Application Based on Technological Advances in the Health Sector During a Pandemic: A Study of Telemedicine in Indonesia from Legal Perspective

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Abstract. In the response of COVID-19 pandemic and the collapse of health care facilities, telemedicine started to campaign by the Government. Indonesia goverment already established some telemedicine regulation through health ministri decree. This regulation was made in response of ensuring citizen rights to access health care through telemedicine, as the non-emergency case patients have limited acces to hospitals. HaloDoc is one of the telemedicine application in Indonesia that has growth rapidly especially during pandemic. This study will discuss about the urgency of telemedicine in Indonesia during COVID-19 Pandemic from legal perspective and the implementation of telemedicine in Indonesia viewed from HaloDoc. The writers used socio-legal approach to study this case.

Keywords: telemedicine · halodoc · development of technology · health sector · health care

1 Introduction

It's a common practice when someone is sick or have an urgent medical condition, they will make appointment with doctor, go to the hospital, or any other medical service place. The medical care provided is usually carried out in person, between the patient and the health worker. Moreover, medical assesment that is done in person is more accurate.

Unfortunately in December 2019, there was a cluster of respiratory disease occured in Wuhan, China. Later on March 2020, World Health Organization (WHO announced that the disease named Coronavirus Disease 2019 (COVID-19) is pandemic situation [1]. Then on May 2nd 2020, there were 10843 cases with mortality rate 7.7% [2]. Ensuing this, Indonesia Goverment then announced that the state is on emergecy condition and command to do anything to slow the escalation of COVID-19.

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Indonesia Goverment has proactively taken multiple measures to health the COVID-19 cases. Among the steps taken by the Goverment is converting some hospitals to be COVID-19 hospital. COVID-19 hospital is a hospital that only accept COVID-19 patients. This measure was taken to limit the transmission of the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) that causing COVID-19 among patients, healthcare workers, visitors, and citizen. At the same time, the common hospitals need to adjust their medical services as there are several changes. The Ministry of Health Indonesia also issued "Guidelines for Hospital Services during the COVID-19 Pandemic" as the new stardard medical services in Indonesia as the response of COVID-19 Pandemic and New Normal.

Another problem that arise bacause of high rate of COVID-19 cases is people have limited access to come to hospitals or medical facility during pandemic. There are some reasons that causing this [3]:

The patients suspect themselves have been infected with COVID-19 and afraid they will spread it to other people;

a. The patients afraid of false positive of COVID-19 hospitals and then forced to do isolation in medical facilities;
b. They can't come to hospitals due to various reasons like there is no one who can send them or feel too weak.

Furthermore, hospitals during COVID-19 pandemic also have over-capacity problem and need to reject patients because there is no more bed for them.

Responding this issue, Ministry of Health of Republic Indonesia enacted The Decree of Health Minister (KMK) No. HK.01.07/MENKES/4829/2021 regarding "Guidelines for Health Services through Telemedicine during the Corona Virus Disease Pandemic 2019 (COVID-19)". Telemedicine is combination of techlogies and devices that able to gain information regarding patient's health status, do assesment and screening about patient's complaint, so to aid in deciding if there is need or urgency to intervene. In more advanced telemedicine product, patients even be able to order the medicine or book appointmer or test if needed. COVID-19 crisis has accelerated the use of telemedicine in Indonesia for caring the patients, especially to avoid larger crowd in hospitals.

Viewing this phenomenon, this study will discuss about: (1) The urgency of using telemedicine during pandemic from legal perspective; (2) Implementation of telemedice in Indonesia. This study will take "Halodoc" application as the sample for telemedicine use in Indonesia.

2 Research Method

The research method used is descriptive qualitative method with socio-legal approach. Qualitative research is a research process to understand human or social phenomena by creating a comprehensive picture presented in words, reporting detailed views obtained from sources, and carried out in a natural setting [4]. The that descriptive research method is a method in examining the status of a group of people, an object, condition, system of thought, or class of events in the present which has the aim of making a description, description in a systematic, factual and accurate information about the facts, nature and

relationships between the investigated phenomena. It can be concluded that descriptive qualitative research method is research conducted to examine objects, conditions, groups of people, or other phenomena with natural or real conditions (without experimentation) to make a systematic general picture or detailed description that is factual and accurate [5].

Socio-legal aprrocah is study that using legal instrument interpretation on build analysis based on the data. The data will be processed and interpreted by legal perspective.

3 The Urgency of Using Telemedicine During Pandemic from Legal Perspective

COVID-19 pandemic has develop too quickly and made many health establishment not ready for it and crumbled. As per WHO statement, people are asked to limiting their acitivites outside and diong quarantine. International Health Regulation (IHR) also stated that when the pandemic happened, the Goverment need to do health quarantine, limit the travelling access, even going far to close the border. Indonesia itself does Pemberlakukan Pembatasan Kegiatan Masyarakat (PPKM) or The Communitiy Activities Restriction Enforcement (CARE) and limiting community activites to stop the transmission of the disease.

However, new problem has arrised. The high rate of COVID-19 cases and hospital limitations in accepting and treating patients results many patients cant be accommodated by health services, this including the patients with chronic disease [6]. Unfortunately, it's hard to make appointment in hospital or have tratment vis-a-vis if the patients do not have urgent medical situation (need to hospitalized, life-threatening operations, etc.).

Therefore, Indonesia goverment tries to accomodate this need by instructing the use of telemedicine. This measure was taken to make sure that everyone can have access to health service without going to hospital directly and meantime filter the urgency of patients conditions. Indonesia Goverment then legisalte regulations to establish this system and ensure fulfillment of citizen's right.

3.1 Government Decree Number 46 2014 about Health Information System

Article 1 Number 5 of Government Decree Number 46 2014 about Health Information System stated that Health Electronic System is a series of electronic devices and procedures that function to prepare, collect, process, analyze, store, display, announce, transmit, and/or disseminate Health Data and Information. This definition is more leaning toward telehealth than telemedicine.

Telehealth is the use of digital information and communication technologies to access health care services remotely and manage the health care business while telemedcine has a narrower scope. Telemedicine refers more specifically to the use of information technologies and electronic communications to provide remote clinical services to patients. The term of telehealth includes a broad range of technologies and services to provide patient care and improve the healthcare delivery system as a whole. Telemedicine can be broadly described as the use of telecommunications technologies to provide medical

services and information. Although this description includes the medical-related use of a phone or fax, as well as distance learning, telemedicine is increasingly being used for remote electronic clinical deliberation. It can be concluded that telehealth has broader scope than telemedicine but have same aspect of using technology and information for medical purposes.

Services of telemedicine are but not limited to the digital transmission of medical imaging, remote medical diagnosis and evaluations, and video consultations with specialists. To understand better these 2 (two) terms, real-life example of telehealth is homecare where it provides interactive audio and video between elder patients and the nurses while the real-life examples of telemedicine are HaloDoc and AloDoc.

By these explanatories, the definiton of Health Electronic System of Article 1 Number 5 of Goverment Decree Number 46 2014 about Health Information System is leaning more to Telehealth. However, Indonesia later focuses more to term telemedicine than telehealth in its regulation products.

3.2 Ministry of Health of Republic Indonesia Decree Number HK.01.07/MENKES/4829/2021 Regarding Guidelines for Health Services through Telemedicine during the Corona Virus Disease 2019 (COVID-19) Pandemic

This decree established guidelined for health medicine through telemedicine during COVID-19 that will be used as reference for state goverment, regional government, doctors and other medical workers, healthcare service facilities, telemedicine application guarantors, and stakeholders regarding healthcare services through telemedicine during COVID-19 pandemic. The services of telemedicine that was meant in this decree are remote health services using information and communication technology to provide health information, diagnosis, treatment, prevention of worsening, evaluation of patients' health conditions, and/or pharmaceutical services, including for monitoring COVID-19 patients who are in self-isolation, carried out by doctors and other health workers at health service facilities in accordance with their competence and authority while still paying attention to the quality of service and patient safety.

3.3 Regulation of Food and Drug Association of Republic Indonesia Number 8 2020 Regarding Control of Drugs and Food Distributed Online

This regulation is response of technological developments which the current of information technology development allows people to buy medicines and food online. Therefore, in order to ensuring the distribution food and drugs online is obeying the Indonesia legal system Indonesia FDA establish the regulation that controlling online distribution.

3.4 Regulation of the Indonesian Medical Council Number 74 2020 Regarding Clinical Authorities and Medial Practices through Telemedicine during the COVID-19 Pandemic in Indonesia

Indonesian Medical Council or Konsil Kedokteran Indonesia (KKI) outed regulation in response of COVID-19 crisis that states that patients who have high risks or comorbid whould avoid traditional outpatient visits if possible, especially in crowded hospitals. Therefore, KKI through this regulation stated that non-emergency cases should use telemedicine. This regulation talked about the scope of medical professionals competency in telemedicine, such as electronic prescrbing and electronic medical record.

3.5 Telemedicine during COVID-19 Pandemic

The geographical conditions of Indonesia, which is made up of separated islands, have resulted in an unequal distribution of health facilities and health workers. These facilities and health workers are concentrated in cities like Jakarta, Surabaya, Bandung, and Medan. The condition of unequal distribution promotes the growth of telemedicine. Telemedicine has the potential to equalize health services across Indonesia; with telemedicine, anyone can consult a doctor of their choice without regard for distance. Furthermore, the Covid-19 pandemic has accelerated the growth of telemedicine. Because it reduces the barrier (still minimal telemedicine education), it makes it easier for business players to enter the market and acquire new customers.

Furthermore during COVID-19 pandemic, many of health care facilities collapsed due to overload patients and the collapse of health care workers [7]. In addition with high percentage of infections spread, high risk patients and non-emergency case patients have limited acces to health facilities. Therefore, the Government started to campaign to prioritize using telemedicine if you're not emengency case patients.

4 The Implementation of Telemedicine in Indonesia

Telemedicine in Indonesia was started from Satellite for Health and Rural Education (SHARE) project, sponsore by INTELSAT, where The Medicine Faculty of Diponegoro University and WHO conducted a teleconference on Tropical Diseases with medical societies in Canada, USA, and Europe. The information exhanged trhough text mode and the results was evaluated in term of technical performance and user's subject valuation.

To conduct experiments on ETS-V L-Band transmission and its application, a new regional cooperation called PARTNERS (Pan Asia-Pacific Region Telecommunication Network for Experiments and Research by Satellite) was introduced, sponsored by the MPT of Japan and managed by Andriyan B. Suksmono, U. Sastrokusumo, Tati L.R. Mengko, J. Tjandra Pramudito, and Susi Oktowaty ARIB. The PARTNERS members used the 64 Kbps stream for slow scan video lectures (1992–1997). The conclusion was that this type of application can be used appropriately for both educational and medical communications. The School of Medicine at Tokai University was a prominent member and partner for ITB.

Telemedicine back then was used more for medical and health education purposes, where the telecomunication was done by medical professionals and acedemics. Later,

telemedicine has wider scope since Biomedical Laboratory of ITB project that focusing on telemedicine for Primary Community Health Center (Puskesmas) with services: tele-consultation, simple tele-diagnostic, tele-coordination, tele-education, and medicite database. This proejct was supported by a grant from PanAsia Foundation [8].

Recent days, telemedicines in Indonesia are run on website and/or application. Republic Indonesia Ministry of Health has actually launched telemedicine called Temenin in 2017. Telemin can be viewed as Indonesia's own national telemedicine platform, with features such as teleradiology, tele-EKG, tele-USG, and teleconsultation, as well as collaboration with approximately 200 hospitals and local health centers (Puskesmas). Another example of telemedicine in Indonesia is HaloDoc.

Halodoc is an application and website from Indonesia that is engaged in the health sector. PT Media Dokter Investama, this application company was founded in 2016 in Jakarta by Jonathan Sudharta. Until 2018, the total funding received was around US$13 million or around Rp170 billion; some of the investors include Gojek, Blibli, Clermont, and NSI Ventures. Halodoc announced a partnership with GO-JEK in May 2018. Through this partnership, GO-JEK will connect the GO-MED feature in the GO-JEK application with the Halodoc application. So that GO-JEK users will be directly directed to the Halodoc application to order medical needs such as medicine or vitamins. Halodoc connects doctors with patients directly and anytime. Patients can use the application anytime 24/7, so patients can still operate the application 24 h a week, whenever and wherever the patient is. Halodoc has a consulting service that can be used easily because this application is required with a capable internet network capability. In the Halodoc application, patients will know whether the intended doctor is available or not. The name of the general practitioner or specialist will also be listed along with the consultation fee per minute. To perform the Contact Doctor feature on Halodoc, the patient must do a Top Up first. Then the patient can immediately consult with the doctor who has been previously selected. Not only a doctor's consultation service, Halodoc also has a Pharmacy Delivery service, which is a service to buy drugs and have them delivered in less than an hour. Payment can also be cash on delivery (COD). The Halodoc application also provides unique health tips and of course very useful. The Halodoc application can be downloaded on Google Play and the App Store [9].

After two years, the COVID-19 pandemic still shows no signs of stopping. The Halodoc company sees this and strives to present various product ideas to services to make things easier for the people, especially during this pandemic. One of the efforts that have been made is the free telemedicine program for isoman patients to the COVID-19 vaccination program. As with the COVID-19 vaccination program, Halodoc collaborates with the Indonesian Ministry of Health and other stakeholders. Laboratory Test Service Halodoc serves too laboratory tests. With this feature, it is easy for users to order laboratory test services, of course, from an official laboratory that has collaborated with Halodoc. The process of taking blood and urine samples is carried out at the user's home. Then, the results of the laboratory examination will be automatically recorded and can be accessed anywhere and anytime on the user's account. Another interesting feature of the Halodoc application is Reminder. Reminder is a feature that always reminds users not to forget to take medicine according to the disease or health condition that is being experienced [10].

5 Discussion

According to a survey conducted in the Asia-Pacific region, 59 percent of consumers expect their doctors to answer questions via phone and messaging services rather than waiting for the next appointment, and currently, 59 percent monitor their health using technology and 54 percent schedule appointments via mobile apps. This data shows that telemedicine now is on trend, especially with COVID-19 pandemic going around and State stakeholders should take notes regarding this [11].

Telemedicine is not something too novel in Indonesia. Some regulation and legal system regarding telemedicine already established by the Government. However, it's still a long way to universalizing health care through Telemedicine.

Ideally, telemedicine can be used by the government to give health care services in wider areas, especially the rural ones as Indonesia still has large gap in equity and equality of health care facilities. At the very least, telemedicine allows people to be diagnosed faster, which allows them to receive a faster and more concise response from healthcare providers in both emergency and non-emergency situations. As a result, in a populous and vast country like Indonesia, telemedicine would supplement existing healthcare facilities by overcoming current accessibility issues [12]. Moreover, BPJS Kesehatan, the national health insurance progam, can take advantage of telemedicine as compensation for healthcare provision in regions where physical facilities aren't largely available.

However, despite the quick progress of telemedicine in Indonesia, telemedicine is not accessible for many of Indonesian people. Firstly, internet coverage are in Indonesia is still a problem that has not been solved despite the citizen protests. Many of rural areas and estern Indonesia have difficulties in accessing internet, both because of the lack of facilities and financial difficulties. Furthermore, it is difficult to ensure that telemedicine remains financially accessible in order to achieve the goal of healthcare itself. This is because telemedicine is an economically exploitable sector, particularly in Asia Pacific, where the telemedicine market is expected to grow from US$8.51 billion in 2019 to $22.45 billion by 2024 [13]. Therefore, there was a possibility that telemedicine would be capitalized and harder to be accesed universally.

Since October 2019, HaloDoc made agreement with BPJS Ketenagakerjaan regarding telemedicine. This cooperation is carried out in stages, up to know the JKN-KIS members can access doctor consultation, make doctor appointment, and health contents in mobile apps [12]. However even with the agreement, customers can not make payment with BPJS Kesehatan insurance.

According to 2021 survey regarding HaloDoc services with 207 valid respondents, public expected that HaloDoc can be integrated with BPJS Kesehatan. Hence, this study also shows that development of policies related to national insurance (BPJS) is one of driving forces of customers in using telemedicine [11]. In other sides, there's possibility that telemedicine can help BPJS regarding its losses. Telemedicine has a lower cost structure compared to conventional health services.

6 Conclusion

Indonesia has a promising telemedicine technology start and trajectory. While it may be difficult, there is a significant need for the government to develop accessible and telemedicine platforms in order to improve the future of healthcare provision in general. The Goverment need conditioning telemedicine system to be more accessible, especially regarding financial problems where BPJS need to be integrated in more telemedicine service applications. Hence, Indonesia telemedicine need to be more inclusive for the people with dissabilities. With the trend of technology and information, Indonesia Government need to establish stronger legal foundation concerning telemedicine, as many medical professionals think that telemedicine is still grey area of legal perspectives. Looking at the trend and it already has prior agreement with BPJS, HaloDoc is future example of Indonesia telemedice.

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