



InnoCOV | Innovation policies for resilient biomedical R&D systems: lessons from the COVID-19 pandemic innovation response

Project type

interdisciplinary pilot project cross-sector project global health postdoc fellowship

Research areas involved (check all that apply)

Biomedical sciences Public health
 Social sciences and humanities Engineering and other sciences

Project duration

June 2023 – May 2025

Project team

Name	Organization	Discipline(s)
Dr. med Rosa Jahn, LL.M.	Heidelberg Institute of Global Health, Universitätsklinikum Heidelberg	Public Health/Global Health/Law & Ethics
Sophie Unterkircher	Heidelberg Institute of Global Health, Universitätsklinikum Heidelberg	Public Health/Global Health

Case study

1. Background

The COVID-19 pandemic created an unprecedented opportunity to study how innovation systems function under crisis conditions. While the rapid development of vaccines represented a major scientific achievement, their global distribution exposed stark inequalities. Intellectual property rights (IPR) limited vaccine production and access in many low- and middle-income countries, contributing to these disparities. In response, the World Trade Organization (WTO) proposed a temporary waiver of certain IPR provisions in 2022 to improve access to COVID-19 vaccines. This project examined the COVID-19 vaccine innovation system and the debates surrounding the IPR waiver to identify lessons for more equitable pandemic responses in the future.

2. Project Summary

InnoCOV was conducted at the University Hospital Heidelberg, Section for Health Equity Studies & Migration, and focused on three main areas. First, we mapped the global vaccine innovation system by creating six linked databases covering 555 vaccine candidates, 908 funded research projects, 1,074 clinical trials, 650 purchase agreements, and 1,678 patents. Second, we carried out a qualitative socio-legal study of the WTO IPR waiver negotiations, based on 12 interviews



with country negotiators, NGO representatives, research and development actors, and international experts. Third, we conducted a legal and ethical analysis of intellectual property frameworks and health equity in pandemic contexts.

3. Key Findings

InnoCOV shows that intellectual property protections played a significant role in producing health inequity during the COVID-19 pandemic. The WTO waiver negotiations highlighted pronounced power asymmetries, dominant economic interests, and unequal capacities for meaningful participation among countries and stakeholders. Our legal and ethical analysis suggests that the way IPR operated during the pandemic raises serious concerns from a health equity perspective, with important implications for ongoing negotiations on the WHO Pandemic Agreement. In addition, the InnoCOV database enables detailed, cross-cutting analyses of actors, funding, patents, and vaccine contracts, providing an unprecedented level of transparency into pandemic innovation systems.

4. Lessons for the Global Health Community

The project demonstrates that alternative financing mechanisms—such as direct government grants and advance purchase commitments—can accelerate vaccine development, but do not guarantee equitable access. Equity considerations therefore need to be integrated from the outset of innovation and pandemic preparedness policies. Intellectual property regulations require reform to advance global health equity. The experience of the WTO TRIPS waiver also shows that aligning IPR policy with health equity requires addressing underlying power imbalances and strengthening implementation mechanisms. Finally, transparent and accessible data on innovation actors and outcomes is essential for accountability and informed policymaking.

5. Publications and Materials

R Jahn, SCW Unterkircher, Intellectual property and pandemic preparedness: a qualitative study of COVID-19 waiver negotiations, *European Journal of Public Health*, Volume 35, Issue Supplement 4, October 2025, ckaf161.148, <https://doi.org/10.1093/eurpub/ckaf161.148>

Databases: The InnoCOV databases are being made available to third parties for future scientific analysis and policy development.

Contact: Dr. med. Rosa Jahn, rosahelene.jahn@med.uni-heidelberg.de

2. Contact

German Alliance for Global Health Research (GLOHRA)

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