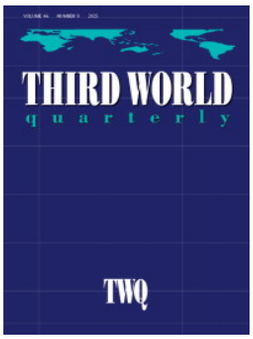

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The politics of access: vaccine diplomacy, migrant health equity and the COVID-19 response

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ABSTRACT

This article examines the intersection of vaccine diplomacy, migrant health equity and global COVID-19 responses, highlighting the geopolitical contestations surrounding vaccine distribution. The study critiques the monopolisation of vaccine production by a few high-income countries, leading to disparities in access, particularly for marginalised migrant populations. It argues that vaccine diplomacy, often driven by state-centric power rivalries, has prioritised strategic alliances over equitable global immunisation efforts. Migrants, especially undocumented and low-wage workers, have been disproportionately excluded from national vaccination programmes, exacerbating existing health inequities. The article advocates for the removal of intellectual property restrictions on COVID-19 vaccines, greater international collaboration, and targeted policy interventions to ensure inclusive healthcare access. By integrating perspectives from global health governance and political economy, this study underscores the need for equitable vaccine policies that transcend geopolitical manoeuvring and prioritise public health for all.

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Background

The COVID-19 pandemic has precipitated profound transformations across multiple spheres, including global politics. In response to the crisis, developed nations have employed 'vaccine diplomacy' as a strategic tool, leveraging vaccine distribution to advance their geopolitical interests rather than prioritising global public health needs (Ullah 2022). Notable actors in this diplomatic endeavour include the United States, China and the European Union, all of which have pledged substantial vaccine donations to the international community. However, despite considerable progress, the initial outcomes of these global vaccine initiatives have not met expectations. The allocation and distribution of vaccines have been largely shaped by geopolitical considerations, often privileging strategic alliances and political influence over principles of equity and urgent public health imperatives.

The notion that international parity in vaccination constitutes a global public good in the self-interest of all major states is a widespread yet oversimplified assumption. While equitable vaccine distribution is crucial for mitigating the destabilising effects of the COVID-19

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pandemic, disparities in access persist. As of 2023, approximately 71.8% of the global population has received at least one dose of a COVID-19 vaccine (Holder 2023). However, this aggregate figure obscures severe inequalities, as only about 10% of individuals in low-income countries have been vaccinated, compared to nearly 70% in high-income nations. Such discrepancies highlight the limitations of viewing vaccine distribution solely through the lens of global public goods, as geopolitical and economic considerations significantly influence access.

In response to these disparities, COVAX was established as a multilateral initiative aimed at ensuring equitable access to COVID-19 vaccines, regardless of a country's economic status. Recognising the risks posed by vaccine nationalism and the uneven distribution of life-saving medical resources, COVAX was designed to facilitate the fair and affordable allocation of vaccines to low- and middle-income countries (Ullah, Lee, and Hasharina 2024). By pooling financial and logistical resources through collaborations between governments, international organisations and pharmaceutical manufacturers, COVAX seeks to expedite the development, production and dissemination of vaccines. Its overarching objective is to curb viral transmission and mitigate the pandemic's impact by prioritising vulnerable populations worldwide.

Despite these aspirations, the initiative has encountered significant financial and logistical constraints. Amid intensifying geopolitical rivalries, international vaccine distribution efforts were often perceived not merely as humanitarian interventions but as instruments of strategic influence. As Daems and Maes (2022) observe, vaccine diplomacy became a high-stakes endeavour in which miscalculations could undermine the global response to the pandemic, leaving no clear victors.

Several empirical studies underscore the consequences of vaccine nationalism and geopolitical competition in vaccine distribution. Aqeel et al. (2022) document cases where vaccine procurement delays led to prolonged full or partial suspensions of vaccination campaigns, exacerbating economic stagnation. Abbas (2020) further identifies significant negative mental health outcomes associated with delayed vaccination, emphasising the broader societal implications of inequitable access. Su et al. (2021) highlight the critical role of effective public health communication in containing the virus, arguing that the dissemination of reliable information was instrumental in shaping public compliance with COVID-19 measures. Governments in countries such as China, Ireland, Finland, and Norway demonstrated the effectiveness of strategic crisis communication in fostering public trust and adherence to health guidelines (Chen et al. 2020). Within this context, Su et al. (2021) advocate for crisis communication strategies that prioritise transparency and the public's informational needs, free from political or commercial distortions.

The ongoing challenges associated with global vaccine distribution underscore the complex interplay between public health, international relations, and economic stability. While initiatives like COVAX represent a concerted effort to promote equitable vaccine access, their effectiveness is contingent upon sustained financial commitments, robust international cooperation, and the ability to navigate the competing interests of state and non-state actors in the global health arena.

Rehman et al. (2023) explore how managerial traits influence the adoption of Industry 4.0 technologies in the tourism sector, particularly during financial crises. The study argues that digital transformation is crucial for reshaping human management systems, as technological adoption can enhance resilience and operational efficiency. The authors highlight

that managers' adaptability, strategic foresight and technological competence play pivotal roles in reinventing the industry to withstand economic downturns.

Similarly, Meng et al. (2023) investigate the intersection of human–computer interaction (HCI) and digital literacy in early childhood education. The study emphasises that digital literacy fosters school readiness and psychological resilience among pre-school children, ultimately improving their mental well-being. The authors argue that technology-enhanced learning environments contribute positively to cognitive and emotional development, underscoring the role of HCI in shaping educational outcomes.

The research question is: How has vaccine diplomacy influenced migrant health equity during the COVID-19 response, and what political, social and structural barriers have shaped migrant access to vaccines? The primary objective of the study is to critically examine the intersection of global health governance, vaccine distribution policies, and migrant rights, assessing the extent to which migrants were included in or excluded from national and international vaccination strategies. This research addresses a key gap in the literature by integrating vaccine diplomacy with migrant health equity, an area often overlooked in both migration studies and global health policy discussions. The motivation behind this research stems from the urgent need to understand how political agendas and international relations impact health justice for mobile and marginalised populations. The study is highly relevant, given the ongoing challenges of vaccine access disparities and the broader implications for global health security and human rights. Compared to existing work, this research offers an innovative perspective by linking vaccine diplomacy to the lived realities of migrants, drawing from interdisciplinary approaches across political science, public health and migration studies. The contribution of this study lies in its critical analysis of vaccine policies through a migrant-centred lens, providing new perspectives into how global health crises exacerbate inequalities and how inclusive policies can reshape access to healthcare for vulnerable populations.

The concentration of COVID-19 vaccine production and distribution within a limited number of patent-holding countries has resulted in pronounced global inequities in vaccine accessibility. This monopolisation of vaccine production has not only deepened disparities between high-income and low-income nations but has also intensified geopolitical competition over vaccine procurement. I contend that both vaccine-producing nations and import-dependent countries are engaged in a form of diplomatic contestation: the former seek to leverage vaccine distribution as a tool for geopolitical influence, while the latter strive to secure adequate supplies to protect their populations. I argue that the removal of intellectual property (IP) restrictions on COVID-19 vaccines would significantly enhance global access and promote distributional justice. Waiving vaccine patents would enable countries, particularly those with limited production capacity, to manufacture or procure vaccines more efficiently, thereby mitigating supply shortages and accelerating immunisation efforts in resource-constrained settings.

Methods

This research employed a multifaceted approach anchored in inclusivity and access considerations. Drawing upon a diverse range of secondary data from reputable sources, scholarly articles, and rigorous content analysis, I meticulously examined the multifarious dimensions of this subject. The methodological framework integrated a comprehensive synthesis of

established knowledge with my scholarly judgement and experiential assessment. This approach not only ensured the robustness of my findings but also illuminated the complex interplay between diplomatic vaccine efforts and the pivotal role played by migrants in the global fight against the pandemic. The inclusion of diverse data sources and the application of both empirical and experiential perspective underscored the authenticity and depth of my research, facilitating a more holistic understanding of this critical intersection.

Hafeez et al. (2023) conducted a systematic analysis for the Global Burden of Disease Study 2019 to assess health status in Pakistan and its various provinces and territories. Using rigorous and standardised methods, their study provides a comprehensive assessment of the health landscape in Pakistan that enables policymakers and health professionals to make informed decisions and allocate resources effectively to address health challenges and inequities across the country's regions. The research conducted by Schmidt et al. (2022) demonstrates the importance of using spatial data to understand the complex patterns of disease distribution and inform public health efforts.

The methodological innovations applied in this research offer a valuable persecptive that informs the methodological approach of this research on vaccine diplomacy, migrant health equity, and the COVID-19 response. Al-Sulaiti, Al-Sulaiti, and Shah (2023) employed an empirical approach using online behavioural data and country-of-origin effects as a moderating variable to analyse how digital information influences consumer behaviour. This method highlights the role of digital narratives and perceptions in shaping real-world decision-making, which parallels how misinformation and geopolitical narratives impacted vaccine distribution among migrant populations. Al-Sulaiti, Al-Sulaiti, and Shah (2023) utilised a technology adoption model and examined word-of-mouth influence in online purchasing decisions during COVID-19, emphasising the significance of social networks in decision-making processes. This methodological framework aligns with the examination of how migrants navigated access to vaccines through informal networks, digital platforms, and transnational information flows. Meanwhile, Micah et al. (2020) analysed global pandemic investments using a longitudinal financial dataset spanning decades, offering a robust model for understanding how structural inequalities in health financing have evolved.

This study informs the present research's methodological approach by emphasising the importance of quantitative financial data and policy analysis in understanding vaccine access disparities for migrant populations. By integrating qualitative methods (interviews, policy analysis) with quantitative approaches (health expenditure data, vaccine allocation statistics), this research bridges the gap between macro-level health diplomacy and micro-level migrant experiences, providing a comprehensive and multidimensional analysis of vaccine equity in the context of migration governance.

Theoretical framework

This study draws upon several fundamental theories to analyse vaccine diplomacy, migrant health equity, and the COVID-19 response. Global health governance theory (Lee 2013) provides a foundational lens for examining how international organisations, nation-states, and non-state actors negotiate health policies, including vaccine distribution. This theory highlights the power asymmetries in vaccine diplomacy, where high-income countries exert disproportionate influence over vaccine access, often marginalising migrant populations (Kickbusch, Szabo, and Labonté 2019). Securitisation theory (Buzan, Wæver, and de Wilde

1998) is particularly relevant, as it explains how states frame health crises as security threats, often leading to restrictive policies that exclude migrants from public health measures. During the COVID-19 pandemic, many governments prioritised citizen-based vaccine distribution, reinforcing exclusionary practices against non-citizen migrants (Davies and Wenham 2020). Structural violence theory (Farmer 2003) further contextualises how systemic inequalities embedded in political and economic structures perpetuate disparities in healthcare access, particularly for migrants in host countries with restrictive health policies.

This study also incorporates postcolonial theory (Fanon 1961) to critically examine the legacy of colonialism in shaping contemporary vaccine diplomacy and global health inequalities. Postcolonial perspectives help reveal how vaccine nationalism and the monopolisation of health resources by former colonial powers have perpetuated hierarchies that disadvantage migrant populations from the Global South (Said 1978). Human rights-based approaches to health (Venkatapuram 2011) provide a normative framework advocating for the universal right to healthcare, challenging exclusionary policies that deny vaccines to migrants. By integrating these theoretical perspectives, this study contributes to an understanding of how power, politics and structural inequalities shape migrant health equity within global vaccine diplomacy. This approach enables a critical interrogation of policies and practices that either promote or hinder inclusive health responses during pandemics.

Vaccine diplomacy refers to the strategic use of vaccines as tools of foreign policy, soft power, and international influence, often shaping global health governance and geopolitical relations (Fidler 2020). During the COVID-19 pandemic, vaccine diplomacy was marked by competition between major powers such as China, the United States and Russia, each leveraging vaccine distribution to strengthen alliances and extend influence, particularly in the Global South (McKay 2021). While vaccine diplomacy played a crucial role in accelerating global immunisation efforts, it often prioritised state-centric negotiations, leaving migrant communities marginalised due to their exclusion from national health programmes and bilateral vaccine agreements (Eccleston-Turner and Upton 2021). Many host countries adopted vaccine nationalism, prioritising citizens over non-citizen populations, including undocumented migrants and refugees, thereby exacerbating health inequities (Brown et al. 2021). In addition, migrants faced barriers such as legal restrictions, lack of documentation and language obstacles that hindered access to vaccines (Perehinets, Bychkovska, and McKee 2022). The securitisation of public health further reinforced these exclusions, as states often viewed migrants as potential disease carriers rather than vulnerable populations in need of protection (Dempster and Smith 2021). Consequently, vaccine diplomacy, while instrumental in global health efforts, also reinforced existing structural inequalities, disproportionately impacting migrant communities who remained at the periphery of vaccine access despite their high-risk exposure in essential labour sectors.

The pandemic, migrants and vaccine diplomacy

Because of the social and economic consequences of the pandemic, migrants in the Asia-Pacific region are at great risk of contracting diseases. They are denied unemployment benefits and other forms of assistance compared to non-migrants. Migrants' well-being is threatened by this exclusion, which impacts the region's efforts to reduce poverty and build inclusive, resilient communities. The COVID-19 outbreak has reduced remittances to the Asia-Pacific region after a $330 billion increase in 2009, leaving many migrant households

without a primary source of income (IOM 2020; Ullah, Nawaz, and Chattoraj 2021). Migration in the region increased from 52 million in 1990 to 65 million in 2020 (an increase by 2.2%).

Su et al. (2021) examined the fundamental qualities of vaccine diplomacy and concluded that despite the advantages and disadvantages of both vaccine empathy and vaccine diplomacy, both hold promise for advancing vaccine equity, especially in the face of rapidly growing and changing global health problems such as COVID-19. Vaccine diplomacy, unlike vaccine empathy, may be a more durable way to increase the contribution of vaccines, largely because it is more deeply rooted in multilateral cooperation and collaboration. Su et al. (2021) highlight the critical role of vaccine diplomacy in addressing vaccine equity in the context of the COVID-19 pandemic, as well as its potential to play a greater role in promoting global unity in times of medical emergency.

While the economic costs of COVID-19 are quantifiable (estimated to be between $5.8 and $8.8 trillion globally, or 6.4% to 9.7% of global gross domestic product (GDP)) (Chowdhury and Chakraborty 2021), the psychological costs that billions of us have incurred are incalculable. As a result, millions of people have become unemployed and homeless and have been pushed to the brink of famine, and many are stranded in their home, host or transit countries. According to Kapilashrami et al. (2020), Chan and Lee (2020) and the World Bank, more than 20 million full-time jobs have been lost in Pakistan, more than one million in Bangladesh's garment sector, and more than 400 million in India (2020). COVID-19 knew no national boundaries and made no distinctions based on immigration status. When the vaccine was created, I believed it to be the first significant step towards restoring normalcy to the world. Only a few countries had invented the vaccine formula, meaning that only a few countries would produce and export the vaccine, leaving the rest of the world dependent on those few producing countries. Pandemics are global health catastrophes, and as a result, there have been demands to remove the patent on the COVID-19 vaccine so that it can be distributed to more nations. Nevertheless, hegemonic ambitions have politicised curative and preventative measures such as the production, marketing and distribution of vaccines.

During this surreal time when the entire population needed health, safety and medical care, migrant communities were largely ignored. COVID-19 is indifferent to racial, religious and national boundaries. One in seven people around us are migratory (Ullah 2023; World Bank 2020). They trade about a trillion dollars, or about one-eighth of global GDP (Ullah, Hossain, and Chattoraj 2020), suggesting that migrants have a significant impact on policy at both ends of the journey. This indicates that this demographic group has a significant impact on international politics, economics and development. However, locals and policymakers often view this population negatively and use them as scapegoats for inappropriate behaviour during the pandemic.

Migrant populations in the pandemic

What the existing research tells us

At least 82.4 million refugees, nearly half of whom are under the age of 18 (20.7 million United Nations High Commissioner for Refugees (UNHCR) + 5.7 million Palestinian United Nations Relief and Works Agency for Palestine Refugees (UNRWA) + 48 million internally displaced persons + 4.1 million asylum seekers + 3.9 million displaced abroad) are forced to leave their homes (UNHCR 2021). There are currently 281 million international migrants

worldwide (North America 58.7 million + Europe 86.7 million + Asia 85.7 million + 14.8 million + Latin America and the Caribbean 25.4 million + Oceania 9.4 million) (Migration Data Portal 2021; Ullah and Chattoraj 2022). The International Organization for Migration (IOM 2022) estimates that there are 763 million internal migrants.

The imposition of travel restrictions and social distancing measures aimed at curbing the spread of COVID-19 resulted in millions of individuals being stranded, while simultaneously precipitating a significant slowdown in the global economy (Ullah 2021, 2022a). A growing body of research (e.g. Jesline et al. 2021; Khanna 2020; Singh 2020; Ullah et al. 2022, 2023) has consistently demonstrated that migrants face heightened vulnerabilities compared to non-migrants, particularly in terms of exposure to contagion risks and the loss of employment and income.

During the initial phases of the pandemic, widespread uncertainty regarding appropriate safety measures exacerbated these vulnerabilities. Migrant workers, in particular, were placed in precarious situations as many employers mandated lengthy queues for the distribution of basic protective equipment, such as hand sanitisers and face masks, yet often failed to provide these essential supplies. Moreover, despite their critical roles in caregiving – whether for children, the ill or the elderly – and in the maintenance of households, migrant workers were frequently excluded from COVID-19 protection measures. Their exclusion from these health and safety protocols underscores broader structural inequalities in pandemic responses, which disproportionately disadvantaged migrant populations.

Migrant remittances serve as a critical economic lifeline for millions of individuals in many countries. Consequently, any decline in remittances directly contributes to rising poverty levels and restricted household access to essential health services (World Bank 2020). The economic repercussions of the COVID-19 pandemic were particularly severe, pushing over 100 million individuals below the poverty line in 2020 (IOM 2020, 2021, 2022; Ullah and Ferdous 2022), thereby exacerbating their susceptibility to infection in the absence of adequate government assistance. These populations faced heightened exposure to the virus due to factors such as overcrowded living conditions, inadequate healthcare access and systemic political exclusion. Moreover, the transient nature of many migrants, who often lack permanent residence and experience frequent mobility, further compounded their vulnerability and limited their ability to seek medical care or monitor their health.

Empirical evidence suggests that the pandemic has intensified xenophobic and discriminatory behaviours towards refugees and migrant populations (Ullah et al. 2019; World Bank 2020). In India alone, lockdowns, mass job losses, and social isolation disproportionately affected approximately 300 million internal migrants. South Asia, which accounts for a quarter of the global population and nearly 40% of those living in poverty, experienced severe economic devastation as a result of the pandemic (Kapilashrami et al. 2020). In Asia, remittances were projected to decline by nearly $50 billion (18%) by 2021 (Ullah 2021; Villalba 2021), further straining household resilience and economic stability.

While global pandemic responses have largely prioritised disease control and reducing case numbers, unskilled and semi-skilled migrants – often working in high-risk environments – have faced disproportionately poor health outcomes due to restricted access to healthcare and critical public health information. Fear of legal repercussions, including bribery, unlawful arrest and detention, has further discouraged migrant populations from seeking medical assistance and other essential services. Tens of millions of asylum seekers, refugees and forcibly displaced individuals were systematically excluded from national COVID-19 vaccination programmes (Safi 2021).

A significant body of literature explores how vaccine diplomacy – the strategic use of vaccines as tools of soft power and international influence – has shaped global health responses (Fidler 2020; McKay 2021). Scholars argue that vaccine distribution during the COVID-19 pandemic was deeply politicised, with countries leveraging vaccine access to strengthen geopolitical alliances rather than prioritising equitable distribution (Eccleston-Turner and Upton 2021). This geopolitical competition often left marginalised groups, particularly migrants, at a disadvantage, reinforcing the broader structural inequalities in global health governance (Brown et al. 2021).

Parallel to the discussions on vaccine diplomacy, scholarship on migrant health equity underscores the systemic barriers that migrants face in accessing healthcare. Research highlights that during the pandemic, many states excluded non-citizens from national vaccination programmes due to restrictive immigration policies, securitisation of health and nationalist approaches to public health (Abubakar et al. 2018; Welfens and Nordmann 2022). Scholars argue that despite international legal frameworks advocating for the right to health for all (UNHCR 2021), migrants – especially undocumented and low-wage migrant workers – were often deprioritised in vaccine rollout strategies (Perehinets, Bychkovska, and McKee 2022; Al-Sulaiti, Al-Sulaiti, and Shah 2023). Studies also emphasise that vaccine access for migrants was influenced by socio-political conditions, with xenophobic rhetoric exacerbating health disparities (Dempster and Smith 2021).

Despite the growing literature on both vaccine diplomacy and migrant health, major gaps persist in scholarship. First, while much research examines vaccine diplomacy from a geopolitical standpoint, there is limited attention to how these diplomatic manoeuvres directly shape vaccine access for migrants (Ruger 2021). Existing studies tend to focus on state-led negotiations and vaccine nationalism, often overlooking the lived experiences of migrant populations. Second, while scholars have discussed migrant health vulnerabilities during COVID-19, fewer studies have explored how vaccine exclusion interacts with broader regimes of migration governance and securitisation (Gostin et al. 2019). Third, research on health inequalities often adopts a public health perspective but lacks a critical interrogation of the power structures and political determinants that shape vaccine access for migrants (Farmer 2003; Venkatapuram 2011).

This study fills these gaps by integrating vaccine diplomacy, migrant health equity and global governance into a single analytical framework. Unlike previous research that examines these themes separately, this study provides a holistic investigation into how vaccine diplomacy influenced migrant health outcomes during COVID-19. By employing a migrant-centred lens, it highlights the exclusionary mechanisms embedded in global health responses and provides policy recommendations for more inclusive health governance. The COVID-19 pandemic laid bare the deep inequities in global and national healthcare systems, with migrant populations disproportionately affected due to structural exclusions, legal precarity and limited access to public health services. Migrant workers – often employed in essential yet undervalued sectors such as construction, agriculture and domestic labour – faced heightened exposure to the virus while being excluded from national vaccination plans, testing regimes and social protections. Many lived in overcrowded housing, lacked health insurance or feared deportation, which deterred them from seeking care. These vulnerabilities were exacerbated by the uneven distribution of vaccines globally, where vaccine diplomacy prioritised geopolitical alliances over equitable access. In this context, migrant health became a political terrain, where access to

life-saving interventions was mediated by citizenship, labour status and diplomatic leverage.

Results: migration and vaccine diplomacy

Pandemics both shape and are shaped by international relations, underscoring the intricate interplay between global health crises and geopolitical dynamics. The designation of COVID-19 as a global emergency carries significant implications, yet much of the discourse surrounding it remains predominantly statistical, both within Asia and on a global scale (Boin 2019). Cross-border health crises transcend mere geographic boundaries, influencing a broad spectrum of policy domains, including public health, labour mobility and international cooperation.

Historical precedents illustrate the profound impact of pandemics on societies and global governance. European pandemics such as the Black Death of 1347 and the Spanish influenza of 1918–1920, which resulted in an estimated 50 million deaths worldwide, exemplify the far-reaching consequences of infectious disease outbreaks (Behlert et al. 2020; Spinney 2018). Similarly, North America has faced repeated public health emergencies, including the 1918 influenza pandemic and subsequent influenza outbreaks in 1957 and 1968 (Behlert et al. 2020; Honigsbaum 2020). In more recent decades, global health crises have included outbreaks of cholera, measles, avian influenza, SARS-CoV, MERS and Ebola, each revealing vulnerabilities in global health governance and emergency preparedness. One critical shortcoming in pandemic responses has been the exclusion of migrant populations from vaccination campaigns. Empirical evidence indicates that failing to incorporate migrants into public health initiatives significantly undermines the effectiveness of immunisation efforts, prolonging the pandemic and exacerbating health disparities. Moreover, the economic ramifications of COVID-19 were starkly evident by the second quarter of 2020, with migrant workers disproportionately affected by reductions in working hours and employment instability (World Bank 2020a).

Vaccines provide a global platform for nations to demonstrate their scientific expertise and values, an opportunity to demonstrate the benefits of their political systems, markets and philosophies to both old and new allies (Aspinall 2021). As a result of the diplomatic dispute over the vaccine, millions of vulnerable people could be deprived of the vaccine. As of today, following the outbreak of the pandemic, which has already claimed about seven million lives, only about 10% of people in low-income countries have received a dose (Guarascio and Wongcha-Um 2021; Ullah 2023). Production problems, hoarding by rich countries, export restrictions, and bureaucratic hurdles have hampered the global supply of vaccines. At least 40 countries have failed to register illegal migrants in vaccination campaigns – the IOM and UNHCR declined to name the countries – and tens of millions of migrants could go unvaccinated under a global COVID-19 plan (Guarascio and Wongcha-Um 2021).

Migrants in the Asia-Pacific region faced disproportionate vulnerabilities during the COVID-19 pandemic due to their precarious legal status, exclusion from healthcare systems, and economic insecurities. Unlike the assumption that migrants played an active role in 'combatting' the pandemic, their agency was significantly curtailed by restrictive immigration policies, health disparities and systemic barriers that marginalised them from public health interventions (Ullah 2010). Many migrants were denied unemployment benefits and

emergency aid, making them more susceptible to economic shocks and displacement (IOM 2020; Perehinets, Bychkovska, and McKee 2022).

While some migrant workers, particularly those in essential sectors such as healthcare, food supply chains and sanitation, contributed to pandemic responses, their involvement was largely involuntary and marked by heightened risks of infection due to poor working and living conditions (Dempster and Smith 2021). However, this does not equate to migrants actively 'combatting' the pandemic in an empowered or strategic manner. Instead, their contributions must be understood within a framework of structural vulnerability – where migrants were disproportionately exposed to COVID-19 without adequate protections or support. The lack of access to vaccines exacerbated these inequities, as many host countries prioritised citizens in their vaccination programmes, further entrenching migrant exclusion from healthcare access (Eccleston-Turner and Upton 2021).

Vaccine diplomacy, as employed by powerful states such as China, the United States and Russia, was primarily driven by geopolitical interests rather than equitable health outcomes. Migrant populations were often overlooked in these strategic vaccine allocations, as host states focused on immunising their citizens while neglecting non-citizen populations (Fidler 2020; McKay 2021). This led to an exclusionary health security paradigm, where vaccine access was weaponised as a diplomatic tool rather than a means for universal protection. In many countries, undocumented migrants and asylum seekers faced additional barriers, such as fears of deportation and lack of legal identification, which prevented them from accessing vaccination programmes (Perehinets, Bychkovska, and McKee 2022).

While global initiatives such as COVAX sought to address vaccine inequities, funding shortfalls and political obstacles limited their effectiveness in reaching marginalised migrant populations (Eccleston-Turner and Upton 2021). Instead of assuming that migrants played a pivotal role in shaping pandemic responses, this study critically examines how migration governance, public health policies and geopolitical interests converged to restrict migrant agency and exacerbate their vulnerabilities.

Because of their occupations and circumstances, migrants are more likely to contract the virus. If key health services and vaccination programmes are interrupted, disease outbreaks may reoccur in under-vaccinated populations such as refugees and migrants (Bartovic et al. 2021). In 2021, the World Health Organization (WHO) conducted seroprevalence surveys that showed refugees and migrants have much lower vaccination coverage rates than the general population (WHO 2021). Vaccines have served as both medical solutions and political tools. Amid domestic struggles during Trump's presidency, the US faced major setbacks (Choi 2021), while Russia promoted mass production of Sputnik V and China offered its own vaccines. Their efforts were widely seen as moves to expand influence through vaccine diplomacy. Choi (2021) stated that vaccine development has become a struggle for dominance, meaning that the development of the COVID-19 vaccine appears to be a race to maximise power among the world's major powers (Ullah 2021). Choi (2021) states, 'The pandemic has weakened the ability of the US military to assert its military dominance and created an opening for hegemony as vaccination has come to the fore'.

Offensive realism provides a compelling framework for analysing the geopolitical competition surrounding COVID-19 vaccine distribution. This perspective posits that states are inherently self-interested, power-seeking and distrustful of others, driven by the imperative of survival in an anarchic international system (Johnson, Phill and Thayer 2016). Structural realism, as articulated by Waltz (1979), similarly holds that states prioritise power and security,

with offensive realists arguing that this results in a perpetual struggle for dominance (Snyder 2002). In this view, states are inherently revisionist, as even hegemons seek to consolidate and expand their influence over potential rivals (Yordán 2006).

Zakaria (1998) further suggests that states expand their external influence when they perceive an opportunity to translate domestic strength into geopolitical power. The global vaccine race exemplifies this dynamic, with vaccine diplomacy functioning as an extension of strategic competition (Figure 1). China has leveraged vaccine distribution to exert political influence, reportedly pressuring Honduras and Ukraine to soften their criticism of Beijing's policies in Xinjiang in exchange for vaccine access. Similarly, China has accused Japan and the United States of political interference for supplying vaccines to Taiwan (Aspinall 2021). These developments underscore the broader nexus between vaccine diplomacy and global power politics.

The vaccination coverage rate in some countries combined with the clamour of countries needing vaccine doses is reminiscent of a hoarding culture. Thus, Kheng (2021) rightly notes that wealthier countries and big pharma must weigh the fact that inaction on vaccine equity costs lives, while action costs almost nothing. Hoarding vaccines is tantamount to compromising the fundamental principles, values and beliefs of their rules-based worldview. Only in the most advanced economies are vaccination rates rising. As of early July 2021, about three billion vaccine doses had been distributed in more than 100 countries, with 20% of those doses going to developing and emerging economies. Of course, the effectiveness of global immunisation campaigns depends on how inclusive and equitable they are.

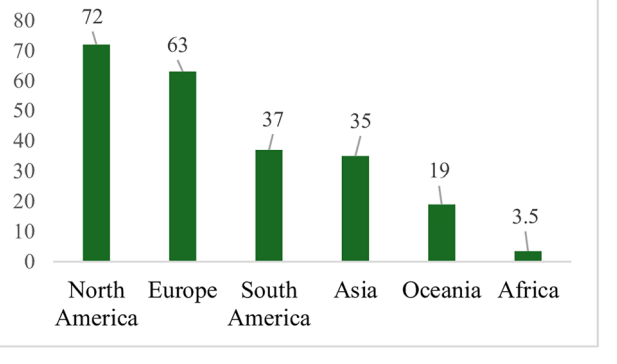

Figure 1. Vaccination rates by continent (%) (as of 24 June 2021).
Source: Holder (2023) and World Economic Forum (2021).

Migrant health inequities and the COVID-19 crisis

The pandemic has exacerbated inequalities, disproportionately affecting the most vulnerable, including refugees and irregular migrants. Many live in overcrowded, unsafe conditions with limited capacity for isolation, while others work in high-risk environments, increasing their exposure to the virus. As a result, they bear a disproportionate burden of COVID-19 infections, hospitalisations and fatalities.

The COVAX initiative attempted to address vaccine inequities through a humanitarian buffer, ensuring access for refugees, migrants, asylum seekers and displaced populations often excluded from national vaccination programmes. In cases where governments failed

or refused to vaccinate migrant communities, COVAX remained the only viable solution (Guarascio and Wongcha-Um 2021). Political uncertainty and ineffective diplomacy have directly impacted vaccine access and preventable diseases. Diplomatic instability has undermined the position of vulnerable populations, while some politicians have fuelled anti-vaccine and anti-mask sentiments, spreading misinformation through various media (Benoit and Mauldin 2021; Bhattacharya et al. 2021).

Geopolitics of vaccine diplomacy

After mask diplomacy, vaccine diplomacy became a key foreign policy tool. Powers like China, India, Russia and the US used vaccine donations, loans and sales to extend their influence. China led the effort, supplying free doses to 69 countries and commercial shipments to 28 (Huang 2021). In Asia, the vaccine race was largely driven by China–Russia rivalry (Lee 2023). China's earlier mask diplomacy received both praise and criticism, with negative media highlighting concerns over the quality of supplies and Beijing's strategic motives, including efforts to promote the Belt and Road Initiative and pressure EU states (Stuenkel 2021). While Western countries faced criticism for stockpiling vaccines, China and Russia prioritised global distribution to gain an early diplomatic advantage. By December 2021, China had exported over two billion vaccine doses to more than 120 countries, making it the world's largest vaccine exporter (Figure 2). This rapid response mirrored China's previous involvement in global health efforts, including its contributions to Ebola containment. In addition, China supplied the international community with 372 billion masks, 4.2 billion protective suits, and 8.4 billion test kits (Xinhua 2021). Russia, too, has engaged in vaccine diplomacy, notably providing Sputnik V to African nations along with financial support for public health campaigns (Aspinall 2021).

Vaccine diplomacy rapidly resurfaced as a strategic concern among policymakers, states and stakeholders following the development of COVID-19 vaccines by a small number of wealthy nations. The stark disparity between vaccine supply and demand not only underscored structural inequities in global health governance but also reignited debates on foreign

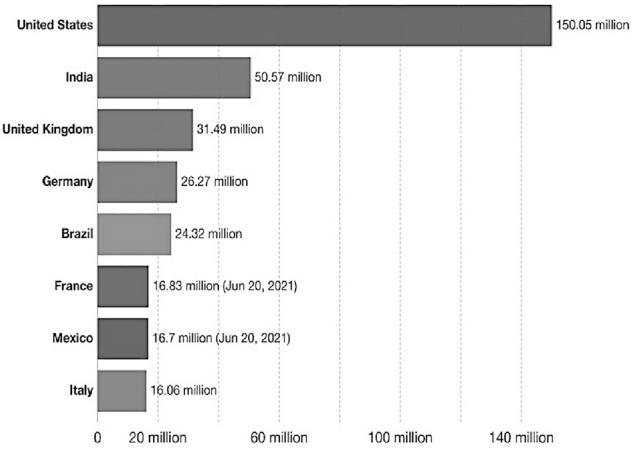

Figure 2. Number of people vaccinated against COVID-19, 21 June 2021.
Source: Data collated by Our World in Data. https://ourworldindata.org/COVID-vaccinations

policy and international relations. The politicisation of vaccine production and distribution provided an avenue for states seeking geopolitical dominance to assess the loyalty of allies and reinforce existing alliances. Consequently, vaccine diplomacy carries an implicit strategic dimension, wherein established powers leverage inoculation efforts to contain ideological or economic adversaries.

A key example of this dynamic is the recent evolution of the Quadrilateral Security Dialogue (Quad). While the Quad's leaders framed their vaccine initiative as a commitment to supporting low-income nations in combating the pandemic, they also sought to dispel the perception that the grouping is solely focused on countering China. Despite these assurances, the US government views the Quad as a critical component of regional security architecture and Indo-Pacific cooperation (European Parliament 2021). Moving forward, the Quad must navigate its role carefully, ensuring that its approach to regional challenges – including China's influence, climate change and public health – does not adopt an overtly defensive or anti-China stance (Walker 2021).

China sought to position itself as a global health leader during the COVID-19 pandemic by promoting its Health Silk Road initiative. President Xi Jinping reaffirmed China's commitment to combating the virus alongside the international community, with foreign policy priorities in 2021 centring on vaccine diplomacy and relations with the United States, the European Union, Russia, Association of Southeast Asian Nations (ASEAN) and Africa (Singh 2021). The EU's slow vaccine procurement and distribution provided an opening for external influence. Hungary, dissatisfied with the EU's rollout, advocated for Russian and Chinese vaccines, while Slovakia's prime minister resigned after secretly importing Sputnik V without coalition approval.

Delays in vaccine distribution due to supply issues and safety concerns caused frustration among EU states. In contrast, China and Russia used vaccine diplomacy to boost their soft power, with some European nations seeking doses from them (Torilahure 2021). By May 2021, China had distributed 758 million doses globally – far more than the EU's 100 million – offering free vaccines to 53 countries and selling to 27 middle-income nations. Japan, initially lagging in vaccine diplomacy, aligned with the Quad to counter China's growing influence. India played a critical role in this strategy by ramping up production to supply the Indo-Pacific region (Normile 2021). In contrast, South Korea's hesitancy in sourcing vaccines from China was perceived as an effort to align with US strategic interests. This delay led to public dissatisfaction, with a Gallup Korea poll showing widespread disapproval of the government's pandemic response (Borowiec 2021). While Singapore was on track for universal vaccination by early 2022, countries such as Viet Nam, Australia, Canada, Japan and South Korea were expected to follow by mid-2022, with Thailand and Malaysia achieving full coverage by the end of 2022.

Misinformation and scepticism surrounding Chinese vaccines persisted, with critics conflating China's vaccine diplomacy with its broader economic influence strategies. Some policymakers viewed China's global vaccine distribution as a tool for expanding geopolitical influence rather than a purely humanitarian effort (Blablová 2021; Jackson 2021). These concerns echoed earlier narratives, particularly within the Trump administration's Africa policy, which sought to dissuade African nations from engaging with China.

During the Cold War, vaccine development served as an area of cooperation between geopolitical adversaries. The United States and the Soviet Union collaborated on smallpox vaccine development and eradication efforts, illustrating how health diplomacy could transcend ideological divisions. Even earlier, Edward Jenner's work on the cowpox

vaccine had diplomatic implications, despite political tensions during the Napoleonic Wars (Standage 2021).

The 2014–15 Ebola outbreak in West Africa demonstrated the strategic role of vaccine diplomacy. China and the United States linked their humanitarian efforts, with China developing MIL-77, an Ebola vaccine based on the US ZMapp patent. This marked China's most significant humanitarian initiative before COVID-19 (Wigmore 2021). At a time when the US paid less attention to China's influence in Africa, growing commitment of Beijing to global health signalled its strategic use of vaccine diplomacy.

Traditional donor nations played a limited role in addressing COVID-19 in developing countries, allowing China to assert itself as a key provider of medical aid. Unlike conventional aid models, China's vaccine diplomacy sought not only to fill gaps left by Western donors but also to strengthen its geopolitical influence (Standage 2021; Wigmore 2021). In Africa, despite ordering over a billion vaccine doses, the continent received only enough to cover 0.6% of its population. With over 80% of its pharmaceutical and medical supplies imported, Africa's dependency on external sources heightened its vulnerability to supply disruptions (Wigmore 2021).

Vaccine diplomacy reached two extremes. After it became evident that COVID-19 had pandemic potential, a new COVAX facility was developed. COVAX is a partnership between Gavi, the Vaccine Alliance, the WHO, and the Coalition for Epidemic Preparedness Innovations (CEPI) to support the development, manufacture and distribution of COVID-19 vaccines. COVAX seeks donor money to foster innovation and equal access, with the UK government presently providing the greatest funding. COVAX also aims to maintain a global immunisation policy. Vaccines have to pass a prequalification process from WHO or one of the 'rigorous' regulatory authorities in the United States, Europe or Japan to verify their quality, safety and efficacy (Hotez 2021).

The US reluctance to join COVAX, resignation from the WHO, and even a presidential executive order requesting 'first access' to COVID-19 vaccinations in December 2020 all stand in the way of vaccine diplomacy. Vaccine businesses in Russia and China are evaluating vaccines for quality while building bilateral partnerships with countries in Latin America, Asia and Africa to market vaccines or propose joint manufacture to avoid regulatory sanctions (Hotez 2021). The term 'vaccinationalism' refers to this shift in international collaboration. Another offsetting aspect is a globalising antivaccine movement, which is increasingly related to political radicalism in some instances (Hotez 2021). As a result, the term 'vaccine diplomacy' is likely to be misused and divert attention away from the true purpose of global cooperation (WHO 2021). The COVID-19 pandemic exposed deep inequities in public health and global politics. Vaccine diplomacy became a tool of soft power, yet it also worsened access gaps for migrants and displaced populations. This dual dynamic underscores the need for ethical, inclusive frameworks that prioritise human dignity over nationalist agendas in achieving true global health security.

Implications

The term *vaccine diplomacy*, referring to the strategic use of vaccine distribution as a form of soft power, has become a key element in global politics. However, within this geopolitical contest, migrant communities remain largely overlooked. The COVID-19 pandemic exacerbated pre-existing political and foreign policy agendas, and vaccine distribution emerged

as a crucial mechanism for economic recovery by enabling people to return to work and education. In this context, the rights to health and non-discrimination are fundamental.

In recent years, vaccine diplomacy has gained prominence in Western nations. Pharmaceutical companies such as Pfizer-BioNTech, Moderna, AstraZeneca, and Johnson and Johnson developed highly effective COVID-19 vaccines, with Western governments investing heavily in vaccine production and distribution. In June 2021, the Group of Seven (G7): Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States governments pledged one billion doses to COVAX, with commitments to donate an additional billion doses. The US agreed to purchase and distribute 500 million Pfizer vaccines, while the UK committed at least 100 million doses (Aspinall 2021).

Despite these pledges, vaccine shortages have hindered the COVAX initiative. Delays in fulfilling commitments, coupled with India's restrictions on vaccine exports from the Serum Institute, severely impacted supply chains, threatening the efficacy of the programme. The EU and UK failed to transfer their promised doses, and US donations arrived too late to meet urgent needs. The intersection of vaccine diplomacy and global health underscores key issues like information flow, resource allocation and technology. Research highlights social media's role in influencing health behaviours and vaccine uptake (Yu et al. 2022).

Equitable vaccine distribution is also crucial for broader human capital development and health resilience. Technological innovations, particularly for vulnerable populations such as older adults, further reinforce the inclusivity dimension of vaccine diplomacy. Adaptive strategies in vaccine distribution are essential to address evolving challenges and ensure efficient allocation of resources. These underscore the need for a dynamic and inclusive approach to vaccine diplomacy, ensuring that political rivalries do not obstruct equitable access. By integrating strategic communication, technological solutions and flexible distribution models, global efforts can foster cooperation, mitigate disparities and strengthen global health security.

Despite Russia's efforts, only 24% of its Sputnik V vaccine doses have been supplied internationally due to miscalculations in demand and logistical challenges, particularly in Africa (Aspinall 2021; Ivanova and Nikolskaya 2021). Nonetheless, Russian and Chinese vaccine diplomacy remains strong, with COVAX committing to purchase 550 million doses of Chinese-manufactured vaccines, bolstering China's global health influence. Without greater Western support for vaccine access in low-income countries, reliance on Russia and China will grow, expanding their geopolitical reach. Rather than large-scale donations, both nations primarily sell vaccines, with Chinese state-owned enterprises competing against private firms. They are also expanding into Asia, Eastern Europe, the Western Balkans and Africa, as well as Latin America, traditionally under US influence. The urgency of vaccine equity has gained global attention. The People's Vaccine Alliance, supported by 170 former leaders and Nobel laureates, has urged greater US involvement. Without stronger Western action, Russia and China will keep leveraging vaccine diplomacy for strategic gain.

Limitations of the research

While my research provides significant perspectives into the inclusivity and access dimensions of vaccine diplomacy and migrants' roles in combating COVID-19, certain methodological limitations must be acknowledged. Reliance on secondary data from scholarly sources and content analysis may introduce biases related to data availability and scope. Despite efforts to apply scholarly judgement, subjective interpretation may have influenced

the analysis. The absence of primary data collection, such as interviews or surveys, limits the depth of understanding of lived experiences. Given the rapidly evolving nature of the pandemic, the relevance of findings may shift over time. These limitations call for cautious interpretation and point to future research opportunities on vaccine diplomacy, migration and access.

Conclusions and policy recommendations

The realisation of human rights in immunisation requires equitable access to vaccines, free from discrimination and financial barriers (OHCHR 2020). Ensuring these rights for all migrants, irrespective of their legal status, is essential for pandemic containment and inclusivity (Woertz and Roie 2021). Governments must prioritise public health by vaccinating all vulnerable populations, including migrants, based solely on epidemiological criteria (Marti et al. (2024). However, data on vaccine readiness among adult immigrants in the United States remains limited. Understanding immigrant communities' perceptions of vaccines, trust in information sources, and integration into healthcare systems can help policymakers develop targeted vaccination strategies (Johnson, Perez, and Mejia 2021).

Global travel restrictions and border closures have disproportionately affected migrants, many of whom face challenges in accessing consular support, basic services and legal protections (Benton et al. 2021). Despite vaccine surpluses worldwide, many migrants, particularly undocumented ones, are excluded from national vaccination programmes (CRS 2021).

To address vaccine inequities, global production and distribution must be expanded through strengthened cooperation between governments, international organisations and manufacturers. Priority should be given to frontline workers, migrants, refugees and those with pre-existing conditions. Investments in health system infrastructure, particularly in low- and middle-income countries, are critical for effective vaccine delivery.

Future research should explore the political dimensions of vaccine diplomacy, particularly how geopolitical rivalries shape vaccine distribution and migrant access to immunisation. Examining international organisations' negotiation strategies could provide insight into their role in promoting inclusivity amid political tensions. Analysing domestic political agendas and their impact on migrant healthcare policies can reveal how governments balance public health with political priorities. The rapid development of COVID-19 vaccines marks a scientific milestone, but significant challenges remain. Beyond innovation and production, establishing robust logistical frameworks and healthcare infrastructure is essential to ensure vaccines translate into effective public immunisation strategies.

Ethical approval

Not applicable. This study does not involve human participants, experimental research, or primary data collection requiring ethical approval.

Disclosure statement

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Notes on contributor

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Data availability statement

No new data were generated or analysed in this study. All relevant information is derived from publicly available sources, secondary data, and scholarly literature.

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