Ethical challenges of telemedicine

Introduction

Digitization currently affects all fields, including healthcare. In healthcare area, digitalization offers a wide range of uses, where telemedicine is a small part of eHealth, yet very important especially now, at a time when the global covid pandemic is creating an increased burden on healthcare professionals and poses risks for patients, who better eliminate their visits of medical facilities.

We can perceive eHealth on three levels:

a) as a general online service that provides information, advice and guidance in the prevention and treatment of disease,

b) as a means of using remote administrative services (eRecept, eInability) and viewing and monitoring personal health information,

and c) as a means of remote diagnosis and provision of medical consultations.

eHealth promises efficient and cost-effective way of providing healthcare. The last mentioned level is most closely connected with telemedicine, which has ambitions to provide medical services remotely and to eliminate the necessary patient contact with the HCP´s office as much as possible.

Thus, telemedicine makes health services and care as accessible as possible to anyone who does not have access to it easily and quickly. It has its justification in extraordinary situations connected with epidemics and quarantine, as was the case with covid-19, but also in chronic patients.

As a result, healthcare providers can remotely monitor and consult the health status of their patients using applications and devices. For example, the Home Monitoring wireless monitoring system monitors for heart rhythm disorders. Thanks to it, patients are constantly monitored and calm that something unexpected will happen. The device communicates wirelessly with a pacemaker or cardioverter and immediately notifies the doctor of a significant deterioration via SMS or e-mail. The doctor will then decide if the patient urgently needs to be checked or examined. It works similarly for other monitoring devices and applications. And it doesn't have to be just cardiac, but also overweight people, who are monitored by obesitologists or nutritionists, general practitioners or coaches. Great gadgets and small devices help doctors monitor patients´ activity throughout the day and improve their lives based on the data obtained. The aim is to take care of health and prevention and to provide health care whenever it is not possible through personal contact for various reasons. Remote medical clinics, remote therapy, rehabilitation, education of healthcare providers and patients as well as teleconferencies of doctors are common today.

Thousands of patients are already under remote supervision in the Czech Republic. And more and more telemedicine operations are also being reimbursed by insurance companies.

Current experience shows that the introduction of telemedicine into practice encounters some ethical barriers rather than technological ones. While technologies are ready for high-quality information transfer and the use of artificial intelligence, for example in diagnostics, we are reaching dead ends in the area of risk management, because current solutions on the part of the legislation are not sufficient. Literally, Pandora´s box here is represented by the GDPR and the battle between privacy on the one hand and health and safety on the other[1].

So **what ethical challenges will need to be overcome to enable technologies to be used effectively for the benefit of telemedicine?**

New ways of communication between the healthcare professionals and the patients necessarily require adjustments in the nature of the relationship that will be based on informed consent and the division of responsibilities. The question is what the patient will agree in his consent to and how the responsibility will be divided. It is not just about the privacy of the patient and, to some extent, the doctor and their responsibilities, but also about the service providers who are likely to be outsourced. Moreover, it is clear that the new ways of providing health care are not driven only by the public interest, but also depends on the will of politicians and their attitudes.

Proponents of e-health believe that it has the potential to overcome professional difficulties, geographical and infrastructural barriers, and even complications caused by socio-economic differences. Nevertheless, enabling technology to become part of telemedicine requires solving a number of potentially serious problems.

Technical reliability and suitability mean challenge for technology itself. It must be ensured that the technology is able to guarantee the safety of equipment and that it meets the standardization requirements. But the technology must be able also to ensure the integrity and reliability of the data, to collect collect and safe the data accurately, to communicate appropriately at the right time and to protect data and system against failure or interruption. It is also assumed that the technology will provide patient data without constant technical supervision and will operate independently and reliably in uncontrolled and geographically remote environments. eHealth also works with electronic health records that must be accessible as needed and also must contain unique patient identifiers[2].

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[1] *What are the most important barriers?* http://perspectives.ahima.org/electronic-health-records-what-are-the-most-important-barriers/

[2] *Establishing Digitally Enabled Healthcare – The Need to Move From High Touch to Relevant Touch.* https://healthmanagement.org/c/healthmanagement/issuearticle/establishing-digitally-enabled-healthcare-the-need-to-move-from-high-touch-to-relevant-touch

Another issue is **privacy**. The issue of privacy on the one hand and patient identification on the other also takes on a new dimension. In general, national laws and international conventions (such as European Union Directive 96/46/EC) stipulate that healthcare professionals and institutions have a duty to protect the confidentiality of patient data to the best of their ability and that breaches of this duty should be communicated to bodies in a timely and appropriate manner. Over the last few years, healthcare providers have tried to adapt and to comply with these requirements and developed different ways of authorization protocols, password protection, encryption, and so on. However, these techniques were adapted for the professional context and institutionalized environment, which can be fine-tuned and controlled. But eHealth mixes together the institutional, healthcare provider´s and the patient´s home environment. There are not defined any appropriate measures for such conditions[3, 4].

However, the challenges are not limited to the technical sector. With eHealth, patients are involved in the care process not only as the subjects but also as the participants. When the care data process is not fully automated via continuous telemetry, patients must report the relevant data themselves and may do errors either when measuring or reporting values. Although the process is automatic, patients may accidentally interfere with these automatic measurements or their transmission. The **division of responsibilities** therefore takes on a new aspect, and in the case of family members or important persons, the question of their co-responsibility also arises.

eHealth therefore requires the development of appropriate **training modules** for patients, but also the development of **new models of consents and responsibilities** that take into account the expanded involvement of patients (and other related people, if necessary) in the care process. This is how health informatics comes into play. However, it is no longer just a technical question. eHealth requires patients to understand important functional aspects of the technologies with which telemedicine is linked, as their activities (or lack of it) can significantly disrupt or change the functioning of relevant protocols and facilities, as well as affect the outcome of the care itself.

In addition to the educational obligation in this regard, it is also necessary to fulfill the advisory role in the issue of selecting suitable technologies. However, this is not the doctor´s expertise and should not be his responsibility.

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[3] *Ethical Practice in Telemedicine; Code of Medical Ethics Opinion 1.2.12.* https://www.ama-assn.org/delivering-care/ethics/ethical-practice-telemedicine

[4] *Ethical principles for eHealth. A briefing paper*.

https://archived.ehtel.eu/publications/position-and-briefing-papers/ETHICAL-briefing-principles-for-ehealth/view

When thinking about the need to overcome these difficulties, it is important to realize that **telemedicine is an innovation, but not one that should replace current healthcare provision, but is supposed to be integrated seamlessly into existing healthcare system.**[2]

To summarize the above, the fact that telemedicine must operate in an environment that includes different types of equipment and protocols means that it can only be implemented if it can be seamlessly integrated into older systems that are still a part of an established healthcare structure. Interoperability is therefore a prerequisite for success, as otherwise treatment may be disrupted by technologies with serious legal consequences. It also includes the problem of the parties involved in the telemedicine solution, which is integration with databases and operating systems used by individual doctors and other healthcare providers and patients.

The system must also be prepared for special events and contingencies. In such a situation, it is necessary to correctly identify their origin and identify whether it is relevant to the existing system, or telemedicine technology, or interface. As part of ongoing quality and risk management, the impact is that the current structure is subject to some quality metrics, but there are **no standard targets for telemedicine** yet. It is also necessary to address issues related to the intellectual property and inheritance of data that are exchanged between the patient and the physician and are archived in the patient´s facility in any way. The preparation of the solution is associated with a large **financial burden**, which as a result may mean higher financial costs than required by the operation of telemedicine itself.

Outsourcing will be an essential part of such an extensive plan. Cost-benefit requirements will force healthcare managers and planners to turn to global players who are generally able to provide technology and services at a lower cost. And again, there grows potential problem with provider´s affiliation to another jurisdiction and the possibility of a different application of the law relating to privacy.

Professional standards pose another challenge in this context. Patients expect and healthcare providers are required by law to provide care that meets the professional standards of the jurisdictions in which the care is actually provided. If outsourcing occurs, an effective and enforceable mechanism must be put in place to ensure that there are some means for the remote party to be held liable in the event of professional errors. Otherwise, the outsourcing of services will take place at the account of patients´s rights.

At the end of this list, it must also be recalled that eHealth and **telemedicine must remain a matter of choice**. While for some patients, remote care is a welcome standard, for others it means an unacceptable and unwelcome intrusion into the privacy and their home environment.

Conclusion

The need to digitalize the healthcare has been growing for many years, the faster the processes in other sectors are being digitized and we can already see a positive experience, especially in achieving greater efficiency, time savings and also greater accuracy and better data availability. The Covid pandemic has greatly accelerated the application of telemedicine solutions, but in a rather improvised form that has brought to light a number of actual and potential complications. These are not only technical and financial in nature. Even more often, they touch on ethical issues related to confidential content and its security. It is positive that a number of expert teams are working intensively on the development, with the support of the government and health insurance companies in the role of health care payers. Emerging systems are being tested by so-called Ethical Hackers and the National Office for Cyber and Information Security.[5]

From their position, all participants in the digitalisation of health care have to face the challenges involved. It would certainly not be out of the question to look beyond the borders: the Scandinavian countries, for example, have been using telemedicine for a long time, which has been driven by the need to overcome problems with the geographical availability of medical care. Ethical issues in remote patient-physician contact also had to be resolved satisfactorily here. However, whether telemedicine is the result of physical unavailability of healthcare or just the result of the ability to implement the legislative framework faster, according to the OECD report from 2020, Czech patients visit doctors more than twice as often as patients in the Nordic countries[6]. Certainly not due to higher morbidity.

Czech healthcare has great opportunities to benefit from telemedicine. Exaggerated optimism is out of place, but the first steps, supported with the implementation of the Electronic Health Care Act in 2021, have been hopefully done so that others will follow in favor of the health of all of us.

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[5] *Českou telemedicínu pořádně nastartovala až pandemie;* https://jsme.cz/ceskou-telemedicinu-poradne-nastartovala-az-pandemie

[6] *Number of doctor consultations per person, 2018 (or nearest year).* Source: OECD Health Statistics 2020; Eurostat Database. https://www.oecd-ilibrary.org/sites/82129230-en/1/3/2/5/6/index.html?itemId=/content/publication/82129230-en&_csp_=e7f5d56a7f4dd03271a59acda6e2be1b&itemIGO=oecd&itemContentType=book

References

(1) *What are the most important barriers? Perspectives in Health Information Management / AHIMA, American Health Information Management Association* [online]. [cit. 2021-12-18]. Retrieved from http://perspectives.ahima.org/electronic-health-records-what-are-the-most-important-barriers/

(2) *Establishing Digitally Enabled Healthcare – The Need to Move From High Touch to Relevant Touch.* Published in HealthManagement, Volume 21 – Issue 7, 2021 [online]. [cit. 2021-12-18]. Retrieved from https://healthmanagement.org/c/healthmanagement/issuearticle/establishing-digitally-enabled-healthcare-the-need-to-move-from-high-touch-to-relevant-touch

(3) *Ethical Practice in Telemedicine; Code of Medical Ethics Opinion 1.2.12.* [online]. [cit. 2021-12-18]. Retrieved from https://www.ama-assn.org/delivering-care/ethics/ethical-practice-telemedicine

(4) *Ethical principles for eHealth. A briefing paper, ETHEL 2012..* [online]. [cit. 2021-12-18]. Retrieved from https://archived.ehtel.eu/publications/position-and-briefing-papers/ETHICAL-briefing-principles-for-ehealth/view

(5) *Českou telemedicínu pořádně nastartovala až pandemie* [online]. [cit. 2021-12-18]. Retrieved from https://jsme.cz/ceskou-telemedicinu-poradne-nastartovala-az-pandemie

(6) *Number of doctor consultations per person, 2018 (or nearest year).* Source: OECD Health Statistics 2020; Eurostat Database. https://www.oecd-ilibrary.org/sites/82129230-en/1/3/2/5/6/index.html?itemId=/content/publication/82129230-en&_csp_=e7f5d56a7f4dd03271a59acda6e2be1b&itemIGO=oecd&itemContentType=book

Gustava Jessica Vydrová, M200178