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**Info Sheet | Ethics of AI in Healthcare**

The Governance of Artificial Intelligence: what are the ethical issues and challenges?

Keynote Speaker: Effy Vayena, Swiss Institute of Technology (CH)

From the United Nations to the OECD and the European Commission, there are now more than 200 [general guidelines](https://www.sciencedirect.com/science/article/pii/S2666389923002416) for the development and ethical application of Artificial Intelligence. However, there is **a lack of guidelines for specific fields of application** that enable the development of products and services often deemed of key importance for citizens.

In the context of global health, the leading voice for ethics in AI has been that of the **World Health Organization**, which has published [specific guidance on governance issues](https://www.quotidianosanita.it/allegati/allegato1705570864.pdf) and, more recently, a framework for the development and use of large multimodal models in healthcare. **How will the implementation of the WHO guidelines impact the development of ethical tools for Artificial Intelligence and the way to make decisions about its ideal use in healthcare?**

Generative AI: limiting the risks

Artificial Intelligence is evolving rapidly, along with multimodal models that combine different languages to offer advanced generative AI. Their applications in public healthcare are manifold and rapidly developing.

**The research centre Market.us has estimated that the global market for generative AI in healthcare will grow to $17.2 billion by 2032, up from $800 million in 2022.** But this development also brings numerous risks with it.

Multimodal models, like other forms of AI, are **vulnerable to cybersecurity attacks** that could jeopardise patient information or the very reliability of algorithms and, more generally, compromise healthcare delivery. According to Jeremy Farrar, Chief Scientist at WHO, “generative artificial intelligence technologies have the potential to improve healthcare, but only if those who develop, regulate and use them are able to identify and fully consider the risks associated with them. There is a need to develop transparent information and policies to manage the design, development and use of multimodal models in order to achieve better health outcomes and overcome persistent health inequalities.”

From this point of view, it seems **crucial to involve governments, companies developing these technologies**, as well as **healthcare providers, patients** and **civil** **society** in all stages of the development and use of these products, including their supervision and regulation.

Is the introduction of norms a hindrance to innovation?

The **European Parliament**, with the approval of the **AI Act**, created the **world’s first body of legislation dedicated to artificial intelligence**, opening the debate between those who celebrate this historic turning point that will lead to greater control over AI applications and those who see it as confirmation of the famous Silicon Valley joke: “America innovates, China replicates, Europe regulates.”

Can the complexity of Europe’s regulatory approach create obstacles in terms of innovation? **According to Effy Vayena, regulation and innovation are not at odds.** However**, generating innovation requires smart regulation** that avoids all those bureaucratic and inflexible paths that do not make technology development agile.

Sometimes, regulatory processes create duplication and complication, generating complexity. A **complexity** that may be easy to manage for large companies that can draw on dedicated departments and resources, but **discouraging for small companies**, which are very often the realities from which innovation is born.

Among other obstacles, Effy Vayena also highlights the **risk-taking** behaviour of companies developing technologies in Europe. **Too many ideas are produced that are never brought to market** **and European countries end up buying the most innovative products from other countries** because they are unable to produce them.

Looking at the health sector, the aim is always to protect citizens from the risks of innovation, but sometimes they are penalised in terms of healthcare. An example might be the market launch of **new drugs**, which takes much longer in Europe than in other parts of the world. The same also goes for **medical devices** that use artificial intelligence systems which we are only now learning to evaluate through self-learning and self-correction systems.

The real challenge will be to see technological developments not as something to be afraid of but as something that can bring real benefits.

Effy Vayena

**An expert in medicine, data and ethics, she is a lecturer in bioethics at the Swiss Institute of Technology (ETH).** Her research work focuses on pressing social issues related to data and technology in connection with scientific progress and how this is or should be applied to public and personal healthcare.

Effy Vayena completed her training as a social historian with a doctorate in the History of Medicine at the University of Minnesota. A strong interest in health policy led her to work with the World Health Organization on ethical issues related to medicine and reproductive research. Once back in academia, Vayena helped establish and coordinate the doctoral programme in Biomedical Ethics and Law at the University of Zurich and later obtained a professorship from the Swiss National Science Foundation.

As a lecturer in health policy, she founded the Ethics and Health Policy Laboratory to address the most pressing issues arising from technological advances, such as genomic technologies in healthcare and research.

She qualified at the University of Zurich in the field of bioethics and policy and was appointed Visiting Professor at the Center for Bioethics at Harvard Medical School and Faculty Associate at the Berkman Klein Center for Internet and Society at Harvard University, where she was previously a Fellow.

[**Effy**](https://www.ndph.ox.ac.uk/team/angeliki-kerasidou) **Vayena will be a keynote speaker at the *Global Health in the Age of AI. Charting a Course for Ethical Implementation and Societal Benefit* Symposium on 7 November 2024, at 3.30 pm.** To follow the **live streaming of the event access the** [**Fondazione Giorgio Cini**](https://www.youtube.com/user/FondazioneGCini) **YouTube channel**