic in identifying physical ailments which require nursing assessment.²⁵ Moving forward into the pandemic and beyond, these issues may cause a real barrier to the safe delivery of cancer services and have the potential to delay urgent medical life-saving interventions and therefore, requires careful consideration.

Over the course of the COVID-19 pandemic oncology nurses globally have demonstrated their continued ability to be effective leaders.¹³ Transformational nursing leadership requires the ability to think critically, provide timely evidence based actions and solutions to service delivery and advocacy across all settings and domains of oncology practice.⁸⁹ Nurses have been at the forefront of designing and delivering rapid changes, including telehealth within oncology services over the course of this pandemic.¹³ Internationally, oncology nurses have navigated different complexities, such as: reducing on treatment patient volume, maintaining the safety of patients and staff, managing out-and-in patient clinic flow, delivering modified treatment protocols, transitioning telehealth models of service and delivering organisational strategy through clear communication.

Conclusion

The clinical telehealth response to the COVID-19 pandemic has been rapid and is continually evolving in oncology care. Evidence has identified that telehealth in oncology can be used across the interdisciplinary team to enable people to navigate the health system and access routine care during an infectious outbreak. The regular use of telehealth in cancer care may lead to more effective and sustainable models of care. However, the benefits and limitations of this model of service delivery needs to be carefully considered and appropriate training and education provided for all healthcare professionals and patients.

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