

Access to Medicines

Intellectual property protection: impact on public health

The World Trade Organization (WTO) is an international organization of 148 Member countries dealing with the rules of trade. In joining the WTO, Members adhere to specific agreements. Of these agreements, Trade-Related Aspects of Intellectual Property Rights (TRIPS) establishes minimum standards for a set of intellectual property rights that WTO members institute through national legislation. It also contains provisions that allow a degree of flexibility and sufficient room for countries to accommodate their own patent and intellectual property systems and developmental needs. Patents on medicines have been one of the most hotly-debated topics since the adoption of the TRIPS Agreement because patents grant exclusivity for the duration of the patent term and result in patent holders having control over the production, supply, distribution and, by virtue of exclusivity, price.

It is argued that patents are crucial for pharmaceutical innovation and that without them there will be no financial incentive to fund the costs of discovery and development of new medicines. However, medicines prices in developing countries are often well above production costs. Developing countries account for a very small fraction of the global pharmaceutical market and the generation of income to fund more research and development is not dependent on profit from these markets. Indeed, until now, the patent protection system has provided very little incentive for research and development of new medicines needed for diseases afflicting developing countries and highlights the ineffectiveness of relying solely on the private sector to develop essential medicines. In many countries where payment for pharmaceuticals is "out-of-pocket" and health insurance is rare, escalating and unrealistic prices play a central role in denying access to patients of life-saving medicines.

Public health principles, in the context of access to medicines, are supported by a range of national and international legal and policy instruments, including the Constitution of the World Health Organization (WHO). From a human rights perspective, implementation of intellectual property rules should be governed by those principles which support public health goals and access to medicines, thus ensuring:

- a rapid and effective response to public health needs and crises;
- supply of quality medicines at affordable prices;
- effective competition through a multiplicity of potential suppliers;
- the provision for a wide range of pharmaceuticals to meet the basic health needs of the population; and

- equality of opportunities for countries in need, irrespective of their membership in the WTO, level of technological capacity, or lack of manufacturing capacity.

In 2001, World Trade Organization (WTO) members drew up the Doha Declaration to clarify ambiguities between the need for governments to apply the principles of public health and the terms of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). In particular, concerns had been growing that patent rules might restrict access to affordable medicines for populations in developing countries in their efforts to control diseases of public health importance, such as HIV, tuberculosis and malaria.

Although the impact of intellectual property on access to affordable medicines predated the TRIPS Agreement, the impending expiry of deadlines for implementing the TRIPS Agreement by developing countries has added impetus to the debate. Legal

challenges by the pharmaceutical industry to legislation enabling parallel imports of medicines, and provisions enacted on compulsory licences, highlighted the differing interpretations of the TRIPS Agreement obligations. That this was taking place against the backdrop of the HIV/AIDS pandemic afflicting the developing world further fuelled the need to focus international public attention on the manner in which intellectual property protection impacted areas of public health.

Affordability of essential medicines

The HIV pandemic and consequent urgency to make treatment available for millions of people brought to the fore the issue of affordability of antiretroviral therapy. When patent-protected antiretroviral treatments were first introduced, the cost was over US\$ 10 000 per patient per year, putting them out of reach of the vast majority of HIV patients in developing countries where over three billion people live on less than US\$ 2 a day. Although efforts have been made to reduce prices by pharmaceutical companies, including proposed donation programmes or heavy discounts, the scale of the crisis in developing countries clearly demanded a more systematic and sustainable strategy.

The announcement in 2001, by a pharmaceutical manufacturer to supply a generic version of antiretroviral triple therapy at US\$ 350 per patient per year, together with the subsequent entry of other generic manufacturers into the arena, has brought about

market competition resulting in significant reductions in prices of antiretroviral therapy. Additionally, there has been increased reliance on low-cost generic antiretroviral therapy as a strategy for treating patients in developing countries.

However, a debate continues on the comparative relevance of patents in determining access to medicines. The pharmaceutical industry underscores the importance of effective patent protection as an incentive for continued investment in the discovery and development of medicines. While it is not denied that the patent system provides incentives for pharmaceutical innovation, the market exclusivity

conferred by patents leads to company profits that often outstrip the associated research, development and production costs altogether. The patent system has also not provided sufficient incentive for research and development of new medicines needed for diseases that afflict public health, including neglected diseases and orphan drugs, because forecasts deem the market too small or commercially unattractive.

In many developing countries, the current concern is how adoption of intellectual property regimes as required under the TRIPS Agreement can be

balanced with efforts to maintain public health treatment programmes while boosting multiple sources of pharmaceuticals and controlling cost.

Although patent protection systems for pharmaceutical products are available in most developing countries, multinational companies have not patented their products in all of them. This may be because companies may not think it worth the expense to obtain and maintain patent protection in countries where the market is small and the risk of infringement low. The prevalence of patents is

Public health crisis management and patents

Anthrax

At the height of the Doha negotiations, mysterious anthrax attacks were causing panic in the USA, and health authorities began building stockpiles of ciprofloxazine to treat exposure. Concerns about the price and the patent holder's ability to produce adequate quantities of ciprofloxazine to protect its citizens led US and Canadian authorities to consider granting compulsory licences for generic production. In the event, significant price reductions and guaranteed supplies were finally negotiated with the manufacturer.¹

Avian flu

Current concerns of a possible avian flu pandemic are now raising similar questions on the need for access to antivirals. As countries work out plans to prevent a human flu outbreak, the question of cost and availability of existing treatments under patent is once again being balanced with the need to call on public health measures to contain a highly pathogenic disease and ensure adequate protection of populations.²

¹ t'Hoen, E. TRIPS, pharmaceutical patents and access to medicines: Seattle, Doha and beyond. *Chicago Journal of International Law*, 2002; **31**(1).

² Tsang, KWT. H5N1 influenza pandemic: contingency plans. *Lancet*, 2005; **366**:533–534.

often higher in countries where a substantial market and technological capacity exists. None the less, even if patents do not exist for particular products and countries, the patent system may still have an effect on access to medicines. The existence of patents in potential supplier countries may allow the patentee to prevent supplies being exported to another country. This is why companies may patent selectively in countries that are potential suppliers.

Key provisions of TRIPS

Generic production is possible for the great majority of essential medicines, since they are currently not protected by patents in developing countries. However, this is not true for new medicines.

The TRIPS Agreement introduced global minimum standards for protecting and enforcing nearly all forms of intellectual property rights (IPR), including those for patents. International conventions prior to TRIPS did not specify minimum standards for patents. At the time that negotiations began, over 40 countries in the world did not grant patent protection for pharmaceutical products. The TRIPS Agreement now requires all WTO members, with few exceptions, to adapt their laws to the minimum standards of IPR protection. In addition to the minimum protection standards, the TRIPS Agreement also introduced detailed obligations on the enforcement of intellectual property rights.

Patent protection

The TRIPS Agreement requires WTO Members to provide protection for a minimum term of 20 years from the filing date of a patent application for any invention including for a pharmaceutical product or process. Prior to the TRIPS Agreement, patent duration was significantly shorter in many countries. For example, both developed and developing countries provided for patent terms ranging from 15 to 17 years, whilst in a number of developing countries like India, patents were granted for shorter terms of 5 to 7 years.

The TRIPS Agreement also requires countries to provide patent protection for both processes and products, in all fields of technology. Before TRIPS, many countries provided only process — but not product — patents. Product patents provide for absolute protection of the product, whereas process patents provide protection in respect of the technology and the process or method of manufacture. Protection for process patents would not prevent the manufacture of patented

products by a process of reverse engineering, where a different process or method from that which has been invented (and patented) is used. For example, national legislation requiring only process patent protection has enabled manufacturers in certain countries to make generic versions of patented medicines. These countries have opted to make use of the transition period that permitted countries to delay, until 2005, patent protection in the areas of technology that had not been so protected before the TRIPS Agreement. (See transition periods below).

Protection of data submitted for the registration of pharmaceuticals

As a condition for permitting the sale or marketing of a pharmaceutical product, drug regulatory authorities require pharmaceutical companies to submit data demonstrating the safety, quality and efficacy of the product. The TRIPS Agreement requires that WTO Members protect undisclosed test data, submitted to drug regulatory authorities for the purposes of obtaining marketing approval, against unfair commercial use. Since countries have considerable discretion to define “unfair commercial use”, it is argued that countries can meet their obligations to protect test data by prohibiting “dishonest” use of data. Use by government authorities to assess the efficacy and toxicity of a pharmaceutical would not be affected, in this case. However, it is now argued that data exclusivity is a requirement of the TRIPS Agreement. The data exclusivity approach grants the originator exclusive rights over their test data and prevents regulatory authorities from relying on the test data to register generic substitutes.

Prior to the TRIPS Agreement coming into force, most countries allowed reliance on originator test data to approve generic products. Once test data was submitted by the originator company, the regulatory authorities could rely on the data to approve subsequent applications on similar products, or to rely on proof of prior approval of a similar product in another country. Generic manufacturers need only to prove that their product is chemically identical to the brand-name, original product, and in some countries, that it is bioequivalent. This approach enabled swift introduction of generics into the market without registration data-related costs. Within the data exclusivity approach, once a company has submitted original test data, no competing manufacturer is allowed to rely on these data for a period of time.

Data exclusivity could thus pose an obstacle to effective use of compulsory licences, as the entry of the generic product would be delayed for the duration of the exclusivity period or for the time it takes to undertake a new compilation of test data. The public interest in limiting data protection is to promote competition and ensure that data protection does not become the means to block timely entrance of affordable generic medicines of public health importance.

Transition periods

The TRIPS Agreement provides for transition periods, permitting developing countries additional time to bring national legislation and practices into conformity with TRIPS provisions. There are three main transition periods. First was the 1995–2000 transition period, at the end of which countries were required to implement the TRIPS Agreement. The 2000–2005 transition period allowed certain countries to delay providing product patent protection in the areas of technology that had not been so protected at the time of the TRIPS Agreement coming into operation in that country. These countries were allowed a further 5 years to put in place a product patent regime for pharmaceuticals and agro-chemicals. The third transition period allowed least-developed countries (LDCs) until 2006 to implement their obligations under the TRIPS Agreement in view of their economic, financial and administrative constraints. In addition, this period may still be extended by the TRIPS Council on request of an LDC Member. This transition period has been further extended to 2016 with respect to patents on pharmaceutical products and exclusive marketing rights by the Doha Declaration (see below).

The transition periods have meant that pharmaceuticals or medicines patented before developing countries implemented their TRIPS obligations will not receive patent protection, and thus generic competition is possible. Medicines patented after developing countries have implemented their TRIPS obligations are progressively coming onto the market and will constitute an increasing share of marketed medicines. A substantial change is expected after 2005, when all developing countries will be required to provide patent protection for pharmaceutical products and the mailbox patents are processed.

Public health considerations

The current minimum standards in the TRIPS Agreement — historically derived from those of

developed countries — may not necessarily be appropriate for developing countries struggling to meet health and development needs. The new obligations have dramatically changed the legal framework for the production, supply and access to affordable medicines in developing countries.

The role of the Doha Declaration

Although the TRIPS Agreement affords considerable discretion on how its obligations are interpreted and implemented by governments, developing countries have faced obstacles when seeking to implement measures to promote access to affordable medicines. Thus, developing countries sought to clarify — through adoption of the Doha Declaration — that the provisions in the TRIPS Agreement did provide sufficient flexibility and discretion to ensure access to medicines in the interests of public health.

The Doha Declaration refers to several aspects of TRIPS, including the right to grant compulsory licences and the freedom to determine the grounds upon which licences are granted, the right to determine what constitutes a national emergency and circumstances of extreme urgency, and the freedom to establish the regime of exhaustion of intellectual property rights. These are briefly described below.

The TRIPS Agreement allows the use of compulsory licences. Compulsory licensing enables a competent government authority to license the use of a patented invention to a third party or government agency without the consent of the patent-holder. Article 31 of the Agreement sets forth a number of conditions for the granting of compulsory licences. These include a case-by-case determination of compulsory licence applications, the need to demonstrate prior (unsuccessful) negotiations with the patent owner for a voluntary licence and the payment of adequate remuneration to the patent holder. Where compulsory licences are granted to address a national emergency or other circumstances of extreme urgency, certain requirements are waived in order to hasten the process, such as that for the need to have had prior negotiations to obtain a voluntary licence from the patent holder.

Although the Agreement refers to some of the possible grounds (such as emergency and anti-competitive practices) for issuing compulsory licences, it leaves Members full freedom to stipulate other grounds, such as those related to public health or public interest. The Doha Decla-

ration states that each Member has the right to grant compulsory licences and the freedom to determine the grounds upon which such licences are granted.

Parallel importation is importation without the consent of the patent-holder of a patented product marketed in another country either by the patent holder or with the patent-holder's consent. The principle of exhaustion states that once patent holders have sold a patented product, they cannot prohibit the subsequent resale of that product since their rights in respect of that market have been exhausted by the act of selling the product. Article 6 of the TRIPS Agreement explicitly states that practices relating to parallel importation cannot be challenged under the WTO dispute settlement system. The Doha Declaration has reaffirmed that Members do have this right, stating that each Member is free to establish its own regime for such exhaustion without challenge .

Since many patented products are sold at different prices in different markets, the rationale for parallel importation is to enable the import of lower priced patented products. Parallel importing can be an important tool enabling access to affordable medicines because there are substantial price differences between the same pharmaceutical product sold in different markets.

Paragraph 6 of the Doha Declaration

Although existing provisions of the TRIPS Agreement permit the grant of compulsory licences to enable generic production of medicines, countries without domestic manufacturing capacity cannot avail themselves of this flexibility. The option of importing generic medicines is hampered by the restriction in the TRIPS Agreement that requires production under compulsory licence to be predominantly for the supply of the domestic market. This has raised concern that exporting countries may have difficulties exporting sufficient quantities to meet the needs of those countries with insufficient or no manufacturing capacity. The WTO solution is essentially a waiver of the export restriction, thereby allowing the total amount of production under a compulsory licence to be exported. Whether countries may export and import generic versions of patented medicines under the system adopted in the WTO Decision will depend on the extent to which national laws allow for it.

A number of potential exporting countries have amended national laws to enable the production

and export of generic medicines under compulsory license. Canada was the first country, followed subsequently by Norway. The European Union is currently considering its draft regulation. India, has also included a provision on compulsory licenses for production and export in the amendment of the patent law. However, there has not been any notification by countries to the WTO in respect of their intention to use the system as an importer. There may be a number of possible reasons for this. First, the threat of compulsory licensing for production of competing generics has led pharmaceutical companies to offer larger discounts. Secondly, the granting of compulsory licences under the system may appear to be too complex and burdensome for developing countries. In addition, there may not have been a need. Where there is no patent in force in the exporting country, production and export may take place without a compulsory licence. This has been the case with exports from India, where until recently, the absence of product patent protection enabled the production of generic versions of medicines. In the post-2005 environment, when almost all countries are obliged to provide product patent protection, the effectiveness of the WTO decision may well be put to the test.

Conclusion

The TRIPS Agreement does not prevent Members from allowing generic substitution. But if the wording and implementation of TRIPS-compliant national legislation and regulations are inappropriate the introduction of new generic drugs can be delayed. Prompt introduction of generic drugs can be facilitated by drafting appropriate legislation and regulations on patentability; use of exceptions to exclusive rights which permit early testing and approval of generics (including allowing access to pre-registration test data); and compulsory licensing.

Whilst the adoption of the Doha Declaration marked a watershed in the debate on intellectual property and access to medicines, there remain major challenges for developing countries to interpret and implement the TRIPS Agreement and other intellectual property rules in a manner supportive of their efforts to protect public health and promote access to medicines for all.

Next steps

It is vital for countries to be informed of their options in implementing the TRIPS Agreement. Through its technical cooperation programme, WHO can provide independent advice and

technical assistance to countries to help them develop informed approaches to addressing the health implications of trade and intellectual property devices.

WHO's focus is on awareness building for policy makers and independent evaluations of the health impact of international trade agreements for countries, leading to effective participation in international and regional negotiations. In this way, developing country needs and interests will be adequately taken into account.

WHO assistance will also include review of national health, pharmaceutical and intellectual

property policies, legislation and practices, with a view to promoting the development and incorporation of TRIPS safeguards within the national policy and legal framework, followed by monitoring and analysis of access to essential medicines, including the impact of new trends and developments at the regional and bilateral levels.

References

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2. Department of Technical Cooperation for Essential Drugs and Traditional Medicine, World Health Organization <http://www.who.int/medicines>