

SUMMARY OF DOCTORAL DISSERTATION

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"Tort liability for damage caused in course of providing medical services with use of artificial intelligence"

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The subject of this dissertation is to analyse the use of artificial intelligence (AI) in the treating process in terms of compensation of medical damages. AI is credited with a potential to revolutionise medicine. At the same time specific nature of this technology poses serious threats to the personal rights of patients, as well as significant challenges in redress of the suffered damage.

The main aim of the thesis was to answer the central research question regarding whether currently patient's damage incurred in course of providing medical services using the AI systems can be effectively compensated in tort regime. Given the peculiar features of AI, the dissertation was additionally focused on determining which parties and on what terms should be liable for medical damage caused by AI.

The research objectives were achieved by applying four research methods: historical, comparative, empirical and formal-dogmatic method, which was dominantly.

The dissertation consists of an introduction, four chapters and final conclusions.

The first chapter was devoted to presenting the concept of AI, its distinctive features and applications in medicine as well as the threats it poses to the patient's personal rights. In this chapter there were also identified challenges in redress of medical damages induced by AI systems. They concern (1) the notion of fault in fault-based tort liability and (2) burden of proving tort liability conditions.

The first part of second chapter was focused on assessment of challenges in compensation of medical damages caused by AI on the ground of tort liability regimes of European countries, especially concerning French and German models. This analysis proved the convergence of the indemnification barriers resulting from dominant role of fault-based tort liability among European legal systems and similarity of tort liability conditions.

The second part of this chapter was centred on EU *de lege ferenda* postulates which were supposed to be Union's response to the issues with civil liability for AI. These postulates are aiming at basing tort liability for AI on strict liability for defective products and introducing new rules on burden of proof in the case of non-contractual fault-based civil liability for AI.

Furthermore, EU anticipates the possible need to enlarge the scope of strict liability for AI in near future.

Chapters third and fourth cover the detailed, dogmatic analysis based on Polish civil law provisions.

In the third chapter fault-based tort liability for medical damages was examined. It was concluded it may be difficult or even impossible to hold a physician or medical facility liable for AI system errors. In the course of analyses, it was found that (1) meeting the burden of proof may encounter serious evidentiary barriers resulting from the peculiarity of AI, in particular its opacity and complexity. Furthermore (2) a physician or medical facility cannot be attributed with fault if the damage was solely due to the autonomous operation of the AI system.

The fourth chapter deals with the strict liability. The conducted research led to the conclusion of significant limitations in redressing medical damage caused by the use of the AI based on applicable provisions. As the sources of these problems there were identified (1) burden of proof challenges and (2) the structure of strict liability provisions applicable to compensation of medical damages, such as scope of this liability.

The dissertation ends with presentation of the final conclusions and *de lege ferenda* postulates laid down in line with research results. These postulates are aimed at creating new provisions on tort liability for damages caused in course of providing medical services with use of AI based on a strict liability.