Ethics in Public Health Research

Global Trade and Public Health

Ellen R. Shaffer, PhD, MPH, Howard Waitzkin, MD, PhD, Joseph Brenner, MA, and Rebeca Jasso-Aguilar, MA

Global trade and international trade agreements have transformed the capacity of governments to monitor and to protect public health, to regulate occupational and environmental health conditions and food products, and to ensure affordable access to medications. Proposals under negotiation for the World Trade Organization's General Agreement on Trade in Services (GATS) and the regional Free Trade Area of the Americas (FTAA) agreement cover a wide range of health services, health facilities, clinician licensing, water and sanitation services, and tobacco and alcohol distribution services.

Public health professionals and organizations rarely participate in trade negotiations or in resolution of trade disputes. The linkages among global trade, international trade agreements, and public health deserve more attention than they have received to date. (*Am J Public Health.* 2005;95:23–34. doi: 10.2105/AJPH.2004.038091)

GLOBAL TRADE AND international trade agreements have transformed governments' ability to monitor and to protect public health (box p24). They have also restricted the capacity of government agencies to regulate occupational and environmental health conditions and food products and to ensure affordable access to medications and water. Pending proposals cover a wide range of health services, health facilities, clinician licensing, and distribution of tobacco and alcohol. Public health organizations are only beginning to grapple with trade-related threats to global health, including emerging infectious diseases and bioterrorism. Although economic globalization has attracted wide attention, its implications for public health remain poorly understood.

In this article, we analyze key global trade issues that affect public health, briefly tracing the history of international trade agreements and describing the forces shaping agreements such as the North American Free Trade Agreement (NAFTA). The recent shift to treating services as tradable commodities is of particular importance; we analyze the General Agreement on Trade in Services (GATS) as a case in point. We also discuss the implications for public health of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and the proposed Free Trade Area of the Americas (FTAA) agreement. Although many agreements contain implications for public health, as we summarize in Table 1 and the box on page 26, we emphasize those features of agreements currently under negotiation that warrant attention by public health practitioners and organizations.

EMERGENCE OF INTERNATIONAL TRADE AGREEMENTS

Historical Origins

Although trade across nations and continents dates back centuries, the framework for current international trade agreements began after World War II with the "Bretton Woods" accords. These accords sought to generate economic growth in the reconstruction of Europe and Japan after World War II, in part by stabilizing currency rates and trade rules. Between 1944 and 1947, the Bretton Woods negotiations led to the creation of the International Monetary Fund and the World Bank and to the establishment of the General Agreement on Tariffs and Trade (GATT). GATT aimed to reduce tariffs and quotas for trade among its 23 participating nations and also established such general principles as "most favored nation treatment" (according to which the same trade rules were applied to all participating nations) and "national treatment" (which required no discrimination in taxes and regulations between domestic and foreign goods).[1] GATT also established ongoing rounds of negotiations concerning trade agreements.

During the 1980s and 1990s, these international financial institutions embraced a set of economic policies known as "the Washington consensus." Advocated primarily by the United States and the United Kingdom, these policies involved deregulation, privatization of public services, measures designed to achieve low inflation rates and stable currencies, and mechanisms enhancing the operations of multinational corporations. As the pace of international economic transactions intensified, facilitated by technological advances in communications and transportation, the World Trade Organization (WTO) in 1994 replaced the loose collection of agreements subsumed under GATT.

Trade Rules

The WTO and regional trade agreements have sought to remove both tariff and nontariff barriers to trade. Tariff barriers involve financial methods (e.g.,

Examples of Actions Under International Trade Agreements That Affect Public Health

• Under Chapter 11 of the North American Free Trade Agreement (NAFTA), the Metalclad Corporation of the United States successfully sued the government of Mexico for damages after the state of San Luis Potosí prohibited Metalclad from reopening a toxic waste dump. The Methanex Corporation of Canada sued the government of the United States in a challenge regarding environmental protections against a carcinogenic gasoline additive, methyl tertiary butyl ether (MTBE), banned by the state of California. The Free Trade Area of the Americas (FTAA), currently under negotiation, would extend such investor's rights to all countries in the Western hemisphere except Cuba.
• Acting on behalf of pharmaceutical corporations, the US government invoked the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) of the World Trade Organization (WTO) in working against attempts by South Africa, Thailand, Brazil, and India to produce low-cost antiretroviral medications effective against AIDS.
• Canada challenged France's ban on asbestos imports under WTO's Agreement on Technical Barriers to Trade. Although a WTO tribunal initially approved Canada's challenge, an appeal tribunal reversed the decision after international pressure.
• On behalf of the beef and biotechnology industries, the United States successfully challenged the European Union's ban of beef treated with artificial hormones under the WTO Agreement on the Application of Sanitary and Phyto-Sanitary Standards.
• Currently under negotiation, the WTO General Agreement on Trade in Services (GATS) targets the removal of restrictions on corporate involvement in public hospitals, water, and sanitation systems. GATS could affect state and national licensing requirements for professionals and may raise challenges to national health programs that limit participation by for-profit corporations.
• In the first trade dispute decided under GATS, a WTO tribunal rejected Mexico's defense of its telecommunications regulations. The tribunal found that charges including a contribution to the development of Mexico's telecommunications infrastructure were not "reasonable." Mexico had argued that GATS provisions appeared to give flexibility to governments in achieving development objectives, including Mexico's policy goal of promoting universal access to basic telecommunications services for its population.

taxes on imports) of protecting national industries from competition by foreign corporations. Nontariff barriers refer to laws and regulations affecting trade, including those that governments use to ensure accountability and quality. In more than 900 pages of rules, the WTO set criteria for permissible and impermissible nontariff barriers, for example domestic policies governing environmental protection, food safety, and health services. These rules aim to increase cross-border trade under the assumption that increased trade may enhance nations' wealth or well-being. While aiming to achieve "free" trade across borders, the rules in trade agreements limit governments' regulatory authority over trade and enhance the authority of international financial institutions and trade organizations.[2]

Although the WTO (under general exceptions of GATT, Article XX) permits national and subnational "measures necessary to protect human, animal or plant life or health," other provisions make this exception difficult to sustain in practice. For example, a country can be required to prove that its laws and regulations represent the alternatives that are least restrictive in regard to trade and that they are not disguised barriers to trade.[3] Such rules also can restrict public subsidies, including those designated for domestic health programs and institutions, labeling them potentially "trade distortive." Requiring that such subsidies apply equally to domestic and foreign companies that provide services under public contracts can preempt public policies directing subsidies to domestic corporations.

Of particular relevance to public health, 1 WTO provision requires "harmonization," that is, reducing variations in nations' regulatory standards for goods and services. Proponents have noted that harmonization can motivate less developed countries to initiate labor and environmental standards where none had previously existed.[4] However, harmonization also can lead to erosion of existing standards, because it requires uniform global standards at the level *least* restrictive to trade.[5] The WTO encourages national governments to harmonize standards on issues as diverse as truck safety, pesticides, worker safety, community right-to-know laws regarding toxic hazards, consumer rights regarding essential services, banking and accounting standards, informational labeling of products, and pharmaceutical testing standards.

Trade Enforcement and National Sovereignty

WTO and regional agreements such as NAFTA supersede member countries' internal laws and regulations, including those governing public health. Under these agreements, governments at all levels are facing loss of sovereignty in policymaking pertinent to public health and health services. Technically, nations apply voluntarily to become WTO members. However, most less developed countries perceive that they will experience disadvantages in trade relations if they do not join.[6] Traditionally, government agencies at the federal, state, county, and municipal levels have been responsible for protecting the public's health, for example by ensuring safe water supplies, controlling environmen-

TABLE 1—Summary of International Trade Agreements and Trade Organizations Pertinent to Public Health and Their Principal Implications for Public Health

Treaty, Organization, or Law	Focus and Implication	Ratification or Negotiation Status	Examples of Cases Relevant to Public Health
	Summary of key multilateral agreements		
General Agreement on Trade and Tariffs (GATT)	Part of Bretton Woods accords at end of World War II; reduced tariffs as financial barrier to trade	Applies to all 148 nations that now participate in WTO	Venezuela won a challenge to the US Clean Air Act of 1990, weakening regulation of gasoline contaminants that contribute to pollution.
World Trade Organization (WTO)	Emerged in 1994 from the "Uruguay round" of GATT negotiations; created a stable organization with staff; aims to remove tariff and nontariff barriers to trade	Includes all WTO member nations	See below under separate trade agreements.
General Agreement on Trade in Services (GATS)[a]	Opens services to participation by foreign private corporations; services may include health care services, national health programs, public hospitals and clinics, professional licensure, water, and sanitation systems	Applies to WTO member nations; commitments by countries currently under negotiation	Country requests have targeted US professional licensing requirements and restrictions on corporate involvement in drinking water and wastewater systems.
Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)[a]	Protects patents, copyrights, trademarks, and industrial designs across national boundaries; limits governments' ability to introduce medication programs and to restrict the availability and reimbursement of medications under publicly funded programs	Applies to WTO member nations; rules concerning medications for conditions such as AIDS under negotiation	On behalf of pharmaceutical corporations, the United States has challenged attempts by South Africa, Thailand, Brazil, and India to produce low-cost antiretroviral medications effective against AIDS.
Agreement on Technical Barriers to Trade (TBT)[a]	Reduces barriers to trade that derive from technical standards and regulations applying to the safety and quality of products; covers tobacco and alcohol, toxic substances and waste, pharmaceuticals, biological agents, foodstuffs, and manufactured goods	Applies to WTO member nations	In its challenge of France's ban on asbestos imports, Canada argued that international standards require the "least trade restrictive" regulations; a WTO tribunal approved the challenge, although an appeal tribunal rejected Canada's claim after international pressure.
Agreement on the Application of Sanitary and Phyto-Sanitary Standards (SPS)[a]	Reduces barriers to trade that derive from governments' regulations and laws designed to protect the health of humans, animals, and plants; covers food safety provisions	Applies to WTO member nations	On behalf of the beef and biotechnology industries, the United States successfully challenged the European Union's ban on beef treated with artificial hormones.
	Summary of key US regional agreements		
North American Free Trade Agreement (NAFTA)[b]	Removed most restrictions on trade among the United States, Canada, and Mexico	Ratified and implemented in 1994	Under Chapter 11, the US Metalclad Corporation successfully sued Mexico in regard to toxic waste restrictions; the Methanex Corporation of Canada challenged the United States over California's ban of a carcinogenic gasoline additive.
Free Trade Area of the Americas (FTAA)[b]	Extends NAFTA to all countries of the Western hemisphere except Cuba	Under negotiation	This agreement would open public sector health care services and institutions to corporate participation.
Central American Free Trade Agreement (CAFTA)[b]	Applies NAFTA-like trade rules to the United States, the 5 Central American countries and the Dominican Republic	Agreed by trade negotiators, signed by US president, awaiting consideration by US Congress	This agreement would interfere with the ability of Central American generic drug industry to produce and sell affordable prescription drugs.

[a]WTO trade agreement (applies to all WTO member nations).
[b]Regional trade agreement (applies only to signatory nations).

Glossary of Key Terms

Term	Definition
"Bretton Woods" accords	Agreements negotiated mainly at Bretton Woods, NH, at the end of World II; sought to generate economic growth for the reconstruction of Europe and Japan, partly by stabilizing currency rates and rules for trade.
Commitment	A country's decision to cover specified services under certain General Agreement on Trade in Services (GATS) rules (market access and national treatment). When a country commits to a specific type of service (for instance, health services, insurance services, public health services), the country must include all of those services under these GATS rules. Later reversal of commitments is extremely difficult because of a requirement of compensation to all countries whose companies have incurred losses after beginning to provide the service in question.
Compulsory license	Under Trade-Related Aspects of Intellectual Property Rights (TRIPS), a country may require that a pharmaceutical company receive a government license to market a needed medication under patent at a lower price than the company could charge under usual market conditions. Low-income countries with AIDS epidemics have considered using compulsory licensing to enhance access to the newer generation of effective but expensive medications for AIDS.
Domestic regulation rule	Provision under World Trade Organization (WTO), adopted in other regional and bilateral agreements, that government regulations and standards regarding services are "not more burdensome than necessary to ensure the quality of the service" (the "necessity test") and do not constitute barriers to trade.
Harmonization	Principle that seeks to reduce variation in nations' regulatory standards for goods and services; requires uniform global standards in health and safety at the level least restrictive to trade.
International Monetary Fund (IMF)	International financial institution initiated after World War II as part of Bretton Woods accords. The IMF's mission is to "to promote international monetary cooperation, exchange stability, and orderly exchange arrangements; to foster economic growth and high levels of employment; and to provide temporary financial assistance to countries to help ease balance of payments adjustment" (see http://www.imf.org/external/about.htm).
Investor's rights	Mechanism under Chapter 11 of North American Free Trade Agreement (NAFTA) by which individual foreign investors or corporations can directly sue any of the 3 participating national governments.
Market access	Principle that prohibits governments from restricting the number or type of providers for a specific good or service within a country.
Most favored nation treatment	Principle that applies the same trade rules to all countries participating in a trade agreement.
Multilateral, regional, bilateral agreements	Defines which group of countries are signatories and which sets of rules apply. Multilateral WTO agreements apply to all 148 WTO member countries. Countries can negotiate regional agreements or bilateral (country-to-country) agreements. There is debate on whether WTO rules act as a floor or a ceiling for regional and bilateral agreements.
National treatment	Principle that requires no discrimination in taxes and regulations between domestic and foreign goods and services.
Non-tariff barriers to trade	Laws and regulations affecting trade, including those used by governments to ensure accountability and quality in such areas as environmental protection, food safety, and health services.
Tariff barriers to trade	Financial methods of protecting national industries from competition by foreign corporations, such as taxes on imports.
Trade Promotion Authority ("Fast Track")	US Congress delegates authority for negotiation of trade agreements to the president; permits only approval or disapproval without amendment by Congress.
Washington consensus	Set of economic policies that favor deregulation, privatization of public services, measures to achieve low inflation and stable currencies, and mechanisms that enhance the operations of multinational corporations.
World Bank	International financial institution initiated after World War II as part of Bretton Woods accords. The World Bank's Mission was initially to contribute through loans to the economic reconstruction of Europe and Japan. Its current mission is "to fight poverty and improve the living standards of people in the developing world" (see http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/0,,pagePK:43912~piPK:36602~theSitePK:29708,00.html).

tal threats, and monitoring industries in regard to occupational health conditions. Trade agreements can reduce or eliminate such governmental activities to the extent that they represent barriers to trade.

In cases of dispute, an appointed 3-member WTO tribunal, rather than a local or national government, determines whether a challenged policy conforms to WTO rules. This tribunal includes experts in trade but not necessarily in the subject matter of the cases in question (e.g., cases involving health or safety) or in the laws of the contesting countries.[3] Documents and hearings are closed to the public, the press, and state and local elected officials; the WTO considers only federal governments as members.

When a tribunal finds that a domestic law or regulation does not conform to WTO rules, the tribunal orders that the contested transaction in question must proceed. If a country fails to comply, the WTO can impose financial penalties and authorize the "winning" country to apply trade sanctions against the "losing" country in whatever sector the winner chooses until the other country complies. In challenges decided by WTO or NAFTA tribunals, corporations and investors have caused governments to suffer financial consequences and trade sanctions because of governments' efforts to pursue traditional public health functions (box p24). Losing countries in these cases experience pressure to eliminate or to change the legislation in question and not to enact similar new laws.

TRADE AGREEMENTS AND PUBLIC HEALTH

A set of international trade agreements applies to all WTO member countries (currently 148). WTO agreements pertinent to public health include GATS, TRIPS, the Agreement on the Application of Sanitary and Phyto-Sanitary Standards, and the Agreement on Technical Barriers to Trade. In addition, regional agreements and nation-to-nation (bilateral) agreements are proliferating, with provisions based on the WTO and NAFTA.

North American Free Trade Agreement (NAFTA)

Initiated in 1994, NAFTA focuses on expanding opportunities for new investments, acquiring property, and opening services to competition by private corporations in the United States, Canada, and Mexico. NAFTA provisions have proven controversial, in that numerous US-based manufacturing industries have moved to Mexico, where environmental and occupational health standards are less strict and most companies pay lower wages. Unemployment and cuts in benefits for workers remaining employed in the United States have resulted in a growing number of uninsured workers and families.[7] Overall, NAFTA did not create the new jobs in the United States that proponents predicted and has contributed to increasing inequality of wages.[8]

In Mexico, NAFTA's impact has proven more dramatic. Jobs lost in agriculture owing to the increases in imports have far outweighed the jobs created by export manufacturing. Unemployment has increased most dramatically in rural areas.[8] After NAFTA lowered tariffs on US agricultural products, crop prices dropped, and even Mexican subsistence farmers could not compete with US agribusiness, which receives large government subsidies. Between 1994 and 2003, 9.3 million workers entered Mexico's labor market, but only 3 million new jobs were created during that period; in the same time span, real wages lost approximately 20% of their purchasing power.[9] NAFTA also has led to widespread environmental damage as agriculture has seen a shift to large-scale, export-oriented farms that rely on water-polluting agrochemicals and more use of water for irrigation.[8] Chronic public health problems along the border between the United States and Mexico persist.[10]

Chapter 11 of NAFTA, concerning investments, includes a unique "investor's rights" mechanism by which individual foreign corporations (referred to as "investors") can directly sue any of the 3 participating national governments. Before the establishment of NAFTA, trade agreements permitted only country-to-country enforcement by governments. However, companies can now sue for loss of current or future profits, even if the loss is caused by a government agency's prohibiting the use of a toxic substance.[11]

Several landmark cases filed under Chapter 11 have dealt with environmental laws or regulations. For example, a NAFTA tribunal awarded the US-based Metalclad Company $16.7 million in its suit against Mexico. The state of San Luis Potosí had refused permission for Metalclad to reopen a waste disposal facility after a geological audit showed that the facility would contaminate the local water supply and after the local community opposed the reopening. Metalclad claimed that this local decision constituted an expropriation of its future potential profits and filed a successful suit against the country of Mexico.[12,13]

In addition, the Methanex Corporation of Canada initiated an approximately $1 billion suit against the United States after the state of California banned the use of methyl tertiary butyl ether (MTBE), a gasoline additive, because of its demonstrated carcinogenicity. Methanex produces methanol, a component of MTBE. This case remains under consideration by a closed appeal tribunal, while MTBE remains in use in California.

Such cases can exert a chilling effect on environmental protection efforts. For instance, several other states have deferred their planned bans on MTBE as a result of the threat posed by the pending Methanex case.[14] Similar investor's rights provisions have appeared in other regional and bilateral agreements, such as those recently negotiated by the United States with Singapore and Chile.

Free Trade Area of the Americas (FTAA)

The FTAA proposes that most provisions of NAFTA be extended to all 31 of the remaining nations in the Western hemisphere with the exception of Cuba.[15] Ongoing negotiations include efforts to introduce an investor's rights clause, similar to NAFTA's, as well as to replicate features of GATS and other WTO agreements. If completed on schedule, negotiations will conclude in early 2005.

The FTAA agreement would foster participation of multinational corporations in administering programs and institutions, such as public hospitals and community health centers, currently managed in the public sector. US-based insurance companies have expressed their interest in delivering services now provided by public sector social security systems throughout Latin America,[16] as indicated in their testimony on the FTAA (Washington, DC, March 28, 2000): "public ownership of health care has made it difficult for U.S. private-sector health care providers to market in foreign countries. . . . Existing regulations . . . present serious barriers . . ., including restricting licensing of health care professionals, and excessive privacy and confidentiality regulations."[17]

Proponents of privatization emphasize the inefficiencies and corruption that have occurred in some countries' public sector programs. However, in many countries privatization and the participation of multinational corporations in public services have led to problematic effects. Such changes in Latin America have resulted in barriers to access stemming from copayments, private practitioners' refusal to see patients because corporations have not paid professional fees, and bureaucratic confusion in the assignment of private providers; public sector expenditures increasingly have covered the higher administrative costs and profits of investors as clinical services have decreased for the poor at public hospitals and health centers.[16,18,19] Similar trends have occurred in Africa and Asia.[20,21]

Although, at present, countries are free to privatize public services, the FTAA would impose the threat of a trade challenge against countries' decisions to maintain or to expand public services, as well as costly trade sanctions if privatized services were to be returned to the public sector. FTAA chapters directly related to public health cover trade in services such as health care, water, education, and energy; intellectual property, which addresses access to affordable medications; standards for plant and food safety; and rules regarding governments' allocation of subsidies and procurement of goods and services. Also important to public health, the FTAA's language on financial investments adopts Chapter 11 of NAFTA as a model, and rules on trade in products could restrict governments' regulation of product safety.

The FTAA process is entirely "top down"; all services are covered by all FTAA rules unless a country takes action affirmatively to exclude specific services. The Central American Free Trade Agreement (CAFTA), awaiting final review by Congress as of late 2004, and recently concluded US bilateral agreements with Chile, Singapore, Vietnam, and Jordan contain similar provisions.

General Agreement on Trade in Services (GATS)

Recognizing the increasing proportion of economic activities worldwide devoted to services, this WTO agreement encourages private investment and deregulation in terms of a wide spectrum of services. GATS treats human services such as health care, water and sanitation, energy, and education as commodities subject to trade rules. According to its stated aims, GATS will progressively cover an increasing number of services over time. The current round of GATS negotiations is scheduled to conclude in 2005.

A majority of GATS rules, including "most favored nation," are "top down" (Table 2). That is, they already apply to all services in all WTO member countries. For example, according to the domestic regulation rule, government regulations regarding services should not be "more burdensome than necessary to ensure the quality of the service," and qualification requirements and procedures for service providers, technical standards, and licensing requirements should not constitute unnecessary barriers to trade in services.[1] When the process of minimizing trade restrictions comes into conflict with health standards, trade tribunals under WTO usually have decided that the former take priority.[22] GATS sections on subsidies and government procurement, described subsequently, also apply to all services offered.

Because many countries have opposed expanding WTO rules to the service sector, GATS operates, to some extent, according to a stepwise approach. Through a "bottom-up" process, nations negotiate with each other to "commit" to covering (or adding to the list of) services falling under 2 trade rules (Table 3). One of these rules, referred to as "market access," prohibits governments from restricting numbers or types of service providers. As an example, this rule could undermine local laws restricting the number of liquor stores on a city block. Under the second rule, "national treatment" (described earlier), a country must treat foreign companies in the same manner as domestic companies.[23] Programs designed to achieve social goals, such as measures aimed at ensuring accountability in regard to national privacy regulations by restricting medical transcription services to domestic companies, could violate this rule by "discriminating" against foreign corporations.

Within these 2 rules, GATS specifies 4 service modes to which a country can commit particular services[24]: (1) delivery of services based in 1 country to consumers based in another country (e.g., telemedicine), (2) delivery of services to foreign

TABLE 2—Major Provisions and "Top-Down" Rules Relevant to Public Health in the General Agreement on Trade in Services (GATS)

Rule	Content	Issues Relevant to Public Health
Disclosure (Article III)	Each nation shall publish all current laws, regulations, or administrative guidelines related to GATS and at least annually inform the WTO's Council for Trade in Services of the introduction of any new measures, or any changes to existing measures, which significantly affect trade in services covered by its specific commitments under this agreement.	Rule imposes an administrative burden on local, state, and federal governments. International involvement in domestic rule making is costly.
Domestic regulation (Article VI)	The WTO's Council for Trade in Services shall establish any necessary disciplines to ensure that measures relating to qualification requirements and procedures, technical standards, and licensing requirements do not constitute unnecessary barriers to trade in services. Such measures should be based on objective and transparent criteria, such as competence and the ability to supply the service, and should not be more burdensome than necessary to ensure the quality of the service. Licensing procedures should not in themselves constitute a restriction on the supply of the service.	Trade tribunals without expertise in health can determine that laws and regulations that protect health are more burdensome than necessary and are unnecessary barriers to trade in services. Criteria for this determination have not been specified. "Overly burdensome" measures could include training and licensing for health professionals, privacy of information, patient protection, health and safety, alcohol and tobacco control, equitable services for vulnerable populations, and access to affordable medications.
Monopolies and exclusive service suppliers (Article VIII)	Nations must ensure that any monopoly supplier of a service subject to a GATS commitment does not compete to supply that service outside the scope of its present monopoly rights. If a member grants new monopoly rights regarding the supply of a service covered by its specific commitments, it shall notify the WTO's Council for Trade in Services no later than 3 months before the intended implementation.	Some public health systems are monopoly suppliers of health care and insurance. Since the United States has made a GATS commitment for health insurance, legislation to create a nationally or state-funded health insurance system would have to be reported 3 months in advance to the WTO to ensure that the program would not prevent competition among private insurance companies.
Government procurement (Article XIII)	Procurement of services by governmental agencies can be exempt from GATS if the services are purchased for governmental purposes and not with a view to commercial resale or use in the supply of services for commercial sale.	Some public payments could be considered purchases for commercial sale and therefore could be challenged under GATS. For example, Medicaid payments to private hospitals and nursing homes that are then used to reimburse temporary employment agencies could be considered commercial sales.
Subsidies (Article XV)	Members recognize that, in certain circumstances, subsidies may have distortive effects on trade in services. Members shall enter into negotiations with a view to developing the necessary multilateral disciplines to avoid such trade-distortive effects.	Government subsidies for many health services at the local, state, and federal levels could be challenged as distortions to trade, including disproportionate share hospital payments and community health center allocations.

Note. "Top-down" GATS rules apply to all services. The exact wording of some provisions is under negotiation.

consumers within the provider's country (e.g., "niche" specialty medical services that patients travel to receive), (3) investment in the services of another country, and (4) temporary migration by workers. For example, covering a service such as hospitals under Mode 3 can restrict nations' or states' ability to limit or control foreign investments in their health care systems. Cover-

TABLE 3—Selected Health-Related Services Currently Covered by the United States Under the "Bottom-Up" Rules of the General Agreement on Trade in Services (GATS)

Service Category That the United States Has Agreed to Cover	GATS Rules and Modes[a] That the United States Has Agreed to Apply	US Measures[b] and Programs Subject to Challenge	Measures and Services Currently Excluded From Bottom-Up Rules; Pending Requests to Remove Exclusions
Hospital and community health center services	Market access: mode 2	Prioritization of resources for domestic populations vs foreigners who travel to the United States to receive services	No exclusions or requests
	Market access: mode 3	Limits on establishment of hospital services based on need, outcomes, or other criteria (e.g., coronary care or neonatal intensive care units)	Need-based limits on new hospitals, medical equipment, or medical procedures "may" be excluded New York rules limiting corporate ownership of hospitals, nursing homes, or diagnostic and treatment centers excluded Michigan and New York laws on licensing of managed care organizations excluded
	National treatment: modes 2 and 3	Public sector support for domestic safety net providers	Mexico and Paraguay have requested removing restriction of federal or state government reimbursement to licensed facilities in the United States
	National treatment: mode 4	Training and residency requirements for nonprofessional health personnel (e.g., technicians, clerical workers)	No stated exclusions or requests
Health insurance	Market access: modes 1, 2, and 3	Limits on number of competing insurers	State laws limiting foreign life, accident, and health insurance companies excluded Tax exemptions for employee benefit trusts excluded European Union has requested removal of exclusion that grants tax exemptions for employee benefit trusts
	National treatment: modes 1, 3, and 4	Government subsidies and procurement under Medicare and Medicaid New government programs to extend coverage Patient protection laws Restrictions on genetic and gender discrimination Privacy protections	Worker's compensation excluded
Environmental services: sanitation, sewage, nature and landscape protection	Market access: modes 1, 2, and 3 National treatment: modes 1, 2, 3, and 4	Rules and decisions regarding standards for delivery of services	European Union has requested that the United States cover drinking water and wastewater treatment, which would facilitate privatization
Distribution of goods, including tobacco and alcohol products	National treatment: modes 1, 2, 3, and 4	State run liquor stores	Wholesale distribution of alcohol and tobacco products is currently covered by national treatment but not by market access rules Retail distribution of alcohol and tobacco products is currently not covered by market access and national treatment rules European Union has requested that the United States cover retail distribution of alcohol under market access rules. This could challenge state laws and regulations restricting retail distribution of alcohol products and communities' efforts to limit liquor stores in neighborhoods

Note. Under "bottom-up" rules, countries can choose whether and how particular services are covered. The major bottom-up rules are (1) market access rules, which prohibit government limitations on the amount or type of services supplied by foreign private service providers, and (2) national treatment rules, which grant foreign private service providers the same treatment as domestic service providers.

[a]Market access and national treatment rules can be applied to cover services in any or all of the following "modes" of trade: mode 1 (cross-border supply: provision of services to consumers located abroad [e.g., telemedicine]), mode 2 (consumption abroad: provision of services in the provider's home country to foreign consumers [e.g., "niche" specialty medical services that patients travel to receive]), mode 3 (commercial presence: foreign direct investment [e.g., European hospital chain ownership of hospitals in the United States]), and mode 4 (presence of natural persons: temporary immigration of personnel [e.g., health professionals, nonprofessional health workers]).

[b]Measures refer to laws, regulations, and governmental funding arrangements.

ing nurses under Mode 4 can accelerate the migration of trained clinicians.

There is no formal process for public debate in GATS decisions about committing services; countries make confidential requests regarding services that they would like other countries to commit, and the respondents can agree or disagree. Regarding public health, the European Union has requested that the United States drop restrictions on private corporate involvement in water and sanitation systems, as well as in the retail distribution of alcohol products.[25] While the European Union has announced that it will not commit further any of its own human services, both the EU and the United States seek removal of barriers to trade in other countries covering health services, energy services, higher education, and environmental services.[26]

Several countries have submitted GATS requests with important implications for US health services (Table 4). For instance, India has asked that the United States recognize foreign licensing and other certified qualifications of medical, nursing, and dental professionals. Mexico has requested that the United States no longer limit foreign direct investment in hospitals and health facilities. Both Mexico and Paraguay have asked the United States to eliminate the "restriction of federal and state reimbursement to licensed, certified [health] facilities in the United States or a U.S. state."[25]

Although the technical language of GATS has generated controversy about the extent of its eventual effects,[27] GATS will probably affect public sector health programs in several ways. First, GATS will facilitate greater participation by private corporations within public health care institutions. For instance, the United States currently includes hospitals and health insurance coverage (within GATS, the latter falls under financial services rather than health services) in its commitments. Under GATS rules on public subsidies and government procurement, subsidies awarded to institutions for treatment of the underserved, graduate medical education, or research may be discontinued if challenged by other countries, or they could be directed to foreign private corporations that offer competing services. Municipal and county governments that reject bids or attempt to discontinue contracts with foreign companies could become liable to challenge. Although GATS proponents emphasize that countries' commitments remain voluntary, policy analysts have expressed concern that WTO rules will permit a variety of challenges to countries with national health programs.[28–30]

Nations' commitments under GATS so far have varied.[4,31]

TABLE 4—US Services for Which Other Countries Have Requested Future Coverage Under the "Bottom-Up" Rules of the General Agreement on Trade in Services (GATS)

Service Category	Pending Requests to Extend Coverage	US Laws, Regulations, and Funding Arrangements Subject to Future Challenge Under GATS if the US Trade Representative and Congress Agree to Extend Coverage
Physicians, dentists, veterinarians, midwives, nurses, physiotherapists, and paramedical personnel	India has requested that the United States extend recognition for clinicians trained in India	Immigration and licensing standards for clinicians
Research and development in the natural sciences, social sciences, humanities, and engineering	European Union has requested inclusion of these services	Standards for and allocation of funding; rules concerning conflicts of interest with corporations and other funding sources
Energy: exploration, production, distribution, trading, brokering	European Union has requested inclusion of these services	Regulations protecting safety of workers and the public
Exploration, production, and bulk storage of liquids or gases	European Union has requested inclusion of these services and removal of a Michigan law requiring that contractors maintain an in-state monitoring office	Measures that protect the safe storage of these potentially hazardous materials
Small Business Administration loans	European Union has requested that the United States remove restriction of federal Small Business Administration loans to US nationals	Federal small business loan programs that restrict loans to US citizens would be opened to foreign applicants; similar state programs could also be challenged, including those that restrict loans to categories such as veterans (Maine), socially disadvantaged populations (Maryland), dislocated timber workers (Oregon), and minority-owned businesses (Pennsylvania)

The European Union has committed to including medical, dental, nursing, and hospital services, but not health insurance coverage, which therefore would remain in the public sector. Canada has not committed in regard to any health services. Although the United States has committed for hospital services, health facility services, and health insurance coverage and proposes to expand its commitment under "environmental services" to include wastewater, it has not made commitments in regard to professional licensing, alcohol and tobacco distribution, or drinking water. If the GATS objective of eventually including all services is achieved, however, these limits will prove temporary.[32–34] Tables 2–4 presents health-related services in the United States now covered by GATS, and those that could be covered in the future.

Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)

The TRIPS agreement protects patents, copyrights, trademarks, and industrial designs across national boundaries. On the basis of the argument that such protections enhance economic incentives for creativity and invention, this agreement covers patented medications and equipment, textbooks and journals, and engineering and architectural innovations for health institutions, as well as computer technologies and entertainment products. TRIPS rules mandate that all WTO member countries implement intellectual property protections that provide 20-year monopoly control over patentable items. Entry into the WTO required that the United States extend patents from 17-year terms to the WTO's 20-year standard.

TRIPS can limit governments' ability to provide generic medications under publicly funded programs. For instance, federal and state government health programs such as Medicare and Medicaid have paid substantially higher drug prices as a result of these patent extensions. Overall, TRIPS has adversely affected US health care cost containment efforts by extending the period during which purchasers have had to pay higher prices for medications covered by patents.[3,35]

Provisions of TRIPS also could block proposals to reimport affordable prescription drugs from Canada into the United States.[36] Similar provisions have appeared in bilateral agreements such as the Australia Free Trade Agreement.[37]

TRIPS especially affects access to medications for life-threatening conditions in low-income countries. TRIPS rules required most developing countries to change their rules by 2001, while the "least developed countries" must do so by 2016. One policy tool designed to deal with this problem in low-income countries, permissible under TRIPS rules, involves "compulsory licensing." Under this provision, a country may require that a pharmaceutical company obtain a government license to market a needed medication under patent at a lower price than the company could charge under usual market conditions. The US government has supported efforts under TRIPS to prevent the governments of South Africa, Thailand, and Brazil from initiating compulsory licenses for production of generic alternatives to patented AIDS medications.[38–40]

As a result of concerns among professionals, legislators, and advocates, the Doha round of WTO negotiations in 2001 involved a proposal to relax some of TRIPS's most severe rules regarding patent protection for medications useful in treating AIDS.[41,42] Partly by threatening to impose compulsory licensing, Brazil's government obtained low prices from pharmaceutical companies; this change has facilitated improvements in the country's AIDS morbidity and mortality outcomes.[43] In August 2003, the US pharmaceutical industry abandoned its insistence that the relaxed rules apply only to medications for AIDS, tuberculosis, and malaria.[44] The resulting agreement has led to WTO control over a complex process for approving lowered medication prices under limited circumstances and leaves the issue of accessible medications in less developed countries unresolved.[45–47]

ACTIONS TAKEN BY PUBLIC HEALTH PRACTITIONERS

Concern about trade policies that cause adverse effects on public health has increased worldwide.[48,49] Specific instances of organized resistance have shown that such policies can be blocked or reversed. For instance, as already described, the coordinated international efforts to expand the availability of AIDS medications in Africa despite TRIPS restrictions led to major changes in trade policies, and, partly by threatening to impose compulsory licensing, Brazil's government helped improve AIDS outcomes through low medication prices.[41] In addition, the campaign to eliminate users' fees in public sector health services and education led to a major change in the World Bank's policies in regard to enhancing privatization and corporate trade in services. Communities in Bolivia have succeeded in reversing the privatization of water supplies. Finally, through a series of protests, a coalition of health professionals, nonprofessional health workers, and patients in El Salvador has repeatedly blocked the privatization of public hospitals.

Alternative projects favoring international collaboration have countered some of the adverse effects of global trade on public health. For instance, the Brazilian Workers Party, which won the country's presidency in late 2002, has emphasized expansion of public hospitals and clinics at the municipal level. Adopting the principle of community participation in municipal budgets, the new government has encouraged strengthening municipal public services and has attempted to limit the participation of multinational corporations in the area of public health. Such efforts have oc-

curred in the context of a growing network of organizations that emphasize a strengthened public sector, critically assess the corporatization in health care that international trade agreements encourage, and express concern about the impact of global trade on public health, health services, and democracy.[50,51]

Because critical trade negotiations are taking place now and in the near future, we recommend that public health practitioners engage in several actions to address the growing challenges of global trade:

- Participate in national and international networks that conduct research, surveillance, and advocacy concerning global trade and public health.
- Engage in educational outreach to encourage more informed decisions about the relationships between global trade and public health and to influence the direction of international trade agreements; outreach activities should target (1) professional associations in the areas of public health, clinical medicine, health policy, and allied health professions; (2) state, county, and local health departments; (3) local communities and civic organizations; and (4) elected officials at the federal, state, county, and municipal levels.
- Engage in efforts to introduce the themes just mentioned into the public media.
- Conduct further research on the public health implications of existing and pending trade agreements.
- Gain public health representation on advisory committees to the US Congress and the US Trade Representative.

The Center for Policy Analysis on Trade and Health maintains a listserve on globalization and health and also has posted on its Web site (available at: http://www.cpath.org) brief descriptions and contact information for key organizations attempting to address the public health effects of global trade.

CHALLENGES FOR PUBLIC HEALTH

The changing conditions of global trade have raised important challenges for public health, including privatization and reduction of public services; reduced sovereignty of governments in regulating services, medications, equipment, and economic activities that affect occupational and environmental health; and enhanced power of multinational corporations and international financial institutions in policy decisions. Processes that link global trade and health often occur silently, with little attention or representation by legislators, the public media, and health professionals.[18]

Linkages between global trade and public health deserve more critical attention. A growing number of advocacy organizations and professional associations have drawn attention to such linkages.[52–56] Those concerned with health and security worldwide cannot afford to ignore the profound changes generated by global trade. ■

About the Authors

Ellen R. Shaffer and Joseph Brenner are with the Center for Policy Analysis on Trade and Health, San Francisco, Calif. Howard Waitzkin is with the Department of Family and Community Medicine, and Rebeca Jasso-Aguilar is with the Department of Sociology, University of New Mexico, Albuquerque.

Requests for reprints should be sent to Ellen R. Shaffer, PhD, MPH, Center for Policy Analysis on Trade and Health, 98 Seal Rock Dr, San Francisco, CA 94121 (e-mail: ershaffer@cpath.org).

This article was accepted July 1, 2004.

Contributors

E.R. Shaffer and H. Waitzkin originated and designed the research and drafted the article. All of the authors participated in data acquisition and interpretation, provided administrative and technical contributions, and contributed to revising the article for content. E.R. Shaffer and H. Waitzkin obtained funding for the study.

Acknowledgments

This research was supported in part by grants from the National Library of Medicine (grant 1G08 LM06688), the New Century Scholars Program of the US Fulbright Commission, the John Simon Guggenheim Memorial Foundation, the Roothbert Fund, the US Agency for Healthcare Research and Quality (grant 1R03 HS13251), the National Institute of Mental Health (grants 1R03 MH067012 and 1 R25 MH60288), the United Nations Research Institute for Social Development, and the Unitarian Universalist Veatch Program at Shelter Rock.

Ellen R. Shaffer and Joseph Brenner thank Alicia Yamin, Erica Frank, and Kristen Smith for their contributions to this work. Howard Waitzkin and Rebeca Jasso-Aguilar are grateful to Ron Voorhees, Carolyn Mountain, Celia Iriart, Angela Landwehr, Francisco Mercado, and Lori Wallach for their contributions to this project.

Note. The views expressed in this article do not necessarily represent those of the funding agencies.

References

1. World Trade Organization. General agreement on trade in services. Available at: www.wto.org/english/docs_e/legal_e/26-gats.doc. Accessed May 28, 2004.
2. Kickbusch I. The development of international health policies—accountability intact? *Soc Sci Med.* 2000;51:979–989.
3. Wallach L, Woodall P. *Whose Trade Organization?: A Comprehensive Guide to the WTO.* New York, NY: New Press; 2004.
4. Drager N, Vieira C, eds. *Trade in Health Services: Global, Regional, and Country Perspectives.* Washington, DC: Pan American Health Organization; 2002.
5. Wallach L. Accountable governance in the era of globalization: the WTO, NAFTA, and international harmonization of standards. *University Kansas Law Review.* 2002;50:823–865.
6. Bello W. Reforming the WTO is the wrong agenda. In: Danaher K, Burbach R, eds. *Globalize This!* Monroe, Maine: Common Courage Press; 2000:103–119.
7. Anderson S. *Seven Years Under NAFTA.* Washington, DC: Institute for Policy Studies; 2003.
8. Carnegie Endowment for International Peace. NAFTA's promises and realities: lessons from Mexico for the hemisphere. Available at: http://www.ceip.org/files/pdf/NAFTA_Report_ChapterOne.pdf. Accessed May 28, 2004.
9. Nadal A, Aguayo F, Chávez M. Los siete mitos del TLC: lecciones para América Latina. Available at: http://www.jornada.unam.mx. Accessed November 18, 2003.
10. Homedes N, Ugalde A. Globalization and health at the United States–Mexico border. *Am J Public Health.* 2003;93:2016–2022.
11. Epstein R. *Takings: Private Property and the Power of Eminent Domain.* Cambridge, Mass: Harvard University Press; 1985.
12. US Dept of State. Metalclad Corporation v. United Mexican States. Available at: http://www.state.gov/s/1/c3752.htm. Accessed May 28, 2004.
13. Sforza M. MAI and the Metalclad case. Available at: http://www.canadianliberty.bc.ca/relatedinfo/metalclad.html. Accessed May 28, 2004.
14. Greider W. The right and U.S. trade law: invalidating the 20th century. *The Nation.* October 15, 2001:21–29.
15. Free Trade Area of the Americas.

Available at: www.ftaa-alca.org. Accessed May 28, 2004

16. Stocker K, Waitzkin H, Iriart C. The exportation of managed care to Latin America. *N Engl J Med.* 1999; 340:1131–1136.

17. Coalition of Service Industries. Response to Federal Register notice of March 28, 2000. Available at: http://www.uscsi.org/publications/papers/CSIFedReg2000.pdf. Accessed May 28, 2004.

18. Iriart C, Merhy E, Waitzkin H. Managed care in Latin America: the new common sense in health policy reform. *Soc Sci Med.* 2001;52: 1243–1253.

19. Waitzkin H, Iriart C. How the United States exports managed care to third world countries. *Monthly Rev.* 2000;52(1):21–35.

20. Turshen M. *Privatizing Health Services in Africa.* New Brunswick, NJ: Rutgers University Press; 1999.

21. Rao M, ed. *Disinvesting in Health: The World Bank's Prescriptions for Health.* New Delhi, India: Sage; 1999.

22. Hilary J. *The Wrong Model: GATS, Trade Liberalization and Children's Right to Health.* London, England: Save the Children; 2001.

23. US International Trade Commission. U.S. schedule of commitments under the General Agreement on Trade in Services, May 1997. Available at: ftp://ftp.usitc.gov/pub/reports/studies/GATS98.pdf. Accessed May 28, 2004.

24. Adlung R, Carzaniga A. Health services under the General Agreement on Trade in Services. *Bull World Health Organ.* 2001;79:352–364.

25. Trade Observatory, Institute for Agriculture and Trade Policy. GATS requests by state. Available at: http://www.tradeobservatory.org/library/uploadedfiles/GATS_Requests_By_State.pdf. Accessed May 28, 2004.

26. Office of the United States Trade Representative. Trade facts: free trade in services. Opening dynamic new markets, supporting good jobs. Available at: http://www.ustr.gov/sectors/services/2003-03-31-services-tradefacts.pdf. Accessed May 28, 2004.

27. Belsky L, Lie R, Mattoo A, Emanuel EJ, Sreenivasan G. The General Agreement on Trade in Services. *Health Aff.* 2004;23:137–145.

28. Pollock AM, Price D. Rewriting the regulations: how the World Trade Organisation could accelerate privatisation in health-care systems. *Lancet.* 2000; 356:1995–2000.

29. Commission on the Future of Health Care in Canada. Final report. Available at: http://www.hc-sc.gc.ca/english/care/romanow/hcc0023.html. Accessed May 28, 2004.

30. Pollock AM, Price D. The public health implications of world trade negotiations on the General Agreement on Trade in Services and public services. *Lancet.* 2003;362:1072–1075.

31. Ranson MK, Beaglehole R, Correa CM, Mirza Z, Buse K, Drager N. The public health implications of multilateral trade agreements. In: Lee K, Buse K, Fustukian S, eds. *Health Policy in a Globalising World.* Cambridge, England: Cambridge University Press; 2002:18–40.

32. World Trade Organization. General Agreement on Trade in Services, Part IV, progressive liberalization. Available at: http://www.wto.org/english/docs_e/legal_e/26-gats.doc. Accessed May 28, 2004.

33. Sanger M. *Reckless Abandon: Canada, the GATS and the Future of Health Care.* Ottawa, Ontario, Canada: Canadian Centre for Policy Alternatives; 2001.

34. Grieshaber-Otto J, Sinclair S, Schacter N. Impacts of international trade, services and investment treaties on alcohol regulation. *Addiction.* 2000; 95(suppl 4):S491–S504.

35. Schondelmeyer SW. *Economic Impact of GATT Patent Extension on Currently Marketed Drugs.* Minneapolis, Minn: PRIME Institute, College of Pharmacy, University of Minnesota; 1995.

36. Agreement on Trade-Related Aspects of Intellectual Property Rights, Article 28. Available at: http://www.wto.org/english/docs_e/legal_e/27-trips.doc. Accessed October 20, 2004.

37. Becker E, Pear R. Trade pact may undercut inexpensive drug imports. *New York Times*, July 12, 2004, p. 1.

38. Annas GJ. The right to health and the nevirapine case in South Africa. *N Engl J Med.* 2003;348:750–754.

39. Barnard D. In the high court of South Africa, case no. 4138/98: the global politics of access to low-cost AIDS drugs in poor countries. *Kennedy Inst Ethics J.* 2002;12:159–174.

40. Supakankunti S, Janjaroen WS, Tangphao O, Ratanawijitrasin S, Kraipornsak P, Pradithavanij P. Impact of the World Trade Organization TRIPS agreement on the pharmaceutical industry in Thailand. *Bull World Health Organ.* 2001;79:461–470.

41. Correa CM. *Implications of the Doha Declaration on the TRIPS Agreement and Public Health.* Geneva, Switzerland: World Health Organization; 2002.

42. Henry D, Lexchin J. The pharmaceutical industry as a medicines provider. *Lancet.* 2002;360:1590–1595.

43. Brazil fights for affordable drugs against HIV/AIDS. *Pan Am J Public Health.* 2001;9:331–337.

44. World Trade Organization. Decision of 30 August 2003: WT/L/540. Available at: http://www.wto.org/english/tratop_e/trips_e/implem_para6_e.htm. Accessed May 28, 2004.

45. Doctors without Borders. Doha derailed: a progress report on TRIPS and access to medicines. Available at: www.doctorswithoutborders.org/publications/reports/2003/cancun_report.pdf. Accessed May 28, 2004.

46. Barton JH. TRIPS and the global pharmaceutical market. *Health Aff.* 2004;23:146–154.

47. Attaran A. How do patents and economic policies affect access to essential medicines in developing countries? *Health Aff.* 2004;23:155–166.

48. Labonte R. From the global market to the global village: "free" trade, health and the World Trade Organization. *Promo Educ.* 2003;10(1):23–27, 33–39, 46.

49. Checa N, Maguire J, Barney J. The new world disorder. *Harvard Bus Rev.* 2003;81(8):70–79, 140.

50. Call for health accountability in trade negotiations. Available at: www.cpath.org. Accessed May 28, 2004.

51. Armada F, Muntaner C, Navarro V. Health and social security reforms in Latin America: the convergence of the World Health Organization, the World Bank, and transnational corporations. *Int J Health Serv.* 2001;31:729–768.

52. Bettcher DW, Yach D, Guindon GE. Global trade and health: key linkages and future challenges. *Bull World Health Org.* 2000;78:521–534.

53. Kim JY, Millen JV, Irwin A, Gershman J, eds. *Dying for Growth: Global Inequality and the Health of the Poor.* Monroe, Maine: Common Courage Press; 2000.

54. World Trade Organization Secretariat, World Health Organization. *WTO Agreements and Public Health: A Joint Study by the WHO and the WTO Secretariat.* Geneva, Switzerland: World Trade Organization; 2002.

55. Shaffer ER, Brenner JE. International trade agreements: hazards to health. *Int J Health Serv.* 2004;34: 467–481.

56. Fort M, Mercer MA, Gish O, eds. *Sickness and Wealth: The Corporate Assault on Global Health.* Cambridge, Mass: South End Press; 2004.