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MAGAZINE

Artificial intelligence and the future of medicine

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Protecting health with data medicine

An important meeting entitled "**Protecting Health with Data Medicine" was held at the Festival of** Economics on May 24. During the event in the crowded boardroom of Palazzo Geremia, experts from the health sector and professionals discussed the challenges and opportunities related to the use of technology and *big data* in health care. The discussion was led first by **Monica Moroni**, a researcher, mathematician and neuroscientist at Trento-based Fondazione Bruno Kessler who contributed to the debate with her in-depth knowledge in the field of data analytics research.

Paolo Di Giorgio, CEO of Angelini Ventures, a *leading* investor in healthcare startups, brought his experience in the world of medical innovation, highlighting the importance of the adoption of emerging digital tools and the approach to innovative therapies. **Luca Foresti**, an investor in the health industry who is committed to supporting new technology solutions to improve people's health, pointed out some of the difficulties of the National Health System: "What sense does it make, in 2024, that the NHS does not have an App to manage all Italians' health data? In healthcare, it is the most obvious thing imaginable. But, in the NRP, it is nowhere to be found. And," he went on, "how much does it cost to develop a good app like that? 100 million? With that amount you can do a really good job. Yet to date it has not included in the Plan."

Francesco Romano Marcellino, co-founder and partner of **Dst Group**, an expert in the field of technology strategies, contributed to the discussion with a perspective on data integration in medicine: "The topic now is data interoperability, and many companies are investing a lot on this.". In Italy, as e all know, the situation is patchy. "Fortunately, this problem is being solved with the new Fascicolo sanitario health records, but the adoption of innovations in clinical practice and patients will take time because we have a cultural problem that will require a lot of work."

FBK researcher **Monica Moroni** shared interesting reflections on the impact of artificial intelligence (AI) in the medical field, shedding light on the most promising prospects and possible pitfalls: "AI" – **Moroni** said – "is already changing medicine, and its role is bound to grow. The models we work on, if built and used correctly, have enormous potential especially for diagnosis prediction, because they are capable of analyzing large amounts of clinical, historical and synthetic

data. Another area where these algorithms can improve care is in personalization: AI can tailor therapies to the specific needs of each patient, considering factors such as genetics, lifestyle and individual responses to treatments. Helping to manage health care resources more efficiently by optimizing procedure planning and resource allocation is a goal for all of us as scholars and health care professionals."

"Of course," **Moroni** concluded, "there are pitfalls that should not be underestimated. It is essential to integrate AI into clinical practice as a support tool for physicians. The risk is that physicians may perceive AI as a threat instead of an allied tool. In addition, AI algorithms may contain bias if not trained properly. Therefore, it is crucial to ensure that AI serves all categories of patients, avoiding discrimination. This is why collaboration between professionals and AI is crucial."

AI is already changing medicine, and its role is bound to grow. This was the common thought that emerged during the meeting, which went on to address critical topics such as **data privacy**, **medical liability**, the **National Guidelines Plan**, **technology** and **systems** integration, system costs, and **the impact of data medicine** on public health. The discussion also touched on **digital applications** and ChatGPT**,** which sparked discussions with the physicians in the room. At the conclusion of the meeting, moderated by journalist **Francesca Cerati** from Sole24Ore, it emerged that AI represents, despite all the challenges still open, a great opportunity to improve medicine, especially predictive medicine, but it is important to address its risks carefully. Ongoing research and proper training of healthcare professionals and practitioners are key to maximizing the benefits of AI in healthcare.

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