ORIGINAL ARTICLE

Health Equity in the Era of Free Trade Agreements: A Scoping Review of Mechanisms, Evidence, and Policy Options

Om Prakash Bera[1], U Venkatesh[2], Deepankar Satapathy[3], Arshdeep Singh[4], Mokshada Chandge[5]

[1]Founder, Strategic Global Health Initiatives, India.
[2]Assistant Professor, Department of Community Medicine, All India Institute of Medical Sciences Gorakhpur, Uttar Pradesh.
[3]Assistant Professor, Department of Orthopaedics, All India Institute of Medical Sciences Bibinagar, Telangana.
[4]Coordinator, Project Healthy Food for All, All India Institute of Medical Sciences Rishikesh, Uttarakhand.
[5]Member, South Asia Public Health Law Network.

CORRESPONDING AUTHOR
Om Prakash Bera, Founder, Strategic Global Health Initiatives, India
Email: dromprakashberapgi@gmail.com

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ABSTRACT

Background: Modern free trade agreements (FTAs) extend beyond tariffs to include intellectual property (IP), investment rules, and regulatory standards that influence social determinants of health and equity. Understanding these mechanisms is critical for safeguarding public health. **Aims & Objectives:** To synthesise evidence on the health equity implications of FTAs and identify priority policy measures for protecting vulnerable populations. **Methods:** A scoping review was conducted in accordance with PRISMA-ScR, covering peer-reviewed and credible grey literature in English up to 31 December 2024. Studies analysing bilateral, regional, or mega-regional FTAs with outcomes linked to health or equity were included. Thematic synthesis was organised around three predefined pathways. **Results:** Fifty-seven studies met inclusion criteria. TRIPS-plus and investor–state dispute settlement provisions consistently constrained access to medicines and deterred public-health regulation, with stronger adverse effects in low- and middle-income countries. Trade-driven food system shifts increased exposure to ultra-processed products, contributing to noncommunicable disease risks. Employment and environmental benefits were observed in select contexts, but impacts were uneven. COVID-19 revealed heightened equity challenges related to vaccine access and IP rules. **Conclusion:** FTAs shape structural conditions that influence health equity. Embedding health impact assessments, preserving TRIPS flexibilities, and protecting regulatory space are essential to ensure trade integration supports universal health coverage and the Sustainable Development Goals.

KEYWORDS

Free trade agreements; Health equity; Intellectual property; Investor–state dispute settlement; Noncommunicable diseases; TRIPS flexibilities; Vaccine equity; Health impact assessment.

INTRODUCTION

Free trade agreements (FTAs) have become a defining feature of the global economic landscape, shaping patterns of production, consumption, and governance beyond traditional tariff reduction (1,2). By embedding rules on intellectual property, investment, and regulation, FTAs increasingly influence public health determinants such as access to medicines, food systems, labour markets, and environmental quality (3,4). As countries pursue deeper and more comprehensive agreements, the health implications of these provisions have drawn heightened attention from researchers and policymakers (5,6).

Existing scholarship demonstrates that FTAs can increase calorie availability and promote dietary shifts linked to obesity and diabetes (7–9,10), while also raising concerns about weakened domestic authority to regulate tobacco, alcohol, and ultra-

processed foods (3). At the same time, some studies show potential benefits where FTAs expand employment and facilitate environmental improvements (11,6). However, the distribution of these effects is uneven, with evidence of disproportionate burdens falling on low- and middle-income countries (LMICs) and disadvantaged social groups (1,2).

Despite growing evidence, important knowledge gaps remain. Previous reviews have often described trade–health linkages in broad terms but have not consistently applied an explicit equity framework, leaving unclear how different provisions shape outcomes across population groups (2,12). Evidence on employment, child mortality, and environmental spillovers is mixed and underexplored (11,6). Moreover, the COVID-19 pandemic exposed how TRIPS-plus provisions constrained vaccine production in LMICs, amplifying inequities in global health security (13). These developments underscore the urgency of examining FTAs not only as economic instruments but also as structural determinants of health equity.

This review addresses these gaps by synthesising evidence on the health equity implications of FTAs, structured around three analytic pathways: (A) policy-space constraints through intellectual property and investment provisions; (B) market and risk-environment shifts, particularly in food, alcohol, and tobacco; and (C) employment and environmental effects. The review also integrates evidence from the COVID-19 period up to December 2024, with specific attention to vaccine equity and intellectual property debates. In doing so, it advances the literature by applying a health equity lens across diverse outcomes and highlighting policy lessons relevant to India and other LMICs engaged in trade negotiations.

MATERIAL & METHODS

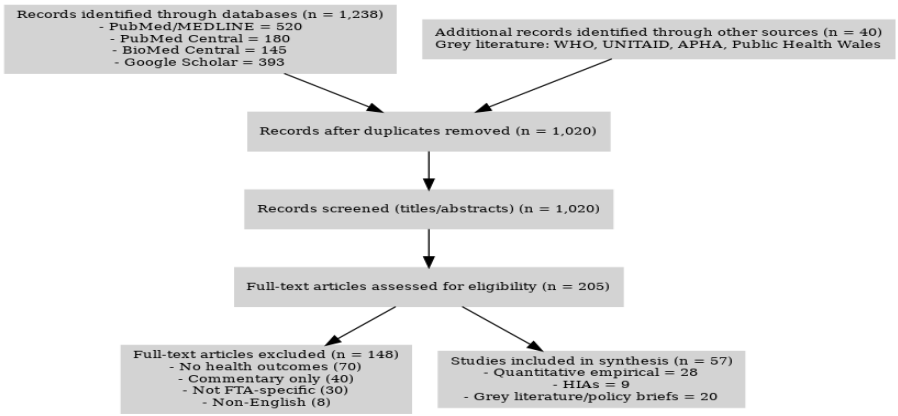
We conducted a scoping review of the effects of free trade agreements (FTAs) on health equity, following the PRISMA-ScR guideline. A protocol was developed beforehand.

Sources and search: We searched PubMed/MEDLINE, PubMed Central, BioMed Central, and Google Scholar, along with reports from WHO, UNITAID, APHA, and Public Health Wales, from database inception to 31 Dec 2024. Reference lists of included papers were also screened. A representative PubMed strategy was: ("free trade agreement" OR FTA OR "regional trade agreement") AND (health OR "health equity" OR medicines OR TRIPS OR ISDS OR nutrition OR obesity OR diabetes OR mortality OR employment OR environment).

Eligibility: We included peer-reviewed studies, health impact assessments, and credible reports that analysed bilateral, regional, or mega-regional FTAs and reported health outcomes (e.g., access to medicines, NCDs, mortality) or equity-related effects. We excluded non-English records, commentaries without data, and purely economic analyses.

Selection process: Two reviewers independently screened titles/abstracts and full texts, with disagreements resolved by consensus. In total, 1,278 records were identified (PubMed/MEDLINE = 520; PubMed Central = 180; BioMed Central = 145; Google Scholar = 393; grey literature = 40). After removing duplicates, 1,020 records remained. Titles/abstracts of these 1,020 records were screened, and 205 full texts were assessed for eligibility. Of these, 148 were excluded (70 did not report health outcomes, 40 were commentaries, 30 were not FTA-specific, and 8 were non-English). Finally, 57 studies were included in the synthesis (28 quantitative empirical studies, 9 health impact assessments, and 20 high-credibility grey literature reports). The process is summarised in a PRISMA-ScR flow diagram (Figure 1).

Figure 1: PRISMA-ScR Flow Diagram



The flow diagram below summarises the selection process for included studies.

Data extraction and appraisal: Data on study design, FTA type, outcomes, and equity dimensions were extracted using a standard form. Quality was appraised using appropriate tools (JBI checklists for surveys, structured tools for HIAs). No studies were excluded on quality grounds.

Synthesis: Findings were summarised narratively under three pathways:

1. Policy-space constraints (TRIPS-plus, ISDS, deterrent effect on public health regulation)
2. Market and risk-environment shifts (food, alcohol, tobacco)
3. Employment and environmental effects

Results were stratified by country income group, agreement depth, and equity impacts.

RESULTS

1. Policy-space constraints: Intellectual property and dispute mechanisms. Modern FTAs frequently include TRIPS-plus provisions and investor–state dispute settlement (ISDS) clauses.

- Access to medicines: TRIPS-plus clauses extend patent terms and delay generic competition. WHO estimated that under the TPP, HIV treatment could cost US $10,439 per person annually compared to US $350 for generics (3). A systematic review of IP provisions in trade treaties found consistent evidence of higher drug prices and reduced consumer welfare, particularly in low- and middle-income countries (4).
- Patent linkage: Evidence from Korea, Canada, and Australia shows that such systems can delay generic entry, although transparent databases and certification requirements can reduce adverse effects (14,15).
- Dispute settlement and public health: ISDS cases, such as Philip Morris's challenge to Uruguay's tobacco warnings, illustrate how fear of costly litigation deters governments from introducing health regulations. By 2013, over 500 ISDS cases had been filed globally, with 31% decided in favour of investors (5). This pattern has produced a deterrent effect on public health regulation, reducing governments' willingness to adopt stronger protections.

Equity implications: These constraints disproportionately affect countries with weaker negotiating capacity, limiting affordable access to medicines and undermining national autonomy to regulate for health.

2. Market and risk-environment shifts: food, alcohol, and tobacco

Trade liberalisation alters food and commodity markets, often increasing exposure to unhealthy products.

- Dietary impacts: After the Canada–US FTA (1989), calorie availability in Canada rose by ~170 kcal per person per day, equating to 1.8–12.2 kg of average weight gain depending on sex and physical activity (7). Following NAFTA's sugar trade provisions (2008), diabetes prevalence in U.S. states rose by 0.5–2.3%, with sharper increases in poorer regions (8).
- Mexico: NAFTA encouraged greater consumption of animal-source foods and reduced pulses, shifting diets away from traditional staples (15). In some communities, Coca-Cola became cheaper than clean water, contributing to the so-called "coca-colonisation" (16).
- Global evidence: A cross-country study of 172 nations found sugar and processed food imports significantly increased average BMI, even after adjusting for overall trade. In Fiji, such imports contributed to a 0.5-point rise in BMI (10).
- Alcohol and tobacco: Health impact assessments warn that deep FTAs may weaken domestic control of labelling, pricing, and restrictions, potentially creating more permissive environments for harmful commodities (3).

Equity implications: These shifts affect disadvantaged groups disproportionately, as cheaper, calorie-dense foods replace healthier traditional diets, while reduced regulatory authority increases vulnerability in low-resource settings.

3. Employment and environmental effects

Not all trade–health interactions are harmful; some pathways yield potential gains when supported by labour and environmental standards.

- Employment: A cross-country study of 786,040 respondents in 143 countries found that deeper regional trade agreements improved self-rated health, mainly through increased employment opportunities. (11)
- Environmental improvements: Trade liberalisation has facilitated cleaner production and safer imports in certain contexts, although benefits are uneven and depend on agreement design (11).
- Mixed health outcomes: A study of 36 liberalisation episodes (1963–2005) reported inconsistent effects on child mortality, ranging from a 20% decline in Uruguay to a 20% increase in the Philippines (6).

Equity implications: Positive impacts are concentrated among higher-income populations with stable employment, while low-income groups remain vulnerable to job displacement and environmental risks.

4. COVID-19 and vaccine equity

The pandemic revealed how trade and intellectual property regimes constrain emergency health responses.

- TRIPS-plus barriers delayed vaccine production in LMICs, reinforcing inequities between high- and low-income countries.
- Park et al. (13) emphasise that balancing intellectual property rights with public health needs is essential to secure timely and equitable vaccine supply in future pandemics.

Equity implications: Pandemic experiences confirmed that global health security is undermined when trade rules prioritise patent holders over universal access.

DISCUSSION

This review synthesises evidence on the health equity impacts of free trade agreements (FTAs) across multiple domains. Findings show that while FTAs can generate economic benefits, they also create structural constraints that undermine access to medicines, alter food environments, and limit regulatory authority, thereby shaping health outcomes and inequities.

1. Policy-space constraints and medicines access

TRIPS-plus provisions embedded in modern FTAs extend patent terms and delay generic entry, leading to sustained higher medicine prices. Such effects are well documented in LMICs, where reliance on generic competition is critical for affordability (3,4,14,15). Investor–state dispute settlement (ISDS) further restricts governments' ability to regulate; high-profile cases such as Philip Morris v. Uruguay illustrate how the threat of costly litigation deters the adoption of stronger tobacco control measures (5). These dynamics highlight the deterrent effect on public health regulation, with implications for national sovereignty and fiscal space for health.

2. Nutrition transition, NCD risk, and harmful commodities

Evidence from North America and global cross-country studies demonstrates that FTAs can accelerate nutrition transitions. In Canada, the Canada–US FTA contributed to increased calorie availability and weight gain (7), while NAFTA was linked with higher sugar consumption and diabetes prevalence in U.S. states (8). Mexican diets shifted toward animal-source foods and sugary beverages, with Coca-Cola sometimes cheaper than potable water (9,16). Cross-country data also confirm links between processed food imports and rising BMI (10). In parallel, FTAs have the potential to weaken domestic regulation of alcohol and tobacco, raising concerns about future non-communicable disease (NCD) burdens (3). These shifts disproportionately affect disadvantaged populations, who are more exposed to cheap calorie-dense products and less able to mitigate health risks.

3. Employment, environment, and mixed effects

Trade liberalisation is not uniformly harmful. Deeper regional trade agreements have been associated with improved self-rated health, primarily through increased employment opportunities (11). Liberalisation has also facilitated safer imports and cleaner production in certain contexts. However, health outcomes remain mixed; in a study of 36 liberalisation episodes, child mortality declined by 20% in Uruguay but increased by a similar margin in the Philippines (6). This suggests that broader governance, policy context, and social protection systems mediate the relationship between trade and health.

4. COVID-19 and vaccine equity

The COVID-19 pandemic underscored how TRIPS-plus provisions can exacerbate inequities in global health security. Delays in local vaccine production in LMICs highlighted the fragility of supply chains when intellectual property (IP) rights are prioritised over equitable access. Park et al. (13) argue that balancing IP protections with public health needs is critical for strengthening global vaccine supply chains and preventing inequities in future outbreaks. This aligns with our findings and reinforces calls for vaccines to be treated as global public goods rather than market commodities.

5. Critical interpretation and equity lens

Our synthesis reveals that FTAs are not neutral instruments; they redistribute health opportunities and risks. The equity impacts depend on bargaining power, institutional capacity, and regulatory frameworks. High-income countries with stronger negotiating positions are better able to safeguard public health, while LMICs often face constraints that magnify inequities (1,2,3). This underscores the need for trade negotiations to integrate health equity impact assessments and to preserve TRIPS flexibilities.

6. Contribution of this review

Unlike prior reviews that focused mainly on aggregate health impacts, this study contributes by: Integrating post-COVID vaccine equity debates into the trade–health discourse. Applying an explicit equity lens across three analytic pathways (policy space, markets, and employment environment).

Highlighting India and other LMICs as pivotal actors in negotiating TRIPS flexibilities and trade provisions.

CONCLUSION

Free trade agreements are no longer peripheral to public health; they shape the structural conditions that determine who have access to affordable medicines, what foods are available and affordable, and how governments regulate for health. This review shows that while FTAs can generate economic and employment gains, they also impose constraints that deepen health inequities, particularly in low- and middle-income countries with limited negotiating power.

To safeguard health equity, it is essential that trade negotiations integrate systematic health impact assessments, preserve TRIPS flexibilities, and strengthen policy space for governments to regulate harmful products. The COVID-19 pandemic further demonstrated that equitable access to vaccines and essential technologies cannot be left vulnerable to restrictive IP rules. Moving forward, embedding health equity considerations into trade policy design is critical to achieving universal health coverage and the Sustainable Development Goals.

Policy Implications: The evidence from this review highlights several priority actions for governments, trade negotiators, and public health actors:

Preserve and expand TRIPS flexibilities: Countries should utilise compulsory licensing, parallel imports, and patent law safeguards to maintain access to affordable medicines.

India's leadership in WTO waiver proposals demonstrates the potential of coordinated LMIC strategies to rebalance intellectual property regimes.

Institutionalise health impact assessments (HIAs) in trade negotiations: HIAs should be mandated during FTA negotiations, with results made publicly available to ensure transparency.

Technical support from WHO and regional institutions can strengthen LMIC capacity to conduct such assessments.

Strengthen regulatory autonomy: Trade agreements must protect policy space for governments to regulate tobacco, alcohol, ultra-processed foods, and other health-harming products.

Carve-outs and reservations for public health measures should be standard features in modern FTAs.

Integrate health into trade governance structures

Ministries of health should be formally represented in trade negotiation teams.

Cross-sectoral coordination mechanisms are needed to align trade policy with health equity goals.

Plan for future pandemics and health emergencies

Trade frameworks should include emergency provisions that allow rapid scaling of local manufacturing and equitable distribution of vaccines, diagnostics, and therapeutics.

Global cooperation should prioritise vaccines and essential health technologies as public goods.

RECOMMENDATION

Free trade agreements should be designed and implemented with public health protection as a core principle. To prevent widening health inequities, governments must ensure that FTAs do not compromise access to essential medicines, nutritional security, and regulatory authority for NCD prevention. Institutionalizing health impact assessments, strengthening legal safeguards for public health measures, and ensuring the participation of health experts and affected communities in trade negotiations are essential. Prioritizing equitable outcomes in trade governance will support resilient health systems, reduce the burden of preventable diseases, and advance progress toward universal health coverage and health equity.

LIMITATION OF THE STUDY

This review has some limitations. First, although it followed PRISMA-ScR guidelines, the search was limited to English-language publications, which may have excluded relevant evidence from non-English contexts. Second, the review covered literature up to 31 December 2024; studies published after this date were not included. Third, the heterogeneity of study designs, populations, and outcomes precluded meta-analysis, so findings were synthesised narratively. Fourth, although quality appraisal tools were applied, all studies were retained regardless of quality rating, which may have introduced bias from weaker evidence. Finally, grey literature and policy reports were included where peer-reviewed studies were scarce; while this enriched the policy perspective, it also introduced variability in methodological rigour.

Despite these limitations, the review provides one of the most comprehensive syntheses to date on the equity impacts of free trade agreements, integrating evidence from diverse contexts and including COVID-19–related literature up to 2024. It identifies clear pathways through which FTAs influence health and equity and highlights priorities for future research and policy action.

RELEVANCE OF THE STUDY

This review advances current knowledge by directly examining how specific provisions within free trade agreements influence health equity through medicine access, nutrition environments, regulatory autonomy, and pandemic preparedness. By applying a clear equity lens and integrating post-COVID-19 evidence on vaccine access, it highlights the populations most at risk from harmful trade provisions, particularly in low- and middle-income countries. The findings provide actionable insights for public health actors and policymakers to align trade governance with health equity and universal health coverage objectives.

AUTHORS CONTRIBUTION.

All authors have contributed equally.

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CONFLICT OF INTEREST

There are no conflicts of interest.

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