## *Bioethics Digest*

In this feature, our team provides you with an overview of the most recent publications in the field of bioethics, with a particular focus on contributions coming from (or having relevance for) Switzerland.
Buona lettura! Bonne lecture ! Viel Spass beim Lesen! Enjoy the reading!

The editors: Andrea Martani, Maddalena Favaretto, and Felix Pageau

6th Edition – 2 March 2021.

PUBLIC HEALTH ETHICS
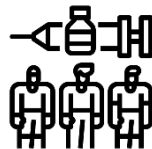
"Immunity certification for COVID-19: ethical considerations"

This article by a WHO working group discusses the ethical implications of implementing an immunity certifications for COVID-19. Contrarily to vaccine-based certifications, immunity certifications "would provide individuals who have recovered from COVID-19 with a document certifying them as immune to COVID-19 based on [..] serological testing for antibodies". First, authors state that – before any ethical reasoning – some conditions of scientific acceptability must be met (e.g. the extent and duration of protection after an infection must be well understood). Thereafter, accurate ethical justifications for and against adopting immunity certifications must be weighed. For example, the benefit of having certified healthcare workers must be weighed against the risk of over-exploiting such individuals for high-risk frontline work. Moreover, ethical issues concerning the implementation of such system must be considered, i.e. "some individuals may intentionally increase their exposure to SARS-CoV-2 to become infected and thereby receive an immunity certificate". In conclusion, the authors affirm that immunity certifications should never "be used as the main strategy for reducing the effects of the COVID-19 pandemic", but "could be used as a component of a plan that decreases the number of people subject to highly restrictive measures and increases the number able to take on certain higher risk activities such as caring for others".

Voo TC, Reis AA, Thomé B, Ho CW, Tam CC, Kelly-Cirino C, Emanuel E, Beca JP, Littler K, Smith MJ, Parker M, Kass N, Gobat N, Lei R, Upshur R, Hurst S, Munsaka S. Immunity certification for COVID-19: ethical considerations. *Bull World Health Organ*. 2021 Feb 1;99(2):155-161. doi: 10.2471/BLT.20.280701.

"Ethical Issues with Using Internet of Things Devices in Citizen Science Research: A Scoping Review"

In this article, the authors reflect on the ethical issues associated to the use of internet of things (IoT) devices in research projects where the public is actively involved or the so-called "citizen science" (CS). To do so, they performed a scoping review of the current literature, which lead to select 34 articles (from which information was extracted). Three major topics of ethical relevance are discussed in this paper. First, issues around autonomy and consent are raised by the authors (e.g. asking whether "geotagging opt in on a social media platform represents adequate consent" for citizens who collect data through their personal device for research projects). Second, the writers explore the issues of data quality and integrity of CS research. That is, there is a risk that data collection is skewed or biased, even though IoT devices allow to independently collect data. Risk of inaccuracy are to be taken very seriously, since such data can also be used to inform policymaking. Thirdly, concerns related to control over data and confidentiality are raised in this article.

Finally, the authors conclude by recommending that future CS research related to IoT should accurately consider these three ethical aspects when elaborating the protocol for their projects.

Scheibner J, Jobin A, Vayena E. Ethical Issues with Using Internet of Things Devices in Citizen Science Research: A Scoping Review. *Front. Environ. Sci*., 15 February 2021. doi: 10.3389/fenvs.2021.629649

"Revolutionizing Medical Data Sharing Using Advanced Privacy-Enhancing Technologies: Technical, Legal, and Ethical Synthesis"

This paper outlines that novel encryption techniques can be used to facilitate sharing of medical data in the research context as well as compliance with data protection law. The authors begin by underline the three main data-sharing models currently existing pertaining to data sharing. They explain both their pros and cons. especially the latter: either by mentioning the diminishing data quality, increasing bureaucracy or entailing privacy risks. Then, they describe three novel privacy-enhancing technologies (Homomorphic Encryption, Secure Multiparty Computation and a combination of the two) and explain how they could be used in the context of medical data-sharing. They finally argue that such technologies would facilitate compliance with data protection law (the GDPR especially), in that they would guarantee adequate encryption, to the extent of rendering data truly anonymous in certain circumstances. They just suggest to facilitate the development of adequate standards and improvement of the usability of such techniques (e.g. by reducing the computational power that they currently required), so that in the future they can be extensively deployed for medical data sharing.

Scheibner J, Raisaro JL, Troncoso-Pastoriza JR, Ienca M, Fellay J, Vayena E, Hubaux JP. Revolutionizing Medical Data Sharing Using Advanced Privacy-Enhancing Technologies: Technical, Legal, and Ethical Synthesis. *J Med Internet Res* 2021;23(2):e25120. doi: 10.2196/25120