Cancerworld

Telemedicine in the cancer continuum: Lessons from the Covid area and progress towards oncological prevention

Adriana Albini / 4 July 2022

Although telemedicine was to various degrees already in existence, with the Covid-19 pandemic it suddenly became a must, prompted by lockdown regulations and fear of contagion. Solutions had to be found and implemented quickly, and changes in the delivery of health care had to be put in place overnight, that would have taken decades otherwise. A new panorama in health care has emerged in the past couple of years, with many enticing promises and hurdles to overcome. Now that we have hopefully entered an endemic phase of Covid-19, in-person care is resuming in many areas, but telehealth has proven to have many benefits, and it is most certainly here to stay. It offers reduction in travel time, cost, and burnout for patients, families, and health care professionals alike. It adds flexibility and better allocation of resources, it allows personal and family empowerment and 24/7 remote monitoring. It also encourages the desperately needed digitisation of medical records, and the development and employment of AI and deep learning, so vital for the future of precision and patient centred medicine. Testing, monitoring, treatment adhesion, education, interdisciplinary team consultations are just some of the areas in which telemedicine can be successfully applied. Evidence gathered in the past two years indicates that the highest positive outcomes so far have been in the virtual care of mental illness, diabetes, chronic lung disease, arterial hypertension, and cancer.

Since the 1900s inventions such as the telegraph, telephone, radio, television, internet, have created an interconnected world that has facilitated communication, exchange of information, easier access to goods and services. To a certain degree medicine also took advantage of these innovations. The cover of the magazine Radio News in 1924 depicts the "radio doctor" as a feasible and desirable future reality. The first X-ray remote consultation took place in the 1940s, and remote consultations were also utilised in the military for illnesses and injuries during the war. In the 1950s the United

States invested time and money for research in telemedicine for their astronauts. Of course, phone calls between doctors and patients were and still are common, and they are the simplest version of telemedicine, with their variants "WhatsApp" and "Skype" calls.

Progress in the development and adoption of remote health was very slow indeed before it had to drastically change gear, to deal with the pandemic. So why does the health industry still lag so far behind other industries in its virtual applications? For instance, a visitor to a foreign country can easily access his/her bank account; and media have standardised formats that allow people from all over the world to enjoy their music or picture downloads. There are many logistical, ethical, privacy, psychological and financial hurdles that need to be overcome in the path towards an efficient, sustainable, and equitable employment of telehealth.

Telemedicine is particularly promising for the whole continuum of cancer care, where interdisciplinary teams are often required, and screening, monitoring, treatment adherence and psychological support are regularly needed, often long-term. In collaboration with [ASCO (American Society in Clinical Oncology)](#), in 2021 SPCC launched the [first phase of the "SPCC Telemedicine in Cancer Care Project"](#). A series of four webinars promoted the topic of telemedicine, examining its potential, limitations, barriers, challenges, and also new frontiers, such as AI and machine learning. The second phase of the project started with a conference held online on 6-7 May 2022, that saw the participation of world-renowned experts, some of whom already involved in the 2021 phase of the project. The focus of the conference was on how to overcome barriers and limitations, and address new challenges through the sharing of best practices on telemedicine applications. The ultimate goal is to create the best conditions to implement and integrate telemedicine applications to improve the cancer care pathway truly and effectively, for patients and their relatives, but also for health systems, in terms of cost-effectiveness, efficiency and sustainability.

Starting at the very beginning of the cancer continuum, how can telehealth help with **prevention**? Of course, prevention of a disease has an innate paradox:, the prevented pathology does not appear. It often requires a persistent behavioural change, the specific rewards of which are… invisible: if it works it cannot be seen. This form of prevention is called **primary prevention**. In cancer, it consists in the avoidance of known carcinogenic factors, from environmental and occupational hazards to tobacco cessation, changes in diet and increased physical activity. In the live discussion part of the conference, many suggestions were made on the subject: health care professionals can promote healthier lifestyles through social media, and in fact, it is very important that they are careful and deliberate about the content they post on those platforms. We could also add that fitness and diet videos gained popularity during the pandemic, creating a stronger community; and the so-called gamification of health can help adherence to exercise and diet goals in those populations with access to wearables, such as smart phones and watches. A simple system of competition and "rewards" can stimulate adherence and a sense of achievement. Screening is an important part of prevention, and telemedicine can facilitate it in many ways with education, online questionnaires, community platforms for patients, and rapid and efficient consultations between professionals, to detect potential health issues and act promptly.

More dramatic, is the impact that telemedicine can have on **secondary prevention**, which involves screening before the appearance of signs and symptoms to allow for early detection and treatment and to avoid recurrency. Through telecommunication, patients can be reminded and encouraged to take tests. Available screening data and genomic data can improve precision screening and better define risks as well. We must also remember that telemedicine was first employed for consultations between physicians, who can discuss images and test results to make a prompt diagnosis. This system of teleconsultation can be successfully carried out even in countries with less developed and available technological resources.

Tertiary prevention seeks to reduce morbidity and disability in people treated for a disease, to maximise survivorship and quality of life. In cancer it can concern also the prevention of metastases. Again, telemedicine can be successfully adopted through screening, patient reports, web questionnaires and interdisciplinary teams.

Looking at some best practice examples for prevention/early detection, an interesting case is the **ONCOPADI** platform in Nigeria, presented at the conference by **Alex Filicevas**, President of All.Can International and Executive Director of the World Bladder Cancer Patient Coalition. The Oncopadi Digital Clinic is mentioned among the examples of best practice in cancer care gathered in the All.Can Efficiency Hub. In Nigeria many people with cancer do not seek medical attention until it is in a more advanced stage, there is limited understanding of the disease as well as stigma and fear attached to it. People tend to seek help from religious leaders, often for years, before turning to clinicians. Outcomes in Nigeria are generally poor, with an estimated mortality rate of 80% across all cancers. Also, there are only less than 100 clinical oncologists, mostly based in large cities. Launched in 2017 by Dr Omolola Salako with support from the Sebeccly Cancer Care and Support Centre, Oncopadi is an online platform that focusses on improving access to specialist care and information for patients, and is specifically beneficial at the earlier stages of cancer care and diagnosis.

After an initial assessment, the platform connects people with an oncologist for an hour-long audio or video consultation via the app or telephone. The patient then receives a written summary of their appointment and a referral to their closest oncology hospital or diagnostic centre, depending on his/her need. Oncopadi also houses educational resources for people with cancer and their family carers, including patient guides and information on diagnoses, treatment and living with the disease. In early 2020, a smartphone app version was released to help oncologists and patients navigate the first wave of the COVID-19 pandemic, and limit disruptions to cancer care.

The number of people using the internet as a source of health-related information has steadily increased with time, and online resources can change the patient-professional relationship towards a more patient-centred care. **Christian Ochoa-Arnedo**, Chief of the Digital Health Service ICOnnecta't at the Catalan Institute of Oncology and Professor of Psychology at the University of Barcelona, pointed out that although almost 90% of cancer users search information and health education when they are diagnosed, more than 50% do not feel comfortable to share this information with their health professionals. There is an important gap of communication here that can be filled by internet community platforms and apps directed by health care professionals. Backed by the European Institute of Technology (EIT), OnCommun, of which Dr. Ochoa is Project Director, is an example of such an ecosystem. Its name is an acronym for "online cancer support communities" and its objective is to reduce cancer impact by improving access to psychosocial care and education. Cancer is a very hard transition; emotional distress is common and can be quite intense. Yet only 15% of cancer survivors, if not less, have access to psychosocial care. Educational and psychosocial care access can improve also other aspects in the cancer journey, such as therapeutic adherence, sick leave, time before returning to work, and, of course, quality of life. Better psychosocial support also means a possible reduction in the use of psycho pharma. OnCommun is a digital resource to online screen and monitor patients and to improve the social alliance between patients and health professionals. It has an important role in secondary and third prevention by detecting early signs of emotional distress. It is designed in steps, like a pyramid. At step 1 it includes all patients at the beginning of their cancer journey. If emotional distress is detected through screening, the patient is appraised by videoconference, and moved to level 2, called Campus, where he/she gains access to self-help and guided online videos. If this intervention goes well, they do not need to move further up. Otherwise, they are given access to the next step two weeks after the intervention. This third step is called Comunitats, an online support community supervised by specialists in different oncologic therapeutic areas. An AI algorithm helps pairing the patient with suitable mentors. At all

the steps a videoconference assesses the patients and guides them through the ecosystem. The top of the pyramid, level 4, is an intensive online group training via videoconference. When patients finish their oncological treatments, they can remain in the ecosystem with an optional, light follow-up. But the most important thing is that they can remain to give help and support to other patients that are beginning their experience. The preliminary results of OnCommun are very promising: 95% of patients resolve their educational psychosocial needs in the preventative scales, that is, in the first three levels, and detection time is fast, within 1.4 days.

These kinds of telemedicine resources work best if there is a health professional behind them, they help empower patients, still engaging with them, yet reducing digital paternalism, and creating a more balanced, collaborative relationship.