# **Cancerworld**

# Examples of telemedicine application worldwide

Adriana Albini / 20 January 2022



The third webinar in the Telemedicine in Cancer Care Project was chaired by Gustavo Werutsky, Clinical Director of the Breast Cancer Centre at Hospital São Lucas PUCRS, Porto Alegre, Brazil, and Chair of the Latin American Corporative Oncology Group. The COVID pandemic has increased and accelerated the implementation of telemedicine, but there are several challenges still to overcome. ASCO issued a practice recommendation to implement telehealth, and there are studies today demonstrating that patients are satisfied with this new technology.

The first speaker was Dorothy Keefe, CEO of Cancer Australia, Surry Hills, Australia

# **Telemedicine in Australia**

In a country the size of Australia, there was a need for telemedicine even before COVID-19. With the pandemic, changes were made across the entire cancer pathway, some of which have been positive and likely to become embedded in the healthcare system. In the past, telemedicine in Australia was only used to overcome remoteness. It was trialled in rural and remote areas in a minor way and was never in use in metropolitan consultations. All this has now changed. Early in the pandemic, Australia implemented a comprehensive and responsive set of policy measures to support telehealth. As the Australian Minister for Health, Greg Hunt, said, "A decade's worth of work was done in a matter of days." The journey to telehealth forced upon the whole population of Australia was very

rapid, and once introduced, there remained to figure out how best to use it going forward, whether it was being used properly and how to make sure that it was actually sustainable. Cancer Australia did a review of the uptake of telehealth in general practice and specialist care in the first half of last year: there was no funding for telehealth in the first couple of months of 2020, and there was no telehealth in use by GPs. As soon as Medicare benefits became available, GPs were able to make use of telemedicine. However, they mainly did it by phone consultations. Phone conversations are better than nothing, but they are not as good as video. Neither of those is as good as face-to-face; and of course, face-to-face without a mask would be the optimum. Cancer Australia has done several reviews of the impact of COVID-19 on diagnostics and therapeutics for cancer over the last 18 months. Looking at specialist consultations, there was a slightly higher range of video conferences, particularly in oncology and psychiatry, but the vast majority were phone only consultations. Initially it was believed this was due to patients not having access to video conferencing, but in most cases, it was actually the doctors who did not have access to it on their work computer.



#### **COVID-19 and cancer: Embedding high-value changes**

During the pandemic, it became clear that some of the changes that were taking place were actually beneficial. In its "Consensus Statement on COVID-19 and Cancer Care: Embedding high volume changes in practice", Cancer Australia identified twelve elements of cancer care that changed during the pandemic, from the expanded use of telehealth, to hypofractionation of radiotherapy, oncology hospital in the home, etc. The panel of experts looked at all the measures required in terms of **system level** changes, **service level** changes, **practitioner level** changes, and **patient level** changes, to ensure that all the implications were covered.

Focussing here on **telehealth**, its huge expansion prompted by COVID-19 enabled the maintenance of continuity of care when the health system was concerned about exposing people to the disease within its structures. Beside safety, telehealth also provided choice and convenience. It requires: at system level, the development of governance policies and procedures; at service level, a strategic investment in IT infrastructure and personnel; at practitioner level, increasing the effectiveness of patient/clinician communication; and at patient level, improving equity and access to telehealth. But it was not just the individual/doctor patient consultations that were affected by telehealth.

#### Virtual multidisciplinary team meetings

We have seen a rapid transformation from in-person to virtual meetings. Multidisciplinary teams (MDTs) felt that these were beneficial, and much more convenient. The unexpected bonus was that this shift enabled GPs to participate, who normally cannot get to in-person MDT meetings. Implications: at system level, support greater use of virtual MDTs needs; at service level, again, strategic investment is required in IT infrastructure and personnel. At practitioner level, improving adherence to multidisciplinary care guidance. And at patient level, we must evaluate how these virtual MDTs affect patient outcomes, and this is a much longer-term issue.

#### Shared follow-up and survivorship care

Beyond initial treatment, there has been an increased use of telehealth and digital health to support follow-up care, which is positive. This change leverages the expertise of the workforce and increases the capacity of specialists and hospital-based services. At system level, it requires: to develop guidance for implementation of telemedicine in follow-up care; at service level, to establish patient portals for remote communication and care coordination. At practitioner level, to empower health professionals to provide digitally enabled care. And at patient level, to provide information and transparent communication. Cancer Australia has worked on digitally shared follow-up care with practitioners and has advocated the introduction of PROMS and PREMS, which provide immediate electronic information from the patient's perspective.

## Supportive and palliative care

It is much harder to envisage how supportive and palliative care can be done remotely, but there was an initiation or expansion of these across the country, which demonstrated that they could be safely conducted remotely, and this was obviously a benefit to immunocompromised patients. Virtual supportive and palliative care require: at system level, the development of policies and guidance; at service level, increasing confidence among health professionals that this is a valuable and high-quality service. At practitioner level, standardising methods to screen and manage patient needs. Again, PROMS and PREMS are really useful here. And at patient level, individualising psychosocial care, facilitated by telehealth.

## **Cancer research and clinical trials**

There have been some initiatives in Australia to provide access to clinical trials to rural and remote patients. But again, the need became much greater when people could not travel around the country. There was a rapid deployment of virtual clinical trials, and this has facilitated access and enabled more participation for patients from regional areas. It can only be a good thing and it will continue after the pandemic. At system level the needs are: to encourage and evaluate digital approaches to working. At service level, incorporate those digital adaptation approaches into trial designs. And of course, this has an impact particularly for industry-driven trials. At practitioner level, to adopt telehealth for remote review of patient symptoms and adverse events. Again, this is a big impact on the pharmaceutical industry. And at patient level, to use telemedicine as part of the standard approach to oncology clinical trials. Once the industry has adapted to managing trials this way, it should be much easier to continue, and the Australian government has invested tens of millions of dollars to enhance the access to clinical trials and care for patients in rural and remote Australia.

#### **Ongoing issues**

Of course, there will always be ongoing issues. Funding remains one of them and not all of the telehealth Medicare items are guaranteed to be ongoing. So, we need to demonstrate their benefit in order to advocate for their continuation. Telehealth, of course, should only be used when it is the best option, it should not become an excuse for second best. Distance in Australia is a big issue and risks of travel versus face-to-face benefits need to be individually weighed. But of course, the issue remains about the accuracy of virtual examinations. They certainly should not be carried out in a phone-only consultation, and in many cases, it would be advisable to have a local nurse with the patient to facilitate some examinations. Ultimately, the quality of care should not be reduced, and ideally, face-to-face still remains the best option. But, when the benefits outweigh the limitations, we should always use telehealth.



**Florian Scotté**, Medical Oncologist Institute Gustave Roussy, Villejuif, France, presented some examples of telemedicine trials and apps supported by his institute.

# **Telemedicine in France**

The first example of telemedicine in France started in 2008 at the Georges-Pompidou European Hospital. **PROCHE** (PRogramme of Optimisation of ChemotHErapy administration) was created to assess the suitability of patients for chemotherapy before their scheduled appointments. A call centre nurse phoned the patient two days before the appointment. The information collected, combined with biological data, was then forwarded to the day hospital where a decision was made to go ahead, adapt protocols, postpone, or cancel the session. Participating patients reported significant decreases in fatigue, pain, and other toxicities. Within the same programme other solutions were introduced, such as moving from the nurse's call to web questionnaires, which proved to be more effective at getting data from minor toxicities, in levels 1 and 2.

**ONCOLAXY** is a software-based solution available in France since 2017, with a three-fold approach: symptoms monitoring, education, and patients' support. It allows to monitor the efficacy, but also

the safety of all cancer treatments, radio/chemotherapy, targeted therapies, immunotherapy, and hormonal therapy.

An interesting approach combining digital and human elements, is the **CAPRI** programme (Oncology Pathway in the Ile de France Region), which has been operational at Gustave Roussy since 2015. It is a monitoring system that employs both Nurse Navigators and a dedicated website/mobile app. The results of a randomised controlled study comparing CAPRI monitoring with standard care for patients on oral anticancer drugs, were presented at the ASCO 2020 conference. They showed better efficacy of treatments, and a decrease in grade 3 and 4 toxicity. There was also a decrease in emergency visits, better quality of life, and increased patient satisfaction. During the COVID pandemic, the **CAPRI Covid App** was quickly developed, based on the seven key symptoms, to remotely supervise and advise cancer patients infected with coronavirus, and to offer them psychological support.

# The next step: Resilience - Reinventing Cancer Care with Remote Patient Monitoring

**Resilience** is a certified IIa Medical Device for patients and care teams, built in collaboration with the Gustave Roussy Institute. It comprises a digital companion application for cancer patients and survivors with which they can measure and monitor their symptoms, but also understand them better through educational content, such as popular scientific articles, videos, and podcasts. The content is customised according to the patient's profile, medical data, and preferences. The care teams are provided with an RPM (Remote Patient Monitoring) cockpit with personalised ePROs (electronic patient-reported outcomes) to fit every patient, smart symptoms grading, and alerts to support patients with the most appropriate actions. The vision behind Resilience is to automate symptoms management from self-management to medical intervention.



# Virtual reality

Virtual reality is being developed both for distraction/relaxation purposes and for therapeutic advice. The **REVEH** trial at Gustave Roussy was presented at the ASCO meeting this year. It was a

randomised controlled trial between MEOPA (Oxygen + Nitrous Oxide in gas form) and virtual reality, before and during a bone marrow biopsy. There was no difference in pain intensity between the two groups of participants, but virtual reality attained higher levels of satisfaction in patients and physicians. The VR procedure for therapeutic advice is in the development stage.

In its "10-year Cancer Control Plan 2021-2030", the French National Cancer Institute recommends that "all patients should be equipped with a remote monitoring device recognised by the HAS (French National Authority for Health)", and funding is being developed with social security reimbursement.

In the future we will implement virtual and digital companion monitoring from the start of the disease to the survival and palliative program, but also, for patients in the chronic phase. More research is needed but we also need to translate the research into daily practice. New opportunities will be developed: devices, networks, new careers, new skills. **But humans should keep a place in the story.** 

The third speaker was **Bishal Gyawali**, Associate Professor, Departments of Oncology and Public Health; Scientist in the Division of Cancer Care and Epidemiology, Queen's University, Kingston, Canada.

# **Telemedicine in Canada**

Dr. Gyawali's presentation took as starting point the discussion paper "Virtual Care in Canada" published in 2019 by the Canadian Medical Association. Canada was an early pioneer in the use of telemedicine. Back in the 1970s, Dr. Maxwell House at the Memorial University of Newfoundland started to use telephone technology to provide virtual consultations to remote sites throughout the province. But looking at what is happening today in other countries, it is fair to say that Canada has lagged far behind in the uptake of virtual care. This is not because patients are not interested. A survey conducted by Ipsos in 2018, before the pandemic hit, showed that less than 8% of respondents had a virtual consultation, when almost 70% reported that they would take that opportunity, if available. And almost 40% indicated that they would use this method for either all or more than half of their physician visits. So, what is the problem?

#### THERE ARE THREE MAIN BARRIERS TO THE WIDESPREAD UPTAKE OF VIRTUAL CARE IN CANADA:



There are **three main barriers** to the widespread uptake of virtual care in Canada: the first is the governance of compensation mechanisms. How do we compensate for healthcare services that are provided virtually? There were no clear rules about this before the pandemic hit. The second barrier is licensure. Medical licenses in Canada are governed by provinces and there is no federal regulation, so how to regulate care that crosses boundaries between provinces is an issue. The third point is lack of interoperability between patients, physicians, and health facilities. In a survey of Canadian Medical Association members, conducted in November 2018, a variety of obstacles were reported by those physicians who had sought licensure in another jurisdiction. The biggest problems identified by 90% or respondents were the process complexity and the length of time involved. But also, for international medical graduates, the credentialling verification is a painful process. These obstacles are a big deterrent for physicians who want to apply to other provinces because once they have gone through the process once, they are unlikely to be willing to do it again for each province. But with COVID-19 things started to change.

In January 2021 Alejandro Berlin and his team published a paper in JAMA Oncology on the rapid implementation of virtual care for cancer patients during COVID-19 at the Princess Margaret (PM) Cancer Centre in Toronto. A few days after WHO declared COVID-19 as a pandemic, in early March 2020, virtual care services were launched at PM. In-person visits decreased by a mean of 25%, and at first, the outpatient case volume as a whole, decreased, but within a month it caught up to pre-pandemic levels. Most of the patients said they were very satisfied with virtual care. As to practitioners, again, most of them were satisfied. But when asked about the quality of care, there was a substantial percent of practitioners who thought that it was not as good as in-person, but this was back at the beginning of telemedicine services. The research also found that telehealth led to huge cost savings, more than three million Canadian dollars for the 22,000 patients who received virtual care during this period. So, virtual care can be cost saving, which is understandable when thinking about travel time and cost, and the time away from work.



"Cancerworld" published an interesting paper in November, on how the Global North and the Global South can work together. The message applies to virtual care as well. High-income countries, like Canada, can learn from low-income ones about telemedicine and virtual care. While practicing in Nepal, Dr. Gyawali and his colleagues were implementing forms of telemedicine even before the pandemic, in order to spare patients journeys that could be as long as 24 hours, just to discuss a blood report, or imaging results. A thought piece about this was published in JAMA Oncology. The main message was that, due to COVID-19, health systems were adapting to telemedicine and other important efficiency strategies, but that when the pandemic is over, we should not forget the lessons learned.

## Breaking bad news virtually

One area that is especially difficult through telemedicine is breaking bad news. In cancer care, physicians have to do it often, which is hard enough in person, but becomes much harder when it is done virtually, particularly over the phone. Most of the growth in virtual care in many countries has been by telephone, not video. It would be best not to communicate bad news over the phone. They should be given in person, or at least by video. There have been guidelines about how to break bad news virtually, some suggesting the use of the WIRE-SPIKES protocol, which is a SPIKES adaptation for telemedicine, but this is an area in need of more research.

#### **Potential for overtreatment?**

Health care providers should be mindful that virtual care has a potential for over-treatment. Because the patient does not receive a physical exam in person, to be on the safe side, a physician might order a number of tests just by listening to the patient, which may not be needed and could even lead to over-diagnosis and over-treatment. WHO recommends telemedicine under the condition that it complements, rather than replaces, face-to-face delivery of health services. Patients with cancer need to be seen in person once in a while, but it is probably best for them not to travel all the way just for a basic follow-up. Telemedicine has to be balanced and used as a supplement rather than replacing face-to-face, and we still have miles to go before it becomes a reality for everyone.

# **Telemedicine in India**

The expert for telemedicine in India was **Navneet Singh**, Professor of Pulmonary Medicine & Faculty-in charge, Lung Cancer Clinic, Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, India.

2020 was an unprecedented year. At the beginning of last year, nobody would have thought that it was all going to be about COVID-19. COVID-19 also brought a unique perspective. Before, we used to interact in-person at physical meetings, but this has largely changed, and we now know that we can be anywhere in the globe and still interact virtually. We are soon moving to an era where all meetings will be virtual or hybrid.

Earlier last year, Dr. Singh published an article in "Current Problems in Cancer", on lung cancer in India. A typical flow of evaluation and management of lung cancer in low and middle-income countries (LMICs) like India is as follows: the patient get referred to an apex tertiary care centre with a suspected diagnosis of lung cancer and undergoes an initial evaluation to confirm the diagnosis, including relevant imaging and tissue acquisition procedures. When the diagnosis is confirmed, histological type as well as provisional clinical stage are determined. Additional molecular testing and/or staging workup are planned, if indicated. The most appropriate initial treatment is started based on clinical status, histological type, and provisional clinical stage. The treatment plan is reassessed based on results of molecular testing and/or staging workup. Typically, in early-stage non-small cell lung cancer (NSCLC) where the tumour is deemed resectable and the patient is operable (medically fit) after staging workup, surgical resection is offered. In metastatic NSCLC (non-squamous histology/adenocarcinoma), based on results of molecular testing, the appropriate targeted therapy is offered if an oncogenic driver is detected. There are periodic assessments (clinical and radiological) for response to the initial treatment given. Patients remain on observation and periodic follow-up after attempted curative intent treatment in early-stage disease while for advanced/unresectable disease, they are offered maintenance treatment, if eligible, after completion of induction palliative intent treatment.

Most of these steps, if not all, were variably affected by the COVID-19 pandemic. There were delays in getting evaluated and referred from primary and secondary care level healthcare facilities and patients also, to variably degrees, avoided visiting them. Consequently, there were delays in establishing diagnosis with some contribution also from temporary reduction in functioning of healthcare facilities for non-COVID illnesses as manpower and other resources were partially diverted to deal with the pandemic. Elective invasive staging procedures, as well as surgeries, were sometimes delayed or curtailed. In the advanced/metastatic setting, there was a general preference for non-aggressive chemotherapy regimens to avoid toxicities. In the post-curative intent treatment setting, follow-up visits and imaging were delayed to variable degrees.

# 5 Pillars

# Five pillars of management of lung cancer

- Chemotherapy
- Immunotherapy
- Radiation therapy
- Surgery
- Targeted therapy



Singh N. Lung India 2017; 34: 405-8

For lung cancer management, there are **five pillars: chemo, radiation**, and **surgery** being the traditional ones, followed by the introduction of **targeted therapy**, and more recently, **immunotherapy**. However, it would not be wrong to add **tele-oncology as the youngest pillar**. Based upon the patient subset and objectives, a lot can be done through tele-oncology: triage, screening, counselling and follow-up, continuation of oral medication protocols, and so on. In India, there were four phases of the nationwide lockdown, from 25th March to 31st May 2020. The unlocking began in sequential phases from June 2020 onwards and is still ongoing. From the very beginning of lockdown, telemedicine practice guidelines were released by the Board of Governors and the Medical Council of India, which enabled registered medical practitioners to provide healthcare using telemedicine. There were several flow charts in the document, including those for the first consult, follow-up consult, as well as for healthcare workers interacting with registered medical practitioners.

At PGIMER, formal tele-consulting services were initiated in May 2020. Dedicated phone lines were set up to facilitate registration for tele-consultation. Patients had to call during an allocated time period in the morning for registration. And once done, outpatient cards were generated for all registered patients and sent to the respective departments from where the consultation was required. Then tele-consultation teams from each department called registered patients from specially procured smartphones. The teams included MD/MS residents, DM/MCh fellows in training, as well as faculty members. The patients were asked for symptoms and other relevant details. They were asked to send records by WhatsApp® on the particular smartphone used to contact them. The tele-consultation team then wrote provisional clinical diagnosis on the out-patient card, along with recommendations for investigations, if needed, and preliminary treatment, if indicated. A photo of this was sent back to the patient's number via WhatsApp® and patients requiring detailed evaluation were given an appointment for a physical visit on a given date and time. This list of patients scheduled for in-person visit was sent to the Central Registration Team a day before, and patients requiring specific investigations or procedures were also given appointments accordingly. Patients requiring non-emergent admissions were called to the concerned ward and admitted after a negative SARS-CoV-2 test. Importantly, emergency services as well as oncology and obstetric outpatient services were functional throughout.

On the institute's website, a link for the Teleconsultation Services is now visible on the homepage, and this is a change from last year. Clicking on the icon, you can see how to pre-register for teleconsultation, and you also get a list of tele-consultation helpline numbers. Other specific helpline numbers for different departments are also listed, including the Lung Cancer Clinic. Patient numbers at the clinic drastically fell because of the pandemic: in 2020-21 they were almost half of what they used to be. And even within this time-period, there were many ups and downs related to the pandemic peaks. At times, non-conventional, frugal innovations or simple work-around solutions had to be adopted to overcome the limitations related to the exceptional circumstances resulting from the pandemic.

Dr. Singh and his team are now working on a prospective study to see the "Impact of teleconsultation on understanding, satisfaction, and compliance of lung cancer patients". It will include lung cancer patients planned for oral targeted therapies or at the completion of the active treatment phase with chemo or immunotherapy. The participants will be randomised to tele-consultation and physical follow-up visits, with a cross-over to the other arm after the first follow-up visit, which is at four weeks. The researchers plan to assess satisfaction, understanding, adherence, time spent, costs, as well as quality of life.

COVID-19 has acted as an impetus for widespread recognition and acceptance of tele-oncology. This new pillar is likely to be most useful for clinically stable patients, especially those on oral targeted therapies, those with advanced or metastatic disease on observation, following completion of the active treatment phase, and those on surveillance after curative intent treatment for early-stage disease. Tele-oncology has the potential to help avoid unnecessary hospital visits, especially when travel times are significant as is the case in a country like India.



# **Telemedicine in Latin America**

The last speaker was **Eduardo Cazap**, Founder President of SLACOM (Latin America and the Caribbean Society of Medical Oncology), Buenos Aires, Argentina, Editor in Chief, Ecancer (UK) and Coeditor of the Global Health Section of The Oncologist (USA.

The pandemic has affected many levels of the cancer control continuum: cancer care, healthcare systems, cancer plans, policies, and budgets. All of these have generated political and social consequences. Telemedicine has been applied in multiple clinical settings and it is generally agreed that it generates high levels of satisfaction for patients and doctors, and decreased healthcare costs. In Latin America, it has an incredible potential to improve access to its unevenly distributed health resources. Recent initiatives are underway to overcome disparities faced by remotely situated communities with inadequate access to healthcare services. The COVID-19 pandemic accelerated a rapid availability and adoption of telehealth services in Latin America but, regrettably, mainly in the private health sector.

#### Some regional examples

**Belize**: A telemedicine network in Belize successfully improved treatment access for paediatric patients with acute lymphoblastic leukaemia, and their families.

Peru: A tele-consultation and tele-chemotherapy module was established in 2015 in Lamas, a remote area of Peru, 22 hours away from Lima. It was an important milestone because for many years cancer treatment was mainly available in Lima, the capital. Around 10 years ago, the government started to decentralise treatment care, developing branches of the National Cancer Institute in remote areas, but only for face-to-face consultation. Now apps for telehealth are being developed and implemented. Among them is **ONCOpeds**, a tool developed by the Pan American Health Organization, that links physicians and paediatric oncologists with the family of children with a suspicion of cancer.



# Ref. Vásquez L, et al.ONCOPEDS: A mobile application to improve early diagnosis



and timely referral in childhood cancer in a low- and middle-income country-A pilot study. Pediatr Blood Cancer. 2021 Apr;68(4):e28908.



Argentina: During the pandemic, Argentina started a country-wide tool for telemedicine in the public health system (including for cancer care). In less than two years the system delivered 130,000 consultations, 72% of which were done via mobile phone.

Brazil: In Brazil, telemedicine was adopted by several private hospitals and by the largest insurance company covering more than 3 million people. The system performed more than 100,000 teleconsultations in 2020.

**Nicaragua**: A strategy was tested in Nicaragua for the diagnostic of genital diseases using telecolposcopy with the EVA system in various regions of the country. A recent report shows positive results for cervical cancer prevention using this digital solution.

Telemedicine can play an important role in cancer care, especially in areas of limited access to health structures and in remote geographical areas within large countries. Despite the potential benefits of eHealth, its incorporation into health systems and patient care remains limited in Latin America and the Caribbean, mainly due to insufficient funding for system development and inadequate internet related infrastructure. There is also little regulatory guidance. It is now a priority to secure more public policy support for the implementation of telemedicine. Lastly, to take best advantage of digital innovations, it is necessary to train physicians and nurses, but also medical students, who can then be at the ready if extra help is needed.

#### The webinar online

