Health diplomacy in the age of localization and export-oriented Manufacturing: A systematic review of strategies, challenges, and global health equity implications

Omkolthoum ElSayed ElBadawy
Future University in Egypt, Egypt

Noha Ahmed Hassan
New Giza University, Egypt

Keywords
Health Diplomacy, Localization, Export-Oriented Manufacturing, Global Health Equity, Health Policy, Sustainable Healthcare Systems

Abstract

Health diplomacy has emerged as a central mechanism for advancing global health objectives, facilitating international cooperation, and addressing health inequities in an increasingly interconnected world. This systematic review examines the contemporary landscape of health diplomacy, with particular emphasis on how localization strategies and export-oriented manufacturing frameworks are reshaping diplomatic health engagement. A comprehensive search of the Scopus database using terms encompassing health diplomacy, medical diplomacy, pharmaceutical diplomacy, global health governance, health foreign policy, soft power health, vaccine diplomacy, health aid, and health cooperation yielded 1,228 records. Following a two-stage screening process guided by PRISMA principles, filtering first for review article type and then for social science and interdisciplinary perspectives, 23 articles were identified, of which 13 directly relevant to the core themes of health diplomacy, governance, localization, and equity were included in the qualitative synthesis. Findings indicate that health diplomatic strategies broadly cluster around four actor-driven roles: state-facilitated vaccine and pharmaceutical diplomacy, aid and soft-power diplomacy, multilateral governance mechanisms, and localization and capacity-building initiatives. Significant challenges emerge across all clusters, including geopolitical power asymmetries, vaccine nationalism, governance deficits within international organizations, and persistent dependency relationships in pharmaceutical manufacturing. Mixed results are observed across dimensions of social, economic, and environmental upgrading, with equity outcomes frequently subordinated to national strategic interests. This review argues that effective health diplomacy requires a multi-scalar, actor-inclusive approach that integrates local manufacturing capacity, transparent multilateral governance, and equity-centered frameworks to achieve durable global health outcomes.

Introduction

Background and Context

Health diplomacy represents the intersection of public health and international relations, encompassing the strategies and mechanisms through which nations negotiate, cooperate, and coordinate on health-related matters (Kickbusch & Berger, 2010; ElSayed, 2025). ElSayed (2025) emphasizes that the Egyptian experience illustrates how health diplomacy can be strategically aligned with broader foreign policy goals to secure national interests while contributing to regional stability, and that the COVID-19 pandemic acted as a critical turning point, demonstrating how health can be utilized as a potent soft power tool to build international influence during times of global crisis. Historically rooted in the establishment of the World Health Organization in 1948, health diplomacy has gained increasing prominence in the twenty-first century, driven by the globalization of health threats, the recognition that health security is intrinsically linked to national security, and the growing visibility of non-communicable and infectious diseases as geopolitical concerns (McInnes & Lee, 2012).

Contemporary health diplomacy operates within a complex ecosystem characterized by multiple actors, divergent interests, and competing priorities. State actors leverage health diplomacy to advance national health security, build international alliances, and enhance soft power (Vieira, 2018). Non-state actors (including international organizations, non-governmental organizations, private sector entities, and

philanthropic foundations) increasingly shape the contours of global health engagement. The COVID-19 pandemic, in particular, has exposed profound tensions within existing health diplomatic frameworks, highlighting the contradictions between national sovereignty and global health cooperation, vaccine nationalism, and the unequal distribution of scarce health resources (Kickbusch & Liu, 2022).

Over the past two decades, global health diplomacy, foreign policy for health, and global health policy have changed substantially. As Kickbusch and Liu (2022) note, diplomacy has become a constitutive part of the system of global health governance, and the COVID-19 pandemic accelerated this integration at a moment when multilateral cooperation was already under significant strain. The pandemic revealed not only the fragility of international health cooperation mechanisms but also the extent to which health has become embedded in geopolitical strategy, national economic interests, and questions of sovereignty.

Localization and Export-Oriented Manufacturing

In recent years, the notion of localization in global health has gained considerable traction as a strategic priority. Localization refers to the process of transferring authority, responsibility, and resources from international organizations to national and sub-national entities (Cabral et al., 2021). In the health sector, this encompasses the development of domestic pharmaceutical manufacturing capacity, the creation of local health innovation ecosystems, and the strengthening of regional supply chains. This approach is increasingly viewed as essential for enhancing health security and reducing dependency on external actors.

Concurrently, export-oriented manufacturing strategies in the pharmaceutical and health technology sectors represent a significant economic strategy for many nations. Countries such as India, China, and Vietnam have leveraged their manufacturing capabilities to become major exporters of generic pharmaceuticals, medical devices, and health commodities, reshaping global supply chains and power dynamics (Li et al., 2022). China's development assistance for health, for example, is deeply interwoven with its export capacity in medical supplies and pharmaceuticals, particularly in relation to neglected tropical diseases in Africa, where medical missions and product exports together constitute a form of health diplomacy with both humanitarian and strategic dimensions (Li et al., 2022).

These developments have profound implications for health diplomacy. They create new leverage points in multilateral negotiations, alter dependency relationships between the Global North and Global South, and introduce equity considerations around intellectual property rights, technology transfer, and access to life-saving medicines. India's strategic positioning during the Mpox outbreak, for instance, demonstrated how domestic regulatory capacity and manufacturing infrastructure simultaneously shape a country's international health commitments and its capacity for regional diplomatic leadership (Tiwari et al., 2025).

Global Health Equity and Health Diplomacy

Global health equity, defined as the absence of avoidable or remediable differences in health among population groups, remains a central concern in international health policy discourse (Braveman & Gruskin, 2003; ElSayed, 2025). Health diplomacy serves as both a mechanism and a contested domain for advancing equity objectives. Some scholars argue that health diplomacy can enhance equity by facilitating resource transfer, promoting capacity building, and creating accountability mechanisms for global health commitments. Others contend that existing health diplomatic structures perpetuate inequities by privileging wealthy nations, maintaining hierarchical relationships between donors and recipients, and subordinating equity concerns to geopolitical interests (Kickbusch & Liu, 2022; Moser & Bump, 2022).

The COVID-19 pandemic illuminated these tensions with particular acuity. Wenham et al. (2021) highlight that even seemingly technical mechanisms, such as traffic-light approaches to Public Health Emergencies of International Concern, carry profound equity implications, as they vest enormous discretionary power in multilateral bodies whose governance reflects pre-existing power asymmetries. Similarly, Lal et al. (2022) demonstrate that proposals for pandemic preparedness reform have insufficiently engaged with universal health coverage as a foundational equity mechanism, prioritizing vertical health security structures over the horizontal health system strengthening that equitably serves marginalized populations.

Research Objectives

This systematic review is guided by the following research questions: Which strategies, relating to the four actor roles in health diplomacy (state facilitator, multilateral regulator, producer/manufacturer, and aid or soft-power actor), support or constrain global health equity outcomes? In what contexts are those

strategies most likely to be effectively implemented? The review further explores how localization and export-oriented manufacturing shape the contours of contemporary health diplomatic engagement.

Theoretical Framework

Health diplomacy as a field of scholarly inquiry sits at the intersection of international relations theory, global health governance, and political economy. This review is grounded in a Global Value Chain (GVC) theoretical perspective, as elaborated by Horner (2017), which provides a systematic analytical lens for understanding how states and non-state actors are positioned within, and seek to transform, the international division of health-related production, regulation, and assistance. The GVC framework is particularly well-suited to this review because it moves beyond descriptive accounts of bilateral or multilateral health engagements and toward a structural analysis of how power, value, and governance are distributed across global health systems.

Within the GVC framework, four state roles are operationalized as the core analytical categories of this review. The state as facilitator supports health participation in global networks through incentives, treaties, and infrastructure investment. The state or multilateral body as regulator imposes frameworks for health standards, emergency response, and pharmaceutical governance. The state as producer or manufacturer engages in or supports domestic health commodity production for domestic use or export. The state or non-state actor as aid or soft-power actor projects health influence through development assistance, medical missions, or capacity-building partnerships. These roles are not mutually exclusive; a single state may occupy multiple positions simultaneously, and the tensions between roles constitute much of the analytical interest of the framework (Horner, 2017; Kickbusch & Liu, 2022).

The GVC perspective is complemented by contributions from constructivist international relations theory, particularly in its attention to norms, legitimacy, and the role of epistemic communities in shaping what counts as appropriate health diplomatic behavior (Wenham et al., 2021; Moser & Bump, 2022). Liberal institutionalist perspectives inform the analysis of multilateral governance mechanisms, particularly in assessing how international organizations such as the WHO mediate competing national interests and advance (or fail to advance) collective health goods. The integration of these complementary perspectives enables a multi-scalar analysis that spans from bilateral diplomatic agreements to global governance architectures, and from manufacturing-level economic upgrading to community-level social equity outcomes.

This review positions health equity not merely as an empirical outcome to be measured but as a normative design principle against which health diplomatic strategies should be evaluated. Drawing on Braveman and Gruskin (2003), equity is understood as the absence of avoidable, remediable differences in health outcomes among population groups defined by social, economic, or political circumstances. This normative grounding distinguishes the present review from purely descriptive syntheses of health diplomatic activity and aligns it with a growing body of scholarship arguing that health diplomacy must be accountable to the populations most affected by global health governance decisions, not only to the state actors who negotiate them (ElSayed, 2025; Abdool Karim, 2025).

Methodology

Search Strategy and Design

This study employs a systematic review methodology (Tranfield et al., 2003) to examine evidence emerging from academic health diplomacy literature, with an explicit focus on how state and non-state actor strategies interact with localization, manufacturing, and equity outcomes. The review follows a stepwise approach guided by PRISMA principles (Liberati et al., 2009), as illustrated in the selection flow diagram accompanying this study.

The Scopus database was selected for its broad interdisciplinary coverage across health, social science, policy, and international relations domains. The following combined search string was employed: ("health diplomacy" OR "medical diplomacy" OR "pharmaceutical diplomacy" OR "global health governance" OR "health foreign policy" OR "soft power health" OR "vaccine diplomacy" OR "health aid" OR "health cooperation"). This search was designed to capture the full conceptual range of health diplomatic activity, from formal state-to-state negotiations to non-governmental and multilateral mechanisms.

Inclusion and Exclusion Criteria

The review comprises both Arabic- and English-language peer-reviewed articles present in the Scopus search engine, relating to Social Science, Public Health, International Relations, and Policy subject areas. In

total, 1,228 records were identified through the initial search. To ensure that only contributions fitting the analytical scope were included, a two-stage screening process was applied.

In the first stage, records were filtered by article type: only review articles (including systematic reviews, narrative reviews, and structured literature reviews) were retained. This methodological decision reflects an epistemological commitment to synthesizing interpretive and evaluative scholarship rather than primary empirical data, which remains highly heterogeneous in quality and comparability across the health diplomacy domain. Review articles were deemed most appropriate for constructing a coherent analytical account of actor roles and equity outcomes at a field-wide level, as they themselves aggregate and evaluate primary evidence. This approach is consistent with established practice in systematic reviews of governance and policy fields (Tranfield et al., 2003). This filter reduced the pool to 203 review articles, excluding 1,025 records. In the second stage, a discipline-specific screening was applied, retaining only articles that adopted social science, policy, or interdisciplinary perspectives, specifically those engaging with governance, international relations, diplomatic strategy, equity, or health policy dimensions. This stage excluded 180 further records, yielding 23 articles eligible for full-text assessment. Of these, 13 were identified as directly and substantively addressing health diplomacy strategies, governance challenges, or equity implications within the scope of this review's analytical framework (See Figure 1.), and these constitute the core empirical basis for the qualitative synthesis below.

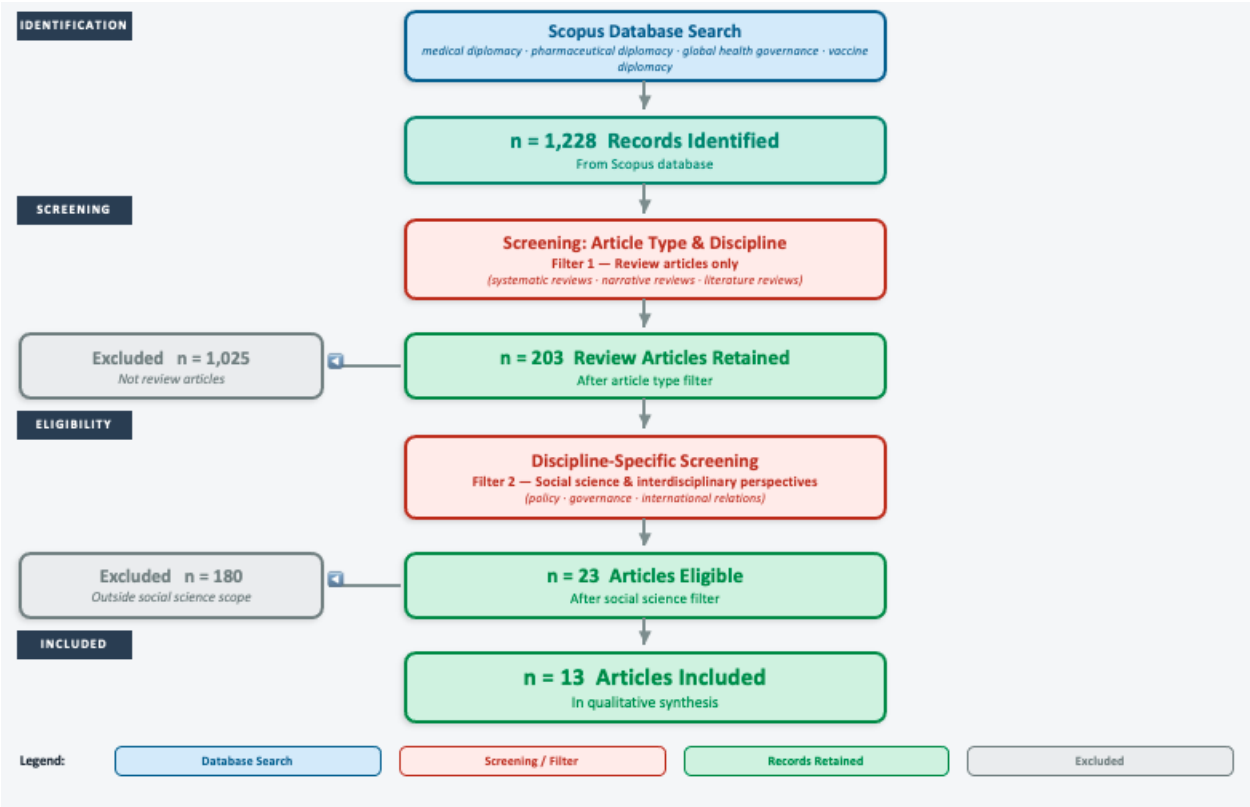

Figure 1. PRISMA Model
Source: Developed by the Authors

Data Extraction and Coding

Included contributions were reviewed and coded to provide a systematic analysis of key evidence. A deductive approach to coding was adopted, drawing on the conceptual framework outlined in the theoretical section. Building on typologies from the health diplomacy literature (Kickbusch & Liu, 2022; Thokwane et al., 2022), four actor roles were operationalized as analytical categories: (i) state as facilitator; supporting health participation in global networks through incentives, treaties, and infrastructure; (ii) state or multilateral body as regulator; imposing frameworks for health standards, emergency response, and pharmaceutical governance; (iii) state as producer/manufacturer; engaging in or supporting domestic health commodity production for domestic use or export; and (iv) state or non-state actor as aid or soft-

power actor; projecting health influence through development assistance, medical missions, or capacity-building partnerships.

Each study was coded against the following policy objectives: (i) enhancing health system participation and integration in global networks; (ii) increasing value capture and local health capacity; (iii) improving social and health equity conditions; and (iv) addressing environmental and structural health determinants. Upgrading outcomes were coded as economic upgrading (expansion of manufacturing or health service capacity), social upgrading (improvement in health equity or worker conditions), and governance upgrading (strengthening of institutional frameworks and accountability mechanisms). Coding was conducted by the lead author and subsequently reviewed for consistency against the theoretical framework described in Section 2. Given the interpretive nature of the coding categories and the relatively small corpus size, disagreements were resolved through iterative discussion against operationalized definitions rather than through a formal inter-rater reliability protocol. This limitation is acknowledged in Section 6. Table 1 summarizes the contributions included in the analysis.

Table 1. Studies included in the systematic review and their primary focus

Authors & Year	Focus Area	Key Theme	Region / Scope	Upgrading Dimension
Kickbusch & Liu (2022)	Global health diplomacy; power & governance	Reconstructing multilateral governance; IR theories in GHD	Global	Governance
ElSayed (2025)	GHD & governance	Use of health diplomacy in achieving foreign policy goals; Egyptian health diplomacy experience	Africa / Global	Governance
Abdool Karim (2025)	HIV prevention diplomacy; Africa	South-South diplomacy; localization of health responses	Africa	Equity / Social
Thokwane et al. (2022)	GHD; specialist medical services; Botswana	Brain drain; bilateral treaties; NGO partnerships	Southern Africa	Capacity Building
Li et al. (2022)	China's development assistance for health; NTDs	Export-oriented health aid; SWOT of Chinese assistance	Africa / Global	Manufacturing / Aid
Lal et al. (2022)	Pandemic preparedness; UHC; health security	Governance gaps; equitable access to medical countermeasures	Global	Governance / Equity
Dawson et al. (2023)	Brain Health Diplomacy; Latin America & Caribbean	Interdisciplinary toolkit; equitable brain health outcomes	Latin America	Social / Equity
Ibáñez et al. (2021)	Dementia caregiving; brain health diplomacy; LAC	Convergence science; digital health equity	Latin America	Social / Equity
Moser & Bump (2022)	WHO reform; global health governance assessment	Legitimacy; accountability; multilateral governance deficits	Global	Governance
Tiwari et al. (2025)	Mpox response; India's regulatory role; One Health	Regulatory harmonization; equitable resource distribution	India / Global	Manufacturing / Governance
Wenham et al. (2021)	PHEIC governance; traffic-light IHR proposals	Geopolitics of emergency declarations; equity tensions	Global	Governance

Authors & Year	Focus Area	Key Theme	Region / Scope	Upgrading Dimension
Kumar et al. (2024)	Migration health; priority setting; European policy	Fairness; health rights of non-citizens; policy transparency	Europe	Equity / Social
Seon et al. (2023)	COVID-19 mental health; Caribbean; health diplomacy	Regional cooperation; CARICOM; philanthropic partnerships	Caribbean	Social / Governance

Note: ●●● = major relevance; ○●● = significant relevance; ○○● = moderate relevance; ○○○ = minor relevance.

Source: Developed by the Authors

Health Diplomacy Strategies and Outcomes

State as Facilitator: Vaccine, Pharmaceutical, and Treaty-Based Diplomacy

As can be seen in Table 2, the role of a facilitator is the most widely reported in the literature on health diplomacy consulted, and it is most commonly realized in the form of vaccination diplomacy, pharmaceutical export policies, and bilateral health agreements. Consistent with the rest of the global value chain literature, the facilitator role of the state is geared towards contributing to the participation in global health networks by helping to establish enabling conditions of health commodity flows and diplomatic interactions.

The most noticeable form of the modern manifestation of health diplomacy through states is vaccine diplomacy. Kickbusch and Liu (2022) report on the use of vaccine production and distribution capacity by states, especially those with emerging economies, as tools of diplomatic power, and how these tools have restructured power in multilateral health governance systems. The COVID-19 pandemic was a booster shot, triggering a competition between states to leverage the use of vaccine supplies as a geopolitical instrument, at the same time showing the weakness of equity-based distribution systems, including COVAX.

The facilitator role can also be observed in bilateral health treaties. Thokwane et al. (2022) present a didactic case study of how Botswana faced the problem of specialist medical services gaps, which had been enhanced by chronic brain drain, by bilaterally diplomatic agreements with Cuba, China, and faith-based international non-governmental organizations. The case shows the significance of clarity as to the national health priorities at the start of the negotiations and demonstrates that this has been a consistent trend where the goals of service-delivery have historically dominated over the sustainable capacity-building goals. It also shows that health diplomacy by lower-middle income nations should use a different analytical paradigm than that used with high-income donors since the former have to negotiate both as a structurally dependent state and at the same time as one hoping to exercise health sovereignty.

The discussion by Li et al. (2022) of development assistance by China in the field of health sheds light on another aspect of the facilitator role, namely the role of export-oriented manufacturing as a part of diplomatic strategy. The medical missions of China to African states, the export of drug products and medical supplies to tackle neglected tropical diseases, is a kind of health diplomacy mixing humanitarian goals with economic and geopolitical values. A SWOT analysis of the Chinese potential in this area shows that China has strong assets such as developed diplomatic ties with more than 50 African nations and a strong manufacturing base, while significant gaps remain in terms of regulatory harmonization, local knowledge transfer, and sustainability of field interventions.

ElSayed (2025) further contextualizes the facilitator role from the perspective of a mid-income country navigating global health governance structures. The Egyptian experience, as analyzed in that work, illustrates how states can strategically align health diplomacy with broader foreign policy objectives to secure national interests while simultaneously contributing to regional health stability, a dynamic that is particularly salient for countries occupying an intermediate position in global health value chains.

Multilateral Regulator: Governance Mechanisms and Their Limitations

Some of the studies included in the review shed light on the multilateral bodies and international regulation frameworks that seek to regulate the health diplomatic space with varying success. Consistent with the theoretical literature on the role of the state as a regulator (Horner, 2017), the multilateral regulator role includes the development and enforcement of international health regulations, emergency response

frameworks, and pharmaceutical regulation standards, whose results are often disputed on the basis of power and equity.

Moser and Bump (2022) give a systematic evaluation of the World Health Organization that is especially educative. Their review of 139 articles that evaluate the performance of the WHO reveals a pattern of persistent governance shortcomings: a diminished legitimacy due to lack of agreement regarding organizational purpose, unequal influence of Member States, a lack of accountability mechanisms, and a conflict between the normative power of the WHO and its limited legal ability to impact uncooperative states. These organizational shortcomings are not accidental but point to the inherent conflict in the health governance of the world between the imperative of sovereign equality in the multilateral arena and the factual asymmetries of power that determine the result of negotiations.

Wenham et al. (2021) apply this criticism to the particular field of Public Health Emergency of International Concern declarations, stating that traffic-light systems of emergency response proposed include problematic assumptions regarding the impartiality of technical governance. Their review shows that even supposedly evidence-based governance reforms have high equity consequences since they define what health threats are prioritized and allocated resources, and under what conditions internationally. Lal et al. (2022) also note that proposed pandemic preparedness reforms, such as the proposed pandemic treaty, the Pandemic Fund, and mechanisms of equitable access to medical countermeasures, have failed to adequately incorporate universal health coverage as an architecture of health security, potentially repeating the most devastating equity failures of the COVID-19 pandemic.

There is also the regulatory dimension that is experienced at the regional and bilateral levels. Kumar et al. (2024) investigate the models of priority-setting in migration health policy in European nations and show that the intersection of health diplomacy and migration governance has acute equity issues. Through their analysis, they find that the right to health of non-citizens and international migrants is systematically delegated to politically charged migration governance interests and has profound impacts on health equity and coherence of international human rights commitments.

State as Producer: Localization and Export-Oriented Manufacturing

The producer role, whereby states participate directly in or assist domestic production of health commodities, becomes a more prominent feature of modern health diplomacy, especially in the post-COVID environment of supply chain vulnerability. The review also identifies comparatively low yet fast-increasing interest in this aspect in the scholarly literature, the most significant works on which are dedicated to the geopolitics of vaccine and pharmaceutical production.

The analysis of the Indian government response to the outbreak of Mpox by Tiwari et al. (2025) exemplifies the overlap of internal regulatory potential, manufacturing resources, and global health obligations. The case of India shows how the role of one country in global pharmaceutical value chains directly defines its health diplomatic stance: as a leading generic pharmaceutical exporter, the country is at the same time an international recipient of the health governance commitments under the International Health Regulations, which puts the country between conflicting demands of national economic interests and the responsibility to promote health equity in the global arena. The case of Mpox shows that regulatory harmonization and One Health approaches need to be integrated to allow the equitable allocation of resources.

The complementary analysis by Li et al. (2022) puts the export-oriented model of health assistance of China in the spotlight and outlines a series of strategic opportunities for extending the role of China in controlling neglected tropical diseases through its well-established manufacturing and diplomatic relations with Africa. Nevertheless, the SWOT analysis reveals serious threats as well, such as fear of the quality and suitability of health technologies exported, the risk of dependency on aid, and the possibility of health assistance being used as the means of economic and geopolitical influence instead of the development of local health capacity. The results echo some larger arguments in the world value chain literature regarding how export-driven forms of production can reproduce dependency rather than genuine local capacity.

Aid and Soft-Power Actors: Capacity Building and Regional Diplomacy

The fourth group of health diplomatic strategies is the aid-based and soft-power strategies, such as development assistance to health, medical missions, empowering regional health bodies, and specific health diplomacy initiatives. These strategies are defined by their focus on relationship-building, diffusion of norms, and development of long-term capacity, yet the review reveals a high level of diversity in equity outcomes.

Abdool Karim (2025) provides an interesting narrative of health diplomacy in the African response to HIV prevention and captures how South-South diplomacy relationships (based on the experience of epidemiological crisis, local research capacity, and community-based advocacy) led to health policy innovations that have since shaped the practice of HIV prevention worldwide. The case depicts how health diplomacy can potentially serve as a pathway to epistemic equity: the establishment of a situation whereby knowledge produced in the Global South receives an equivalent degree of legitimacy compared to knowledge produced in high-income research contexts. The experience of preventing HIV in Africa shows that sustainable health diplomacy result is not just the flow of resources, but the building of relationships of authentic scientific and policy peer-ship.

Another example of targeted soft-power strategies is the new discipline of Brain Health Diplomacy. In the study by Dawson et al. (2023), the concept of brain health diplomacy was introduced to deploy interdisciplinary and cross-sectoral resources to mitigate the increasing impact of dementia and neurological disease in Latin America and the Caribbean. Their contribution to health diplomacy leaders focuses on culturally aware and region-specific intervention and the role of equity-focused approaches in health diplomatic practice. Ibáñez et al. (2021) extend this framework by examining the dementia caregiving challenges in Latin America and the Caribbean, situating these problems in the context of convergence science and brain health diplomacy as coordinated actions in response to the structural inequalities of the area, such as weak health systems, gender-disproportionate caregiving burdens, and digital health divides.

Seon et al. (2023) offer another example of how health diplomacy, through joint work with regional organizations, transnational agencies, and charitable groups, can bring resources together to respond to the needs of mental health in the circumstances of a complex health crisis such as the COVID-19 pandemic. Their discussion highlights the significance of making regional health authorities like CARICOM recognize that population mental health is a substantive diplomatic priority requiring action and sustainable plans based on regional health reality rather than externally imposed frameworks.

Table 2. Health diplomatic strategies by policy objective

Strategy / Actor Role	GVC Participation	Value Capture	Social Upgrading	Environmental / Equity
Vaccine & Pharmaceutical Diplomacy	●●●	○●●	○●●	○○●
-- Export-oriented manufacturing leverage	●●●	●●●	○○●	○○●
-- Technology transfer negotiations	○●●	●●●	○●●	○○●
Soft Power & Aid-Based Diplomacy	○●●	○○●	○●●	○○●
-- Development assistance for health	○●●	○○●	●●●	○○●
-- Medical missions / bilateral treaties	○●●	○○●	○●●	○○○
Multilateral Governance Mechanisms	○●●	○●●	●●●	○●●
-- WHO / IHR frameworks	○●●	○●●	○●●	○●●
-- Pandemic preparedness instruments	●●●	○●●	○●●	○●●
Localization & Capacity Building	○●●	●●●	●●●	○○●
-- Local manufacturing investment	○●●	●●●	○●●	○○●
-- Regional health body empowerment	○○●	○●●	●●●	○○●
Brain Health / Specialized Diplomacy	○○●	○○●	●●●	○●●

Note: ●●● = major relevance; ○●● = significant relevance; ○○● = moderate relevance. Relevance calculated as incidence of records reporting each objective within those addressing the strategy in each row.

Source: Authors' own elaboration.

Co-Existence of Upgrading and Downgrading: Tensions and Trade-Offs

One common aspect of the reviewed health diplomacy literature as summarized in Table 3 is the presence of both upgrading and downgrading processes: at times in the same initiative, country, or time

frame. Although many instances suggest that health diplomatic approaches may facilitate significant changes in health system capacity, equity, and governance, ambivalent outcomes are always witnessed at the crosspoint of economic interest and health equity goals.

The most widespread conflict known in the literature is the one between the strategic interests of the state and the global equity requirements of health. The most acute modern expression of this conflict is vaccine nationalism, as a method of prioritizing the provision of domestic vaccines over equitable distribution throughout the world. Kickbusch and Liu (2022) report the ways the COVID-19 pandemic revealed the constraints of existing multilateral governance structures in mediating this conflict, with states possessing manufacturing capacity giving priority to domestic populations in a systematic manner despite the moral and epidemiological considerations of fair global allocation. This dynamic depicts a basic asymmetry in health diplomacy, in which the states that have the most ability to affect health diplomatic outcomes are also those with the most incentive to subordinate equity goals to national interests.

The second major conflict is between the short-term diplomatic goals and the long-term capacity building. Thokwane et al. (2022) note that historical health partnerships in Botswana were often service-focused but not capacity-focused, which generated intermittent gains in specialist medical access but failed to create the institutions and human resource base required to be sustained. This trend is echoed by larger criticisms of aid-based health diplomacy: that it creates dependency relationships instead of actual health system strengthening (Moser & Bump, 2022). The weakness of health systems that rely on external diplomatic ties to provide the required services was further highlighted by the disruption of internationally staffed health services during the COVID-19 pandemic.

Third, the review finds that there are enduring stresses between manufacturing-oriented health diplomacy and equitable distribution of its benefits. Although export-oriented pharmaceutical production in countries like India and China has increased access to affordable medicines globally, the conditions under which this access is granted are organized according to commercial and diplomatic interests rather than solely on the basis of equity considerations (Li et al., 2022; Tiwari et al., 2025). Technology transfer pledges most commonly negotiated at health diplomatic forums have historically been made unequally, with recipient nations often receiving manufacturing processes but lacking the knowledge infrastructure, regulatory capacity, and supply chain integration to maintain and adapt on their own.

Lastly, corruption in governance among multilateral organizations is also one of the factors that leads to ongoing downgrading. According to the evaluation by Moser and Bump (2022), the WHO is surrounded by the problem of legitimacy, lack of resources to be structured, and lack of autonomy to hold recalcitrant member states to account. These gaps are not only administrative: they are the political economy of global health governance, where states and other actors with the largest financial inputs into multilateral health institutions are also those with the highest ability to influence governance agendas in ways that appeal to their interests. The analysis of PHEIC governance mechanisms provided by Wenham et al. (2021) demonstrates that such power structures are imprinted in the so-called technical governance designs.

Table 3. Studies by challenge domain and upgrading outcome

Study	Geopolitical Power	Equity Tensions	Governance Gaps	Mfg. Dependency	Outcome
Kickbusch & Liu (2022)	●●●	○●●	●●●	○●●	Mixed
ElSayed (2025)	●●●	○●●	●●●	○●●	Mixed
Abdool Karim (2025)	○●●	●●●	○●●	●●●	Upgrading
Thokwane et al. (2022)	○○●	○●●	●●●	○●●	Upgrading
Li et al. (2022)	○●●	○●●	○●●	●●●	Mixed
Lal et al. (2022)	○●●	●●●	●●●	○●●	Mixed
Dawson et al. (2023)	○○●	●●●	○●●	○○●	Upgrading
Moser & Bump (2022)	●●●	○●●	●●●	○○●	Downgrading
Tiwari et al. (2025)	○●●	○●●	○●●	●●●	Mixed

Study	Geopolitical Power	Equity Tensions	Governance Gaps	Mfg. Dependency	Outcome
Wenham et al. (2021)	●●●	●●●	●●●	○○●	Mixed
Kumar et al. (2024)	○●●	●●●	○●●	○○●	Mixed
Seon et al. (2023)	○○●	○●●	○●●	○○●	Upgrading
Ibáñez et al. (2021)	○○●	●●●	○●●	○○●	Upgrading

Note: ●●● = major occurrence; ○●● = significant occurrence; ○○● = moderate occurrence. Upgrading = positive health equity or governance outcome documented; Downgrading = negative outcome or missed objective; Mixed = both documented.

Source: Authors' own elaboration.

Discussion: Design and Implementation of Effective Health Diplomatic Strategies

The analysis above indicates which actor roles are more likely to achieve health equity upgrading and which are associated with persistent tensions and downgrading risks. However, it also reveals significant heterogeneity across cases. It is clear that designing and implementing health diplomatic strategies is a complex undertaking, and that ineffective design or implementation may prevent states from realizing the equity potential of their diplomatic engagement or may inadvertently entrench existing inequalities. Drawing from the comparative analysis of successful and unsuccessful cases and building on the health diplomacy and global value chain literatures, we identify five design and implementation considerations that cut across all four actor roles.

First, effective health diplomatic strategies require a granular understanding of the specific health system context and value chain position of partner countries. A common observation in the literature is that health diplomatic efforts have failed when they are formulated without sufficient consideration of the absorptive capacity, regulatory environment, and supply chain architecture of recipient health systems. According to Thokwane et al. (2022), past collaborations made by the Botswana government were marked by an absence of harmony between diplomatic objectives and those of the recipient country, while the more recent collaboration involving St. Paul Medical Missions was only possible when national health priorities were made clear and agreed upon initially. Likewise, Li et al. (2022) observe that the efficacy of Chinese health aid to neglected tropical diseases in Africa is limited by the lack of focus on country-specific epidemiological and regulatory frameworks.

Second, the main problem with health diplomatic design is that it is necessary to consider and compromise between conflicting interests, especially between the lead actors on the global level (be it multilateral organizations, or donor countries, or large pharmaceutical companies) and the policymakers and communities of the recipient countries. The experience of the COVID-19 COVAX mechanism, analyzed by Lal et al. (2022) and Kickbusch and Liu (2022), demonstrates what happens when these competing interests are not resolved prior to the emergence of crises: the decisions made regarding resource allocation under acute political pressure systematically benefited the interests of high-income countries, and the equity architecture assumed to be inherent in the system did not hold.

Third, the engagement of various parties, including state, private sector, civil society, and multilateral organizations, in the design and execution of health diplomatic strategies is always linked to longer and fairer results. The narration of the HIV diplomacy of Africa by Abdool Karim (2025) shows that multi-stakeholder strategies, based on community-level, South-to-South peer exchange, and local research capacity, yielded knowledge and policy innovations that neither the vertical donor programs nor bilateral state-to-state agreements could have created on their own. Dawson et al. (2023) similarly emphasize that brain health diplomacy's effectiveness in Latin America depends on its capacity to mobilize interdisciplinary coalitions across academic, policy, and civil society domains.

Fourth, the implementation phase can often be the determining factor of whether health diplomatic promises can be turned into equity deliverables. The example provided by Seon et al. (2023) on the Caribbean context shows that the articulation of mental health as a health diplomatic priority must be accompanied by not only political commitment at the level of regional bodies but also adequate allocation of resources, institutional facilities, and community-level facilities to execute psychosocial support programs on a long-term basis. The analysis of migration health policy conducted by Kumar et al. (2024) also reveals that the mismatch between promises made in priority setting and the realities of implementing

such policies is defined by factors of political economy, which health diplomatic frameworks need to address explicitly.

Fifth, successful health diplomacy in the era of localization demands a combination of measures to be implemented in a coordinated order, the mix of which varies over time as the capacity of health systems increases. Single-instrument health diplomatic policies, be it vaccine donation programs, bilateral medical missions, or unilateral regulatory harmonization initiatives, were in nearly every case examined inadequate to meet long-lasting equity goals. As illustrated in the analysis conducted by Tiwari et al. (2025) on India's reaction to Mpox, the synergistic approach of capacity building, surveillance, and diplomacy is a prudent one for national health security. Thokwane et al. (2022) further demonstrate that the inability to achieve a harmonious balance between diplomatic aims and those of the beneficiary country explains why past cooperation efforts embarked on by the Government of Botswana did not succeed, while the current effort has been marked by a shift in focus to capacity building.

Conclusion

This systematic review contributes to a growing body of evidence establishing health diplomacy as a multi-dimensional field of scholarly and policy inquiry that has evolved beyond traditional aid toward a sophisticated framework of trade-diplomacy and localization. Building on recent advances in both health diplomacy theory and global health governance research, we have provided a systematic account of how state and non-state actors leverage these strategies to pursue health equity and of the persistent tensions and trade-offs that characterize this endeavor while navigating the complexities of export-oriented manufacturing.

Our analysis demonstrates that contemporary health diplomacy is organized around four strategic actor roles: state facilitator, multilateral regulator, producer/manufacturer, and aid or soft-power actor. This shift is particularly evident in how the COVID-19 pandemic redefined health as a core element of soft power and national security. Furthermore, initiatives like the Health Silk Road provide a blueprint for how trade-diplomacy can create promising industrial opportunities, and the successful integration of health into foreign policy requires a balance between national strategic interests and health equity. Consequently, the future of the field lies in aligning localization (specifically domestic manufacturing and regulatory autonomy) with diplomatic architecture to ensure a more resilient global health order.

Each of the four actor roles is associated with distinctive policy objectives, equity implications, and implementation challenges. When enhancing health system participation in global networks is the objective, state facilitators typically invest in vaccine diplomacy, bilateral health treaties, and export-oriented manufacturing leverage. When value capture and local capacity development are targeted, localization initiatives and technology transfer frameworks gain relevance. When social and equity objectives are primary, multilateral regulatory mechanisms and multi-stakeholder capacity-building approaches are more commonly associated with positive outcomes, though governance deficits within multilateral organizations frequently limit their effectiveness.

Our analysis highlights that state health diplomatic strategies can enable meaningful improvements in health equity and system capacity, but that mixed results are the norm rather than the exception, particularly in relation to the state producer and multilateral regulator roles. Trade-offs between national economic and geopolitical interests on the one hand and global health equity on the other are a structural feature of health diplomacy (not an anomaly), and effective diplomatic design must explicitly acknowledge and address them. The COVID-19 pandemic has demonstrated, with painful clarity, that health diplomatic frameworks that fail to embed equity at their architectural core will be systematically undermined when they are needed most.

The review has a number of limitations worth noting in interpreting these results. First, the analysis is based on policies already discussed within the academic review literature, and therefore does not provide a complete account of all health diplomatic initiatives at the global level. Second, the analysis drew solely from Arabic and English-language sources. Third, the screening process, while rigorous, resulted in a corpus of 13 directly relevant studies, reflecting the nascent state of systematic health diplomacy scholarship relative to the scale and complexity of the phenomenon it seeks to describe. Fourth, coding was conducted primarily by the lead author; while iterative consistency checks were applied, the absence of a formal inter-rater reliability protocol represents a methodological limitation that future reviews in this domain should address. Fifth, the lead author has contributed to the health diplomacy literature included in this review; while this reflects genuine scholarly specialization and the limited extant literature on Egyptian health

diplomacy, readers should note this concentration when assessing the synthesis. Future systematic reviews should seek to diversify the evidence base geographically and by author affiliation.

Based on our analysis, it is clear that states, multilateral organizations, and non-state actors all have central roles to play in constructing a more equitable global health diplomatic order. Realizing this potential, however, requires a multi-scalar appreciation of health system dynamics, genuine multi-stakeholder engagement across the full spectrum of affected communities, and a sustained commitment to equity as a non-negotiable design principle of health diplomatic architecture. As localization and export-oriented manufacturing continue to reshape the geographies of global health, the scholarship and practice of health diplomacy must evolve accordingly, moving beyond diplomatic gestures towards the construction of durable, equity-centered global health institutions.

Positionality Statement

The lead author is an academic and public health practitioner based in Egypt, with professional experience spanning the Ministry of Health, WHO advisory roles, and academic work. This situated position in a middle-income country navigating both regional and global health governance structures informs the analytical sensibility of this review, particularly its attention to the asymmetries experienced by countries that occupy intermediate positions in global health value chains and that simultaneously function as recipients and contributors of health diplomatic engagement. While this positionality brings contextual depth to the analysis, readers should be aware that it may also introduce interpretive emphases that a differently positioned author might weigh differently. The review has sought to foreground this awareness throughout by grounding analytical claims in the reviewed literature rather than in unreferenced positional assertions.

Abbreviation

GHD – Global Health Diplomacy
GVC – Global Value Chain
WHO – World Health Organization
PRISMA – Preferred Reporting Items for Systematic Reviews and Meta-Analyses
COVID-19 – Coronavirus Disease 2019
PHEIC – Public Health Emergency of International Concern
IHR – International Health Regulations
UHC – Universal Health Coverage
NGO – Non-Governmental Organization
NTDs – Neglected Tropical Diseases
CARICOM – Caribbean Community

References

Abdool Karim, Q. (2025). Lessons from Africa: Health diplomacy in HIV prevention. The Lancet, 406(10522), 2984-2988. https://doi.org/10.1016/S0140-6736(25)01976-2

Braveman, P., & Gruskin, S. (2003). Defining equity in health. Journal of Epidemiology and Community Health, 57(4), 254-258. https://doi.org/10.1136/jech.57.4.254

Cabral, A., Oyebode, O., & Beard, J. (2021). Unraveling the complexity of localization in global health. Globalization and Health, 17(1), 36. https://doi.org/10.1186/s12992-021-00685-5

Dawson, W. D., Booi, L., Pintado-Caipa, M., Oliveira, M. O., Kornhuber, A., Spoden, N., ... Ibáñez, A. (2023). The Brain Health Diplomat's Toolkit: Supporting brain health diplomacy leaders in Latin America and the Caribbean. The Lancet Regional Health - Americas, 28, Article 100627. https://doi.org/10.1016/j.lana.2023.100627

ElSayed, O. (2025). Use of health diplomacy in achieving foreign policy goals: The Egyptian health diplomacy experience. Journal of the Faculty of Economics and Political Science. https://doi.org/10.21608/jpsa.2025.423561

Horner, R. (2017). Beyond facilitator? State roles in global value chains and global production networks. Geography Compass, 11(7), Article e12307. https://doi.org/10.1111/gec3.12307

Ibanez, A., Pina-Escudero, S. D., Possin, K. L., Quiroz, Y. T., Aguzzoli Peres, F., Slachevsky, A., ... Miller, B. L. (2021). Dementia caregiving across Latin America and the Caribbean and brain health diplomacy. The Lancet Healthy Longevity, 2(4), e222-e231. https://doi.org/10.1016/S2666-7568(21)00031-3

Kickbusch, I., & Berger, M. (2010). Globalization and self-care: Healthcare in the 21st century. Global Health Action, 3(1), Article 5257. https://doi.org/10.3402/gha.v3i0.5257

Kickbusch, I., & Liu, A. (2022). Global health diplomacy: Reconstructing power and governance. The Lancet, 399(10341), 2156-2166. https://doi.org/10.1016/S0140-6736(22)00583-9

Kumar, B. N., Bhopal, A., Blanchet, K., Wickramage, K., & Onarheim, K. H. (2024). Priority setting and migration health policies for European countries. The Lancet Regional Health - Europe, 41, Article 100804. https://doi.org/10.1016/j.lanepe.2023.100804

Lal, A., Abdalla, S. M., Chattu, V. K., Erondu, N. A., Lee, T.-L., Singh, S., ... Phelan, A. (2022). Pandemic preparedness and response: Exploring the role of universal health coverage within the global health security architecture. The Lancet Global Health, 10(11), e1675-e1683. https://doi.org/10.1016/S2214-109X(22)00341-2

Li, H.-M., Qian, M.-B., Wang, D.-Q., Lv, S., Xiao, N., & Zhou, X.-N. (2022). Potential capacity of China's development assistance for health on neglected tropical diseases. Acta Tropica, 226, Article 106245. https://doi.org/10.1016/j.actatropica.2021.106245

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., et al. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions. Journal of Clinical Epidemiology, 62(1), 1-34. https://doi.org/10.1016/j.jclinepi.2009.06.006

McInnes, C., & Lee, K. (2012). Global health and international relations. Polity Press.

Moser, F., & Bump, J. B. (2022). Assessing the World Health Organization: What does the academic debate reveal and is it democratic? Social Science & Medicine, 314, Article 115456. https://doi.org/10.1016/j.socscimed.2022.115456

Seon, Q., Maharaj, S., Dookeeram, D., Ali, K., & Seemungal, T. (2023). Leveraging research, community and collaboration towards robust COVID-19 mental health response in the Caribbean. The Lancet Regional Health - Americas, 19, Article 100440. https://doi.org/10.1016/j.lana.2023.100440

Thokwane, K., Baines, L. S., Mehjabeen, D., & Jindal, R. M. (2022). Global health diplomacy: Provision of specialist medical services in the Republic of Botswana. The Surgeon, 20(4), 258-261. https://doi.org/10.1016/j.surge.2021.04.011

Tiwari, R., Gulati, P., & Raghuvanshi, R. S. (2025). Mpox outbreak response: Regulatory and public health perspectives from India and the world. Journal of Infection and Public Health, 18(9), Article 102839. https://doi.org/10.1016/j.jiph.2025.102839

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. British Journal of Management, 14(3), 207-222. https://doi.org/10.1111/1467-8551.00375

Vieira, A. (2018). Soft power and the use of health diplomacy. Diplomacy & Statecraft, 29(4), 603-623. https://doi.org/10.1080/09592296.2018.1528782

Wenham, C., Kavanagh, M., Phelan, A., Rushton, S., Voss, M., Halabi, S., ... Pillinger, M. (2021). Problems with traffic light approaches to public health emergencies of international concern. The Lancet, 397(10287), 1856-1858. https://doi.org/10.1016/S0140-6736(21)00474-8