

*Presidenza del Consiglio dei Ministri*



## **Abstract**

# **ARTIFICIAL INTELLIGENCE AND MEDICINE: ETHICAL ASPECTS**

29 May 2020

During a meeting between the President of the Council of Ministers and the Italian Committee for Bioethics (26 September 2020), a specific request was made by President Conte for a pronouncement by the Committee on the use of artificial intelligence (AI) in the field of healthcare. In the context of the speech addressed to the ICB, President Conte underlined: "In the perspective in which we are heading, where technological innovation will further characterise our daily lives and where obviously, from a government perspective, we will push even harder for a decisive transformation in the digital sense, it is clear that artificial intelligence and robotics will play an even greater role and will challenge us to deal with moral dilemmas (...). I would therefore ask you to accompany me with your reflections on this at the very moment in which we are moving in that direction of development".

In order to provide a response to the query with reference to the applications in the field of health and medicine, the Italian Committee for Bioethics has set up a mixed group with the National Committee for Biosafety, Biotechnology and Life Sciences, coordinated by Profs: Salvatore Amato, Carlo Casonato, Amedeo Cesta, Roberto Cingolani, Lorenzo d'Avack, Silvio Garattini, Laura Palazzani. The document was edited by Prof. Laura Palazzani.

The opinion, starts with a definition of AI, it analyzes its origins and most recent developments, with specific reference to the huge availability of data and computing power. The document highlights the opportunities and risks of AI and the main applications in medicine, including the context of the Covid-19 pandemic.

The Committees, in the context of the rapid evolution of these technologies, call on some elements of critical reflection for an understanding and evaluation of AI. As part of the doctor-patient relationship, they underline, on the one hand, the opportunities that can allow health professionals to reduce the time needed for bureaucratic, routine or dangerous activities, allowing them to be more available in the patient care relationship, on the other hand, they describe the risk that "automated cognitive assistance" could reduce the skills of doctors and healthcare workers. The document underlines the importance of tools that guarantee the reliability of AI, through validation, reducing, as far as possible, opacity, errors and possible discrimination due to technological and/or human causes. Given the enormous use of data, adequate protection of privacy is also essential, also considering the possibility of sharing data for "social good".

Informed consent remains an essential element of the doctor-patient relationship, despite certain difficulties, given by the informative process of the doctor and the not always simple and usual understanding of it by the patient. Particular attention is therefore also devoted to new training in the medical, technological and social fields. In this regard, the Committees believe it is essential to rethink the training of health professionals dynamically, with a flexible review of the study programs by interdisciplinary commissions, to combine the various competencies of AI in a transversal and interdisciplinary way and, at the same time, introduce the importance of ethics in the training courses of engineers, computer scientists, developers, with particular reference to ethics in the design and application of technologies. An important objective should also be the raising of public awareness within society regarding the opportunities and risks of new technologies, as well as a regulatory update on the profiles concerning responsibility in the application of new technologies and the promotion of AI research in both the public and private sectors.

The identification of responsibility, from a legal point of view, requires an assessment of existing categories, given the pluralism of competencies between the designer, the software vendor, the owner, the user (the doctor) or third parties.