Commentary: Fulfilling the Promise of Global Access Licensing Principles to Enable Equitable Access

Commentaire : Tenir la promesse du principe d'accès universel dans l'octroi des licences pour permettre un accès équitable

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Abstract

In their piece, Herder and colleagues (2022) reveal the university origins of a key technology used in COVID-19 mRNA vaccines. They note that despite federal funding support and the university adopting "Global Access Principles," equitable, global access remains a challenge – in part due to the university's technology transfer practices. While for the past two decades university students have been successful in engaging institutional technology transfer offices in adopting similar access principles, implementation of these principles has been limited. This rejoinder points to the need for greater federal oversight and regulation to incentivize university action that enables equitable, global access.

Résumé

Dans leur article, Herder et ses collègues (2022) révèlent les origines universitaires d'une technologie clé utilisée dans les vaccins à ARNm contre la COVID-19. Ils notent qu'en dépit du soutien financier fédéral et de l'adoption par l'université des principes d'accès universel, l'accès équitable demeure un défi, en partie en raison des pratiques de transfert de

technologie de l'université. Bien qu'au cours des deux dernières décennies les étudiants universitaires aient réussi à inciter les bureaux de transfert de technologie à adopter des principes d'accès similaires, leur mise en œuvre a été limitée. Cette réplique souligne la nécessité d'une plus grande surveillance et une meilleure réglementation de la part du fédéral pour encourager une action universitaire qui permette un accès universel équitable.

Introduction

In their original and timely analysis, Herder and colleagues (2022) reveal the origins of the lipid nanoparticle (LNP) delivery technology – a critical component of COVID-19 mRNA vaccines – at the University of British Columbia (UBC). Through significant financial support from the federal government, researchers at UBC developed the LNP delivery system, filing patents and licensing this technology to various entities including spin-off companies founded by these researchers, as well as COVID-19 mRNA vaccine manufacturers.

The authors (Herder et al. 2022) call particular attention to UBC's adoption of "Global Access Principles," including more recent commitments related to COVID-19 technologies meant to "ensure fair access" to university innovations (University–Industry Liaison Office n.d.a.; University–Industry Liaison Office n.d.b.). However, they question whether this had any impact on how the university managed its own and other licensed intellectual property (IP) toward enabling global access to COVID-19 mRNA vaccines utilizing this technology, especially in low- and middle-income countries (LMICs).

Today, just one in six people in low-income countries have received the first dose of any COVID-19 vaccine (UNDP n.d.). Access to COVID-19 mRNA vaccines utilizing the LNP delivery system has been even scarcer in LMICs. As of September 2021, nearly 80% and 85% of Moderna and Pfizer/BioNTech COVID-19 mRNA vaccines, respectively, had been delivered to high-income countries, while only 2% and 11.8% had been delivered to LMICs (Mikulic 2021a, 2021b). Low-income countries fared even worse, receiving only 0.1% of deliveries from Pfizer/BioNTech and none from Moderna (Mikulic 2021a, 2021b).

Universities Have Largely Failed to Implement Global Access Principles in Licensing Agreements

These findings highlight the pervasive failure of universities in implementing their public pledges to use licensing strategies that prioritize global access to technologies developed on their campuses even with significant federal funding support. Nevertheless, students have played an instrumental role in holding universities accountable. Following their success in urging Yale University and Bristol Myers Squibb to no longer impede the production of an affordable generic alternative to the HIV/AIDS treatment stavudine (d4T) in 2001, students founded the global non-profit organization, Universities Allied for Essential Medicines (UAEM), to close the gap between research and access across academic institutions (Chokshi 2006; Contreras 2021).

Initial UAEM advocacy efforts focused on individual universities and were effective in urging technology transfer offices to publicly adopt principles outlined within UAEM's Global Access Licensing framework, which called for licensing agreements to "[protect] access to the final end product needed by patients" (UAEM 2010: 1). In 2007, students at the UBC chapter of UAEM successfully endeavoured to position UBC to become the first Canadian university to publicly commit to these principles (Wasan et al. 2009). Since then, other Canadian academic institutions, including McGill University, have also openly acknowledged their commitment to implement such principles in future licensing agreements (Thurston 2019).

Recognizing that the adoption of these principles alone would not be sufficient to enable global access without additional oversight and enforcement measures to ensure implementation, UAEM has partnered with other non-profit organizations and experts to call on specific universities to use such strategies for critical treatments of limited access in LMICs. In 2017, following a multi-year campaign led by UAEM in collaboration with the Médecins Sans Frontières' Access Campaign (https://msfaccess.org/), Treatment Action Group (https://www.treatmentactiongroup.org/), the Global Tuberculosis Community Advisory Board (https://www.tbonline.info/), Public Citizen (https://www.citizen.org/) and Johns Hopkins University signed an agreement licensing the drug sutezolid for multi-drug resistant tuberculosis to the Medicines Patent Pool, thereby enabling multiple manufacturers to research and develop new drug combinations containing sutezolid (Andrews 2016; MSF Access Campaign 2017).

Universities Have Narrowed Efforts to Enable Global Access to Publicly Funded Research despite Public Commitments

To be sure, such institutional campaigns focused on enabling global access to individual drugs can be a precedent for other universities to endeavour to do the same for other health technologies. Even so, such a drug-by-drug accountability approach has had several limitations. Notably, universities began to select for a narrower subset of drugs, diseases and countries to implement the adopted global access licensing principles. For example, shortly after its much-lauded decision to not enforce any patents on d4T in LMICs, Yale University exclusively licensed a similar HIV/AIDS treatment, ethynylstavudine, to the Japanese manufacturer Oncolys BioPharma (Check 2006). In response to public outcry surrounding this licensing decision, Yale took modest steps to allow for greater global access, including public commitments to not enforce patents in low-income countries and to not grant licences to manufacturers wishing to market the drug within these countries.

Other institutions that have taken a seemingly broader approach have also opted to narrowly apply espoused global access licensing principles. In 2003, the University of California, Berkeley, launched the Socially Responsible Licensing Program (SRLP) to promote "affordability and accessibility of drugs, therapies, diagnostics, crops and vaccines to the developing

world" (Mimura 2007: 296). The SRLP allows the university to use various mechanisms including, but not limited to, royalty-free licensing, humanitarian reservation of IP rights, mandatory sub-licensing to achieve lower prices or address unmet needs and prohibition of patent filing outside a few select high-income countries (Mimura 2018). However, the University of California, Berkeley, has not publicly acknowledged the use of SRLP provisions outside of a handful of licences negotiated in the early years of the program and predominantly for health technologies indicated for neglected tropical diseases that are more prevalent in LMICs (IPIRA n.d.). Notably, researchers at the University of California, Berkeley, have been developing novel gene therapies, but it is unclear if any SRLP provisions have been used in licensing agreements for these promising technologies as they continue to remain largely inaccessible for much of the developing world (Leuty 2019; "Gene Therapies Should Be" 2021).

Case Study: How the University of California Health System Has Hindered Global Access to Enzalutamide (Xtandi)

Another example demonstrative of the selective implementation of global access licensing principles by universities is that of enzalutamide (Xtandi), a prostate cancer treatment drug developed with public funding support from the National Institutes of Health (NIH) and the US Department of Defense at the University of California, Los Angeles (UCLA) (Knowledge Ecology International 2022). In 2012, following a multi-year campaign led by UAEM students, the University of California system adopted global access licensing principles, including recommendations for alternative licensing strategies to allow third-party manufacturers to produce and distribute generic or other alternative, affordable options at "low or no cost" in developing countries (Chen et al. 2010; UCOP 2012).

Yet, just a few years later in 2016, the Board of Regents for the University of California filed a patent claim on enzalutamide with the Indian Patent Office as local manufacturers were attempting to make available a generic option more affordable than the US$179-per-day version marketed to Indian patients by Astellas Pharma, one of the manufacturers to which UCLA had initially licensed their patents (Ress 2017). Shortly after the Indian Patent Office denied the University of California's patent claim, the Board of Regents filed a petition with the Delhi High Court, again barring availability of a generic treatment option for Indian patients with prostate cancer (Rosenbluth 2020). In response, UAEM students at UCLA launched a campaign urging the university to uphold its global access licensing principles adopted over a decade earlier and to withdraw its patent claim in India (Verma 2021). Looking beyond enzalutamide, the UAEM UCLA chapter has also been working collaboratively with the technology transfer office in collaboration with the Medicines Patent Pool to establish the Affordable Access Plan, which begins to operationalize global access licensing principles and has been utilized in licensing agreements as of July 2020 (UCLA Technology Development Group 2022).

Using Transparency of University COVID-19 Licensing Practices for Accountability

COVID-19 has further amplified the divergence between university commitments to global access licensing and the lack of university action to enable more equitable access. In May 2020, UAEM released the Public Medicines for COVID-19 database, mapping the locations of publicly funded research and development initiatives for COVID-19 vaccines, diagnostics and therapeutics (UAEM 2021b). As of April 2021, 600 publicly funded COVID-19 research projects were in North America, including many based at academic institutions.

However, UAEM's separate examination of the top 60 US-based research universities by NIH and the National Science Foundation funding found that half had made no commitments to use equitable licensing practices for COVID-19 technologies, only 12% had adopted licensing provisions that would enable generic production of university-developed treatments for use in low-income countries and just over one-fifth had committed to any specific global access licensing strategies (UAEM 2021a). Moreover, none had adopted the Open COVID Pledge or the World Health Organization's COVID-19 Technology Access Pool (Open COVID Pledge n.d.; WHO 2020). Instead, most opted to endorse time-limited and weaker commitments for ensuring global access to urgently needed health technologies, such as the COVID-19 Technology Access Framework developed by the universities of Harvard and Stanford and the Massachusetts Institute of Technology, or the COVID-19 Licensing Guidelines developed by AUTM (AUTM n.d.; Stanford Office of Technology Licensing n.d.).

Moving Forward: The Role of Federal Governments

In response to these institutional limitations, Herder and colleagues (2022) outline upstream accountability approaches for the Canadian government to pursue, including mandating a standard set of terms and conditions be included within all IP agreements stemming from publicly funded research; requiring universities to disclose all IP agreements for publicly funded technologies for external, independent government review; and supporting open science approaches to drug and vaccine development. However, to ensure the success of these mechanisms, governments must also condition research funding support to academic institutions based on their compliance in enacting these access-oriented licensing strategies and transparency measures. Regardless, such oversight and accountability measures of university licensing practices are long overdue to fulfil the forgotten promises of enabling equitable global access to life-saving health technologies.

Conflict of Interest

Reshma Ramachandran sits on the board of directors of the Universities Allied for Essential Medicines, North America, the global non-profit organization referenced in this article, as well as the American Medical Student Association Foundation. Both positions are unpaid. She also serves on the Affordability Task Force for the Innovative Genomics Institute at the

University of California, Berkeley, and University of California, San Francisco. No other disclosures were reported. While Ramachandran is an employee of the Veterans Health Administration, the views expressed in this article are those of the author and do not necessarily reflect those of the US Department of Veteran Affairs or the US government.

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