

TELEHEALTH PRACTICES DURING THE COVID 19 PANDEMIC

Kiril Slaveykov, Kalina Trifonova, Hristo Mumdzhiiev

Trakia University, Medical Faculty, Stara Zagora, Bulgaria, 6000

Abstract

Introduction: The COVID-19 pandemic caused over 340,000 deaths and an estimated 0,4 percent drop in economic growth. A key measurement in preventing spread is social distancing. Telemedicine allows us to overcome many of the restrictions imposed by the disease.

Aim: To analyze the efficacy, benefits and barriers of telehealth during the course of the COVID-19 pandemic.

Material and methods: A literature review. Pubmed, Scopus, Google Scholar and Medline were searched for articles.

Results: Most countries have relaxed existing laws and regulations concerning telehealth applications during the pandemic. The removal of existing barriers was followed by a surge of telemedicine usage, which allows us to see the effect of e-health solutions in critical situation and analyze the long-term implementation of such technologies. Countries which were late in adopting telemedicine suffered greater casualties.

Conclusion: Telemedicine has the potential to reduce the risk of cross-contamination caused by close contact. For it to be an effective part of an emergency response it needs to become an integral part of our health system.

Keywords: *pandemic, e-health, telemedicine, COVID-19*

Introduction:

The COVID-19 was first documented as an outbreak in December 2019 in Wuhan, Hubei Province, China. Since the first case it has rapidly spread all over the world and was declared by WHO a Public Health Emergency of International Concern on 30 January, and a pandemic on 11 March. As of 24th May 2020, more than 5.28 million cases of COVID-19 have been reported in 188 countries and territories, resulting in more than 340,000 deaths. More than 2.09 million people have recovered. [4] The estimated economic impact is a 0,4 drop in global economic growth, or around 86.6 trillion US dollars. [18] The virus is primarily spread between people during close contact, often via small droplets produced by coughing, sneezing, or talking. [14] The key measurement to counteract the diseases' spread include quarantines, travel restrictions and the closing of places where large groups of people gather, such as schools, theatres and shopping centres. Apart from group restriction, individuals may further prevent spread by staying at home, limiting travel, avoiding crowded areas, using no-contact greetings, and physically distancing themselves from others. [1]

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Results:

In recent history there were several epidemics: SARS, MERS, and Ebola which have given us some experience with e-health applications in such conditions. Keshvaridoost et al. note usage of mobile apps for monitoring and tracking confirmed Ebola cases. Data gathered by the app were faster, secure, and complete as compared with a paper-based form and it could accurately monitor large number of contacts. In the SARS epidemic videoconference consultations were performed in Taiwan, decreasing traveling costs and increasing availability

and safety. In Switzerland tele-medical assistants would filter patients on the phone, based on their symptoms and register them for further evaluation by a physician. [8] As telemedicine was shown to be helpful in previous outbreaks (SARS, MERS, Ebola and Zika viruses), an updated framework might be useful during the current crisis. Most countries, however, lack a regulatory framework to authorize, integrate, and reimburse telemedicine in their care delivery for all patients, particularly in emergency and outbreak situations. Currently we can resort to either private provider or free solutions, but neither is without its drawbacks. Even though they may be useful to support the health care systems during the outbreak, they are unintegrated within national health care systems and not sharing data with public health authorities for epidemiological surveillance. [11]

A telemedicine system can't be created overnight, but most countries had at least some form of e-health functionality before the COVID-19 pandemic started. Since the beginning of the crisis most countries have lifted or eased the restriction and barrier preventing and slowing down the full-scale adoption of telemedicine systems. [17] Bashshur et al summarize from the onset of COVID-19 that: a large portion of patients could be managed through telemedicine, without compromising quality of care; the required infrastructure is largely available in most countries with electronic health records; training and logistics can be developed promptly; there would be little to no resistance; most governments have relaxed regulations for telemedicine deployment. [3]:

A Tech Hub of e-health providers has undertaken the task of providing an overview of the e-health solutions available for COVID-19. [5] The solution included: communication, hygiene and personal protective equipment, maintaining critical care, remote patient monitoring, screening and triage, supply storage, training, virtual consultations. Apart from all the logistic improvements and technological advantages, the implementation of e-health for COVID-19 will enable isolated individuals to receive timely information and to maintain a sense of social belonging. [13]

The coronavirus has had a major impact on most countries, but their response toward telemedicine adoption has varied.

In the US COVID-19 threatens to overwhelm the healthcare system and supply chains. The existing issues with licensure, reimbursement, and legal standards have been significantly reduced, due to relaxing of state laws and regulations within the past months to promote greater adoption and use of telemedicine. Medicare, Medicare Advantage, and Medicaid have increasingly expanded telemedicine reimbursement. In particular response to the COVID-19 outbreak, Trump administration signed the Coronavirus Preparedness and Response Supplemental Appropriations Act, allocating \$8 billion in emergency funding for federal agencies to respond to the coronavirus outbreak, as well as authority for HHS to waive certain Medicare requirements to expand reimbursement for telehealth services temporarily during the coronavirus public health emergency. [15]

Italy was one of the countries hit hardest by the coronavirus, currently with over 200,000 cases and 30,000 deaths. Omboni notes that the government reacted too late to the crisis, only searching for digital solutions 2 months after the beginning of the pandemic. This combined with limited availability and diffusion of large-scale telemedicine solutions, lack of integration with the electronic health record, heavy privacy regulations, clear guidelines, and lack of reimbursement, severely hinder the implementation of effective telemedicine solutions. [12] The team advises that e-health technologies should be considered a proactive approach to secure continuity of care to patients suffering from chronic diseases, for which care cannot be postponed during national emergencies.

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In France in order to limit people grouping in waiting rooms, to facilitate screening and detection of suspected patients, and allow follow-up of mild confirmed cases from home a decree was introduced, allowing video teleconsultations by the National Health Insurance for patients with COVID-19 symptoms and confirmed cases, without the need to know the patient beforehand. [9]

In Poland the Ministry of Health issued a new decree for specialists which allowed all remote teleconsultations to be reimbursed identically to in-person visits. [2]

In China telemedicine was used for teleconsultations, tele-rounds, tele-radiology, and tele-ICU, which in culmination, provided screening, triage, and treatment for COVID-19. To improve adoption rate and utilization the government waived all fees for the system. Additionally, the reduced in-person visits and face-to-face contacts between patients and clinicians, helped decrease the transmission of the virus and protect healthcare providers from infection. [10]

Israel's medical centers reported the use of telemedicine to more effectively care for the COVID-19 patients on a cruise ship that was quarantined in Japan for several weeks. Telemedical services included remote patient examination without medical staff presence, robotic telemedicine cart equipped with a camera, screen and medical equipment controlled by doctors and nurses, and remote monitoring using a thermometer, blood pressure instruments and pulse oximetry, without additional human presence. [7]

Discussion and conclusion:

Rather than expect all outpatient practices to keep up with rapidly evolving recommendations regarding Covid-19, health systems have developed automated logic flows (bots) that refer moderate-to-high-risk patients to nurse triage lines but are also permitting patients to schedule video visits with established or on-demand providers, to avoid travel to in-person care sites. [6] Another thing the study bring into light is the quarantine of physicians in contact with COVID 19 and how they can be included into the work force. Quarantined physicians can cover tele-intake or direct-to-consumer care at institutions with ED freeing up other physicians to perform in-person care.

The current coronavirus (COVID-19) pandemic is again reminding us of the importance of using telehealth to deliver care, especially as means of reducing the risk of cross-contamination caused by close contact. For telehealth to be effective as part of an emergency response it first needs to become a routinely used part of our health system. [16]

The implementation of e-health would allow for consultations and tracking of sick patients, prevent unnecessary exposure for healthy individuals, and address problem which would arise from social distancing and isolation itself.

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