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Doctors Say "Not Only Me": Medical Malpractice as a Professional Crime in the Internet Medical Era

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ABSTRACT

The entry internet of medical things affects the basic concept of medical practice. Its impact on who will be responsible in the event of medical malpractice. The inclusion of technical elements that have dominance, tends to be the same as the position of doctors in determining the success of an action. Therefore, it is important to discuss this. The authors conceptualize medical malpractice in the internet era of medical things as a professional crime. In the pre-IoMT era, it focused on doctors. The author uses a conceptual approach to typology of crime from Clinard & Quinney. Using this method, the researchers conceptualize medical malpractice as a professional crime in this era. It can be addressed to other health workers who are directly responsible for the practice of medicine or the medical devices used. In the context of robotic surgery, electromedical/medical engineering is a health profession. It is then responsible for ensuring the reliability of robotic surgery before it is used by doctors in the practice of robotic medicine. But it is different if it is in radiotherapy medicine. In radiotherapy medicine, in addition to doctors, there are electromedics / medical engineering and medical physicists. More details are found in the discussion

Keywords: *medical malpractice, internet of medical things, typology of crime, professional crime*

1. INTRODUCTION

The concept of the Internet of Medical Things was first proposed by Topol. He wrote in his book entitled "the patient will see you know: the future of medicine is in your hands" in 2015. This book is a continuation of Topol's other books. It discussed the destruction of the world of medicine. The mention of IoMT by Topol (2015: 11) is described as a "connected medical device". Device connectivity can be shared with other health workers as well as patients and families. The sharing of data referred to here is sharing activities assisted by machines. The algorithm will process and process the data automatically.

On automation, Topol (2012) describes that Joseph Schumpeter's "creative destruction" terminology in medicine can bring fundamental changes to medical services. These changes occurred due to the inclusion of various elements such as "super convergence" (Topol, 2012; viii). Super convergent consists of wireless sensors, genomics, imaging, information systems, mobile connections and bandwidth, internet, social relations, computing power, and universal data. Super convergent is translated into devices and networks. One example of a change in medical services is the change in the mechanics of practicing surgeons before 1985. In that year, surgical procedures were still using knives. However, in the same year, Davis from the University of California in collaboration with IBM Research, created a "Robodoc" to perform joint replacement and stereotactic brain procedures (Taylor in Nasab, 2019). In 2020 there are many types of surgical robots

which the researchers explain separately in the sub-chapter on surgical robots.

IoMT brings such great benefits. However, it also presents significant challenges and obstacles in medical services. These challenges and obstacles can directly impact the quality and results of medical practice. Services that are disrupted as a result of device malfunctions are caused by elements of the device itself. Apart from that, there is sabotage from inside and outside the device (via the network) that is embedded in it can also affect it.

Before IoMT entered, medical malpractice could be classified as a form of white-collar crime or more specifically a professional crime (Mustofa, 2010; Sutherland, 1964). However, because they purely carry out medical services, they stand alone dominantly even though before the IoMT era doctors used devices. It is only used as a support, not as therapy, such as in the implementation of IoMT medical practice. The entry of IoMT into medical practice has an equal role, so the perpetrators of the crimes will also be different. For this reason, the authors make a classification/typology that is expected to facilitate the formulation of crimes. From the findings, the authors conclude that the typologies of medical malpractice in the IoMT era include professional crime, corporate crime, and cybercrime.

Before the IoMT era, medical malpractice was categorized in the white-collar crime (WCC) typology. Mustofa (2010) gave an example that WCC is a crime committed by a certain class. WCC is formulated only based on the characteristics of the actors, where Mustofa further (2010:25) "the classification of the characteristics of the studied symptoms is often also a typology"; Mustofa (2021; 230) "... the typology of crime as a social phenomenon must be made based on its social characteristics which are not the same as those formulated by criminal law". Mustofa gave the example of WCC as a social category of criminals who cannot be found in criminal law formulations. WCC perpetrators have different opportunities from people of low status. This opportunity can be misused to commit crimes. Whereas the typology made by Clinard & Quinney (2019) is the third revision by Trevino, revealing that there are three dimensions in carrying out typological construction, namely 1) the definition of behavior as a crime (legal aspect); 2) the sociology of criminal behavior and 3) social reactions to criminal behavior.

Clinard & Quinney (2019) details the three typological dimensions as follows. Definition of Behavior as Criminal: human behavior created by authorized agents in a politically organized society. Criminal law is formulated by segments of society who have the power to translate their values, ideology, and interests into public regulations. Criminal law consists of a definition of behavior that is considered threatening to a dominant interest group. The social history of criminal law reflects changes in the power structure of society. Sociology of Criminal Behavior: Behavior is shaped by the extent to which defined norms have become part of an individual's career. Offenders' criminal careers include the social roles they play. In addition, there is also their self-conception, development in criminal activity, and identification with a crime. The violations committed varied depending on the degree to which the behavior was defined and became part of the organization of their lives. Usually, this happens without any legitimate opportunity. Criminal behavior is shaped by the extent to which norms and activities have become part of their career. Criminal behavior is also supported to varying degrees by the norms of the group, community, or subculture from which they originate. A criminal acts according to normative patterns learned in a relative social and cultural environment. Group support for criminal behavior varies according to the association with norms and the perpetrator's integration into the social group. Social Reaction to Criminal Behavior: Patterns of criminal behavior are structured in society related to patterns of lawful and legal

behavior. People develop and engage in actions that have the potential to be criminal. Thus, criminal behavior varies according to the lawful patterns of behavior in society. Criminal behavior is seen concerning the norms that segments of society have the power to formulate and administer criminal law.

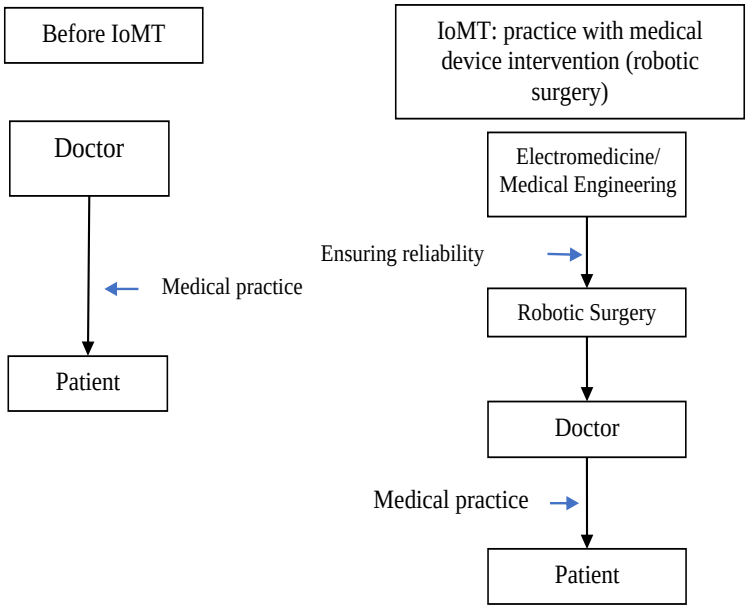
Criminal behavior varies in intensity and the number of reactions, they elicit from different sectors of society. Social reactions ranged from disapproval and informal censure to formal sanction procedures from the criminal justice system. Different punishment and enforcement policies are defined and regulated for each type of crime. The social reaction is also influenced by the visibility of the offense and the degree. Criminal behavior conforms to the interests of the societal power structure. Types of criminal behavior vary in how they are processed through the legal system. Patterns of detection, arrest, prosecution, punishment, and treatment exist for each type of crime (Clinard & Quinney, 2019).

The formulation of the IoMT medical malpractice typology will use a typological construction. It refers to the typology of Musfota and Clinard & Quinney (2019) which was revised by Trevino on the effectiveness of Indonesian law and the development of criminology in the world. The reason for using the two constructions is that several crimes have not yet received specific legal aspects. Violations committed by perpetrators, for example, the dependence of user devices on manufacturers, violations of ethics by device manufacturers, and so on, which researchers call a crime.

II. METHOD

The researcher uses a conceptual qualitative approach from a criminological perspective based on social science. It can be illustrated in the image below:

Figure 1 Operational Malpractice Concept Before and during IoMT



The picture shows the conceptualization made by (Payasan, Runturambi, & Sulhin, 2022) pada artikel kami dengan judul "medical malpractice transformastion internet of things era". The foundation is the pre-IoMT era. In the implementation of pure medical practice, the doctor is responsible for his practice. It is caused by the use of medical devices that only serve as support. In the IoMT era, medical devices can be used for intervention purposes.

The conceptual approach uses theory and interviews related to expert opinions. These opinions included criminologists and medical device experts to provide comments regarding the conceptualities that the researchers had found.

III. RESULT AND DISCUSSION

Medical malpractice as a professional crime is based on the theory of professional crime. This theory is an extension of Sutherland's white-collar crime. It can be identified based on the physical characteristics of the offender who is given special rights. Based on competence and authority, the typology of medical malpractice as a professional crime will be described according to Mustofa's views (2010; 2019). Besides that, in the interview that the researcher conducted, Mustofa said that the benchmark for medical malpractice crimes lies in the losses experienced by patients.

"..the main requirement is the loss suffered by the patient. The loss could mean the benchmark is a loss. Losses can be material or non-material [disability and/or death].

Thus, medical malpractice as a professional crime is described below. This description is more dominant in Mustofa's typology of crime, but it does not mean that Clinard & Quinney's typology is not discussed. Mostofa's typology of professional crimes describes crimes that measure losses/potential losses to patients. In addition, several legal aspects governing losses in criminal law regulations and special regulations regarding health are also considered.

1. Human Profession in IoMT Medicine

IoMT Medical Services described by Topol (2012;2015;2019) states that connected and super convergent can be the basis for changes in medical services as described transformation on medical malpractice besides that Payasan, Runturambi, Sulhin (2022) who in their research proved the role of electromedicine / medical engeneering in the practice of robotic medicine. Medical services were based on doctors. They have shifted to the inclusion of other professions and dominant/determining the success of IoMT medical services. These other professions are electromedical health workers, medical physicists, and/or radiographers. Based on the typology of professional crimes mentioned by Mostofa and Clinard & Quinney, crimes can be seen from the characteristics of the perpetrators. For this reason, the human being meant is a doctor, electromedical, medical physicist/ radiographer. It is regulated in Indonesian Law no. 36 of 2014 concerning health personnel.

2. Losses and Potential Losses

Harm or damages to IoMT medical services in the view of criminology can be in the form of material and physical losses (Results of Expert Interview). In the realm of IoMT, robotic surgery can cause harm to the weaknesses of this robotic surgery. The weak sides include: 1) operational permits and division of responsibilities among human, manufacturing, and healthcare facilities (Usluogullan, Tiplamaz, & Yayci, 2017); 2) there is no certification body and credential standard; 3) frameworks and standards (O'Sullivan, et. al, 2019); 4) Operational safety (Usluogullan, Tiplamaz, & Yayci, 2017; O'Sullivan, et. al, 2019; Lydiatt & Sewell, 2017; Lundberg, Stoltzfuz & El Chaar, 2019; ccBernal, et.al 2021); 5) operating costs are more expensive than conventional methods (Bae et al, 2017; Roh, Nam & Jung, 2018; Acevedo et al, 2019); 6) Surgery training is only provided by robot companies (Usluoğulları, Tıplamaz, & Yaycı, 2017); 7) Surgery uses the "da Vinci" brand, doctors must have received 20 cases of surgery ((Lydiatt & Sewell, 2017); 8) Surgeons who perform robotic surgery are required to be able to perform surgery manually. It aims to anticipate if there are problems in robotic operations and must be done manually (Usluoğulları, Tıplamaz, & Yaycı, 2017; Lydiatt & Sewell, 2017); 9) Jurisdictional problems can be operated across countries (Dickens & Cook, 2006).

There are no specific rules related to robotic surgery medical services. This was disclosed by the resource person, Ms. C, the Legal Affairs Bureau Indonesian Ministry of Health's.

…So, from a regulatory perspective, if we pass a health law, we will regulate the use of technology in the health sector... But for a more technical regulatory level, we have only arrived at the health minister's regulation regarding telemedicine. Later it will also focus more on the use of telemedicine between healthcare facilities.

The research data obtained related to the problems above are described as follows:

a. Training by manufacturers tends to create dependence. Electromedics in health services is not involved in existing robot training. The telesurgery robotic beam is planned to be included based on information from the Director General of Health Workers. Doctor training requires many procedures. The procedure is supervisory so that certification can be given
b. Certifications and frameworks: Certifications issued by robotic surgeons and/or manufacturers worldwide;

The findings above are related to human competence. Competence here is the process of technology transfer/knowledge transfer of IoMT devices in the context of how to use the device. The problem with this transfer of knowledge is how these standards are implemented. In addition, it is not yet known who will judge whether the health worker is competent in its use or not. It is also the concern of sources from criminologists. He mentions it as a guarantee of professionalism and verifies professionalism.

"…. Are there any guarantees of professionalism? like the nanorobot medicine that is injected, who verifies it [the nano robot] goes to a location like the analogy of a drug to a target."

The competence of health workers is regulated in the Law on Health Personel. Competence is a standard of ability that must be possessed by health workers based on their respective specifications. Competency testing is measured through the competency test stage and proven by a competency certificate. To obtain recognition, health workers must have been registered at the Indonesian Council of Health Workers (KTKI) and/or medicine (KKI) as evidenced by a registration certificate of health personnel (STR). Then if you meet the administrative requirements, you will be given a Practice/Work licence of doctor or electromedical/ medical engeneering (SIP/SIK) according to the type (Law No. 36/2009 & Law No. 36/2014;); doctors are regulated in Law No. 29/2014); and Indonesian Ministry of health regulation No. 83 year 2019.

If there is no standard measurement, there is a potential loss that will be experienced by the patient. From the search results, both literature and research interviews, researchers found knowledge transfer in the medical profession. It is regulated in the Indonesian Medical Council Regulation No. 22 of 2014 and 46 of 2016. The regulation states that knowledge transfer must be held at medical educational institutions; teaching hospitals and specialization collegiums conducted by foreign doctors (foreigners). If it is related to the domination of other professions, robotic telesurgery should naturally transfer technology to other humans such as electromedics. The absence of special regulations for transferring technology can potentially harm patients. In addition, the tendency for technology transfer not to be carried out is because of the interest of device manufacturers to keep users dependent on manufacturers (more details are explained in the corporate crime typology).

Medical malpractice in the realm of robotic surgery/telesurgery in the statutory regulations does not regulate this. Justification for the presence or absence of malpractice can be proven by disability and/or ethical violations. The justification for crimes has occurred as described by Mustofa (2010). He revealed the existence

of special rights that humans have. There are two professions involved in robotic telesurgery services, namely doctors and electromedics. The doctor is the executor of the operation while the electromedical is responsible for the functioning of the robot. Both of them can be said to be perpetrators if there is a loss suffered by the patient. Determining the actor from the two professions must be seen again whether the loss was caused purely by an error in the doctor's actions or an error caused by a malfunction of the robot. In this case, the robot is a doctor's tool in surgical procedures.

In nuclear medicine services and/or medical services that use radiotherapy equipment, and surgery using gamma or x-rays (such as the case examples in chapter 4) three professions take part in the service, namely doctors, electromedics, and medical physicists. These three professions have different areas of responsibility. Errors in this professional crime are following the scope of responsibility or competence of the profession as also mentioned in robotic medical services.

3. Legal aspects of medical malpractice as a professional crime

In general, medical malpractice is negligence committed by a health professional. Whether or not there is a loss suffered by the patient is regulated in Articles 29 and 58 of Law no. 36 of 2009 concerning health and Articles 77-78 of Law no. 36 of 2014 concerning health workers. The Health Law and the Health Workers Law regulate the patient's right to ask for compensation if they experience a loss. Patients can ask for losses from health workers through restorative justice with mediation. Regarding the implementation of practices without competence, it regulates criminal sanctions and/or fines if in practice health workers do not have STR and SIP/SIK. Criminal sanctions are regulated in Article 85 paragraph 1 and 86 paragraph 1 of Law no. 36 of 2014 with a fine of 100 million rupiahs. Specifically for doctors, it is regulated in Article 75 paragraphs 1 and 76 of Law 29 of 2004 with a maximum imprisonment of 3 years or a fine of 100 million rupiahs for not having an STR and/or SIP.

The Indonesian Criminal Code regulates the negligence of a person who can cause harm (physical disability) contained in Articles 359, 360, and 361. The category of disability is found in Article 59. Article 359. This article states that the criminal threat to a negligent person thereby causes death. Meanwhile, Article 360 causes disability, whether permanent or not, with imprisonment or a fine. In particular, article 360 states negligence is caused by a person carrying out a profession. While 361 discusses the addition of criminal penalties if carried out by someone who is practicing his profession.

4. Social Reaction

Clinard & Quinney (1973) stated that social reactions to professional crime take into account public tolerance due to the low visibility of professional crime. Offenders can escape punishment by "fixing" the case. Meanwhile, Clinard & Quinney (2019) stated that social reaction is the view of society in reacting to criminal behavior. Evil behavior can vary depending on the extent to which they form patterns in society, including those in power. Putri (2018) reveals that violations (gratifications) committed by doctors, whether the victim is visible or not, can be disguised. It happens because the doctor is a noble duty (privilege). In addition, group support can also complicate the judicial process. It was revealed by Putri and be supported by Payasan (2020) revealed that out of 18 cases that were processed by the court, 6 cases occurred as malpractice. Even though these cases were complemented by disciplinary violations from the Indonesian Medical Discipline Honorary Council (MKDI). The group's support indicates the tendency of the profession to protect its members.

IV. CONCLUSION

Medical malpractice in the internet of medical things era, in the study of crime typology proves that in the implementation of IoMT medicine that uses interventional devices, for example in surgical robots, a doctor cannot be blamed if there is a harm or damages due to the unreliability of the device / robotic surgery. For this reason, electromedicine / medical engeering can then be one of the perpetrators who can be held accountable if in the implementation of the practice it makes the patient suffer damages. However, it is different, for example, in radiotherapy medicine which also involves other health workers, for example, such as medical physicists or radiographers who are operators, they can also be held legally accountable.

Declaration by Authors

Ethical Approval: Approved

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REFERENCES

1. Acevedo, J., Edwin, Mazzei, M., Zhao, H., Lu, X., Soans, R., & Edwards, M. A. (2019). Outcomes in conventional laparoscopic versus robotic-assisted primary bariatric surgery: A retrospective, case-controlled study of the MBSAQIP database. Surgical Endoscopy, doi:10.1007/s00464-019-06915-7
2. Bae, S. U., Jeong, W. K., & Baek, S. K. (2017). Robot-assisted colectomy for left-sided colon cancer: comparison of reduced-port and conventional multi-port robotic surgery. Journal of Laparoendoscopic & Advanced Surgical Techniques, 27(4), 398-403.
3. Clinar, M. B & R. Quinney (1973) Criminal behavior system: A Typology. 2nd. New York: Holt, Rinehart, and Winston, Inc.
4. Dickens, B. M., & Cook, R. J. (2006). Legal and ethical issues in telemedicine and robotics. International Journal of Gynecology & Obstetrics, 94(1), 73-78.
5. Lundberg, P. W., Stoltzfus, J., & El Chaar, M. (2019;2018;). 30-day outcomes of robot-assisted versus conventional laparoscopic sleeve gastrectomy: First analysis based on MBSAQIP. Surgery for Obesity and Related Diseases, 15(1), 1-7. doi:10.1016/j.soard.2018.10.015
6. Lydiatt, D. D., & Sewell, R. (2017). Medical malpractice and transoral robotic surgery: Evaluation and some preemptive thoughts. ENT Journal, 96(12), 477-480. doi:10.1177/014556131709601210
7. Mustofa, M. (2010). Kriminologi Edisi Kedua: Kajian Sosiologi Terhadap Kriminalitas, Perilaku Menyimpang dan Pelanggaran Hukum. Bekasi: Sari Ilmu Pratama.
8. Mustofa. Muhammad (2021). Kriminologi: Kajian sosiologi terhadap kriminalitas, perilaku menyimpang dan pelanggaran hukum.ed. 3 : Prenadamedia Group, Jakarta, ISBN: 978-623-218-92302
9. Nasab, M. H. A. (Ed.). (2019). Handbook of robotic and image-guided surgery. Elsevier.
10. O'Sullivan, K. E., Kreaden, U. S., Hebert, A. E., Eaton, D., & Redmond, K. C. (2019). A systematic review of robotic versus open and video-assisted thoracoscopic surgery (VATS) approaches for thymectomy. Annals of cardiothoracic surgery, 8(2), 174.
11. Payasan, Lalu Guntur (2020). The Discourse of Medical Malpractice Punishment In Criminology Perspective. SOEPRA, 6(2), 293-306. DOI: https://doi.org/10.24167/shk.v6i2.2568
12. Payasan, L. G., Runturambi, A. J. S., & Sulhin, I. (2022). The Medical Malpractice Transformation in the Internet of Medical Things Era. Technium Social Sciences Journal, 38(1), 204–219. https://doi.org/10.47577/tssj.v38i1.7880
13. Regulation of the Indonesian Medical Council Number 22 of 2014 concerning approval of the transfer of medical science and technology
14. Regulation of the Indonesian Medical Council Number 46 of 2016 concerning changes in the division of the Indonesian Medical Council Number 22 of 2014

15. Regulation of the Minister of Health of the Republic of Indonesia Number 83 of 2019 concerning the registration of health workers.
16. Puteri, Ni Made Martini (2018). The Moderation Effect of Meaning of Doing Good, Group Identification and Type of Work on the Relationship between the group's moral mandate and the indulgence of gratification behavior. Dissertation. Faculty of Psychology, University of Indonesia
17. Roh, H. F., Nam, S. H., & Jung, M. K. (2018). Robot-assisted laparoscopic surgery versus conventional laparoscopic surgery in randomized controlled trials: A systematic review and meta-analysis. PLoS One, 13(1) DOI:http://remote-lib.ui.ac.id:2087/10.1371/journal.pone.0191628
18. Sutherland E. H (1964). The Professional Theif: by a professional theif. Chicago: The University of Chicago Press.
19. Toole, B. (2012). The Creative Destruction of Medicine: How the Digital Revolution Will Create Better Health Care: E. Topol, New York, NY: Basic Books, 2012, 303 pp. ISBN-13: 9780465025503.
20. Topol, Eric (2015) the patient will see you now: the future of medicine is in your hands. Basic Book: New York. ISBN 978-0-465-04054-4
21. Trevino, A. Javier (2019) Clinard and Quinnaey: Criminal Behavior System: Routledge, ISBN: 9780367026653
22. Indonesian Criminal Code
23. Indonesian Law Number 29 of 2004 concerning the Practice of Medicine
24. Law Number 36 of 2014 concerning Health Personnel
25. Usluoğulları, F. H., Tıplamaz, S., & Yaycı, N. (2017). Robotic surgery and malpractice. Turkish Journal of Urology, 43(4), 425. doi:10.5152/tud.2017.59013

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