

PATENT POOLING: APPROACH TO END PUBLIC HEALTH TROUBLE

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Abstract

Intellectual property rights regulate the rights of patent owners and regulate the right to develop inventions through the patent law. This contributes to the important parts of the pharmaceutical sector. Since this right protects the owner of the patent, the invention has a monopoly right, so it creates obstacles to a particular community. The patented system determined by the global administration motivates research and development to new drugs to ensure new medicines is brought in market. This is to strengthen the public health, but patent owners always receive monopoly rights which delayed in access and general purposes and create obstacles to the public's essential medicine. The basic aspects of public right to health are very important, but access to major drugs is still a problem, just like countries with low and average income. The various international systems, including WTO, WIPO, WHO, TRIPS and also Doha Declaration, are based on medical availability and costs of medicine. The current patent law can harmonize public health management requirements with various innovative requirements, along with a method of restricting the implementation of patent law to right to health to some extent. Investigations and research on reliability and restrictions on existing laws such as compulsory licenses, patent pooling models are overcoming social demands and the introduction of patents generated by obstacles. The goal is to solve inequality on public health and medical approaches and also promote the rights of inventors simultaneously.

Keywords: model existing, pooling patent, health, public, licensing, diseases, pharmaceutical

1. Introduction

Every citizen has a right to health which is also considered an important fundamental aspect. But this is still a challenging aspect in low and medium income communities in developing countries, primarily due to obstacles imposed by patent law. Considering the current scenario, public health management still has problems, and this seems to be a long way to resolve this issue. Developing countries and low incomes group have special problems. Rights to intellectual property provide a variety of inventions and expand its role as a patented pharmaceutical innovation. The right to exclusivity was granted to patent owners who have always deferred access to essential drugs, which have always been shifted to landscape design, monopoly and compulsory licenses. Even the implementation of rules and

regulations of various international organizations such as TRIPS and Doha Declaration whose main goal of adjusting public health requirements, and in many cases, solutions to inequality are lacking. As patent owners approach large-scale drugs, stress between the public remains a problem for a certain period of time. An analysis of existing laws indicates that there are other possible mechanisms that can be tracked or implemented. The implementation of alternative innovative models such as open source and patent pool can also help to take into account the limitations and gaps. Current laws can also determine that it will achieve a fair approach to health care for all.

Early innovative inventions and practices are protected by rights known as the rights of intellectual property (IPR). The patent is also a

right of intellectual property given by the government. This right is granted for a certain period of time where owner have the exclusive right to use, sell or produce your own product, and also to prevent others from using the product. With the help of research and development in various fields such as services, technology, inventions, and more, various innovations are created using creativity, economic and social sector innovations. The inventor may have the right to grant to the other inventor with monetary benefit for his creation. In the health sector, growth and development drive patents. All medical products, including medicine, vaccines, treatments, and more, are developed for public health and their treatment. As a new innovation in all medical products, patents are being provided to protect the procedures that all pharmaceutical companies follow, as all pharmaceutical companies will generate large amounts of revenue from pharmaceutical inventions. The fundamentals of changing living standards, more businesses, investment, employment and excellent infrastructure can be achieved with the help of a growing economy. India, a developing country, must adapt various changes to ensure innovative development and to create the optimal life structure for its citizens. IPR aims to revise society by creating a strong economy and contributing to economic growth.

2. Analysis of Essential Commodities Act in Public Health and Patent

India's approach to harmonizing the public health crisis with intellectual property rights has attracted considerable debate and global attention. As a highly populated developed country, India has major issues and problems supporting innovation in a variety of IP systems. So that protection does not lead to barriers to accessibility, critical drug therapy, or treatment. This illustrates the balance between combining various strategic initiatives, legal measures and political frameworks that determine public health priorities without risking the reasons for innovation. During the post-independence

period, India understood that it should develop its own independent pharmaceutical industry, offering the fast-populated country. The 1970 Patent Act was an important draft law that allowed process patents that made the production of patent preparations through reverse engineering with economically effective production processes and inexpensive universal drug production. India has become a world-class centre for the universal drug production of new time, often referred to as the pharmacy of drugs developed. India was revised in 1995 by international a standard that is TRIPS. In 1995, in accordance with international standards relating to the World Trade Organization (WTO), they all began with the transition generated in 2005 in accordance with the measures of the patent. Under the Patent Act, the Indian changes include several provisions to prevent inappropriate use of patent rights, which are important to public health care and therefore will not be affected at any cost. Section 3(d) of the Indian Patent Act 1970 provides a simple 'the mere discovery of any known substance forming a new substance which does not show any result in the enhancement of the known efficacy of that substance or just the mere discovery of any new or its use for already known substance or just the mere use of known process, machine or apparatus until it give a new product or shows a new reactant of it.'¹²⁶⁴ This site prevents patenting of well-known new forms of well-known materials, simply when it increases efficiency. As shown in the case of Novartis AG vs. Union of India, (2013) 6 SCC 1¹²⁶⁵, the Supreme Court have decided that a new form of known materials, determined in 3(d) of the Patent Act of 1970, requires a higher standard to obtain patent protection. The required conditions are the original requirements of the subject, claiming that the invention has increased the therapeutic effect of external properties, such as stability and bioavailability. The court stated that if the treatment effect cannot be significantly

¹²⁶⁴ The Patents Act, 1970, No. 39, Acts of Parliament 1970(India)

¹²⁶⁵ Novartis AG vs. Union of India, (2013) 6 SCC 1

improved, a patent cannot be claimed pursuant to Section 3(d) and that a new form of known substance cannot be claimed. Beta crystalline of Imatinib Mesylate has no right to protect the patent in Section 3(d) as it has failed to show increased treatment efficiency compared to known imatinib.

The goal is always to determine ever greening practices, and only a few changes are planned to expand pharmaceutical patents without appropriate treatment advantages. Under certain conditions, the government has the right to provide a significant license to the permitted companies and gives them the right to create a generic version of the patented drug. The main method is to allow important drug to use in public health situations. Otherwise, the public will not be able to use and access it. The Indian legal system promotes licensing and membership with TRIPS in 2005 and is the most important guarantee under the Patent Act of 1970 after the transition period of the state that corresponds to the administration from 2005. This is a provision corresponding to Section 84 of Chapter XVI. According to Patent Act 84(1),¹²⁶⁶ everyone except existing licensees of that the patent can apply for a compulsory license after the end of three years is provided. If the certain criteria is not fulfilled such as

- The reasonable requirements of the public has not fulfilled for the patented inventions.
- The patented invention is not accessible to public at certain required price.
- If it has failed to work commercially in Indian Territory.

For the first time the voluntary licenses was given, Bayer vs. Union of India, courts provided compulsory licenses stating compulsory licenses will be given when the question arises between exclusive patent right and that patented drugs are not accessible to the public. Under the TRIPS agreement under Article 31¹²⁶⁷,

each member states needs to amend laws according to the instruction of TRIPS. This includes that use without the permission of the appropriate owner, including the flexibility at international level and of intellectual property rights and adjusts health needs of public. Medicines are the most important part of public health and accessibility led to understand the health related conclusion at scale of population. The high costs of patented drugs, especially cancer, HIV/AIDS, diabetes and other rare disorders, are no longer used by people who need them historically. In this case, the compulsory licensing feature works as a bridge between a patented monopoly and rights of the constitutional requirements of the Indian states. He also provides the government with measures to resolve large-scale drug monopoly prices offers and take steps to resolve the offers during shortages. Under the Indian Patent law Section 92A¹²⁶⁸ has brought for a decision to change in 2005, allowing India promote the compulsory licenses for the production and also giving of the general drugs in countries where production capacity is insufficient. As public health is out most important and every citizen is liable to get that right to live the life in peace and healthy manner with not restriction. As held in this case of Bandhua Mukti Morcha ¹²⁶⁹Case where it was stated by the court that right to live the life with dignity that is provided in Article 21 of the Indian Constitution is basic and necessity for every public and no person should get deprived of it. Also in Paschim Banga Khet vs. State of West Bengal ¹²⁷⁰case explain that as because of limited resources one cannot evade public health obligations as emergency care of public is basic right to life.

The need in increasing the affordability of medications and making it available, India has made the importance of importing patented drugs from other countries, which can be sold at lower prices. Parallel importation aspect was

¹²⁶⁶ The Patents Act, 1970, No. 39, Acts of Parliament 1970(India)

¹²⁶⁷ World Trade Organisation,
https://www.wto.org/english/docs_e/legal_e/31bis_trips_04c_e.htm (last visited April 1, 2025).

¹²⁶⁸ The Patents Act, 1940, supra note 42

¹²⁶⁹ Bandhua Mukti Morcha vs Union of India & Ors 1997, 10 SCC 549

¹²⁷⁰ Paschim Banga Khet Mazdoor Samity of Ors vs. State of West Bengal & Anr 1996, SCC 2426

established under Section 107A (b) of the Act, which explains the part that patented products can be imported and manufacture and authorized to produce and sell will not led to constitute infringement of patent. It was made through the reinforcement of the Doctrine of International Exhaustion that was brought by the TRIPS Agreement under Article 6. It outlines how legislation at national level should handle the aspect of intellectual property rights exhaustion. The Agreement explains any intervention will not able in the issue concerning the exhaustion of intellectual property rights. Patent holders are given rights exclusively under Article 28 of TRIPS with Article 6. It allows India, as a member of the WTO, to make and implement any national, regional, and international exhaustion rules on the basis of its required policy, practical and legal element. The principle helps the parallel importation in case of international exhaustion from any WTO member country where the product is made legally, any changes that India has adopted. Through the concept of importation, India tries to improve the access to medicines, in places where the public health system caters to a huge and economically diverse population, by allowing the import of drugs patented and are already available in other markets.

3. Patent pools – Implications, Regulations and Promoting in Access and Competition

Access to patented technology is essential for promoting competition, proposing innovation, and services of public interest. A joint agreement between several patentees, patent pools have proven to be a very useful tool for putting technology into the hands of what is needed, while mitigating transaction efficiency due to fragmented patent possession. With help of necessary political framework conditions, patent pools can become an important aspect in improving access to technologies specific, while at the same time to hold that proper competition between different industries exists, particularly in areas where complex technologies and several patent owners meet. An agreement formed between two or more

patent owners to license one or more patents together or to a third party is consider as patent pooling. The main goal of such a pool is to reduce the risk of patent disputes. It drives the expansion of innovation and reduces licensing. The aggregation of supplemental patents on a single platform allows pools to be easily accessible to manufacturers and innovators. This is subject to the disappointing task of negotiating several bilateral licenses. This process not just makes transaction costs reduce and deals with the issue of loyalty stacking. This occurs when cumulative license fees become affordable for various patent owners.

The patent pool truly benefits from the use of complementary and interoperable technologies in the telecommunications, IT, and consumer electronics industries. For example, the patent pool has allowed access to critical patents in the development of DVD, MPEG and LTE standards for companies that plan to produce standards-compliant products. Pools promote that new participants and small actors who are not excluded and do not able to work in the market due to the high cost of negotiating individual licenses and the fear of arising legal conflict. Thus, pools promote competition where innovation is freed from access barriers and bonds of monopoly practices. The importance of patent pools is more known in the pharmaceutical and biotechnology industry, especially in the crisis in the public health sector. A well-known example is the Medicines Patent Pool (MPP) created by UNITAID, which exempts life-saving drugs from HIV, hepatitis C, tuberculosis and manufactures of generic during COVID-19 also. MPP efforts taken together in bundle licensing with features of transparency and non-exclusive license provision to support the delivery of affordable medicines in low and average income countries in during needs. This model also promotes that patent pools are supported in terms of public interest, taking into account global health inequalities and ensuring that necessary medical technologies needs to be delivered

fairly. Another frequent and essential aspect of public intervention from a political standpoint relates to standard setting organizations (SSOs). Such organizations are important to create or ensure that patent pools are configured not to interfere with competitive markets in relation to technical standards. Such guidelines require a license for patents declared to be essential to standards within the framework of fair, reasonable, non-discriminatory terms (FRANDS). These guidelines regulations create standards in a framework that is beneficial for patent pooling to ensure innovation thrives in an open and competitive environment.

In fact, government transparency and mechanisms are important for the effective operation of patent pools. The clear reasoning as why patents in the pool, income payments, and the decision process in the pool form an appropriate level of trust in interest groups. There must also be guidelines required for conflicts that arise between the licensor and the license to smoothly convert and include the two parties in the pool. As it is an important factor. Because there are several jurisdictions, a contradictory understanding of patent rights and antitrust laws can make cooperation difficult. Furthermore, encouragement of innovators, particularly political intervention helps to join the patent pools mainly the developing countries. Political decisions can sponsor campaigns, provide technical support, and provide incentives to help small actors record the benefits of patent relationships in collective licensing as a form of encouragement. This process not only makes the innovation more democratic, but also helps in make local entrepreneurship and industrial development for success. Criticism also raised that patent pools will not be effective tool in improving the deeply ingrained structural inequality of global IP systems, especially when technology pool gives very less or not at all benefit to poor members of society. Therefore, it is important that the patent pool goals align with the broader development goals. Some

provisions that make the pool more open and socially responsive can guarantee access to patented technologies for humanitarian use or staged price regimes according to the country's economic capabilities. Despite its political foundation, it is doubtful whether patent pools can be described as an effective tool to further develop access to technology and promote competition. They generally lower entrance barriers, promote cooperation, and discover expensive legal disputes, but despite all their merits, they require a robust political framework for the definition and management of their business. The areas including environment, health and digital innovation, structure must ensure inclusion, transparency and public interest needs. The challenges at global level needs joint, fair solutions, patent pools, supports can provide a way to harmonize innovation with proper access and competition.

Types of patent pools

1. Open the patent pool

The open patent pool invites the owner of a patent to several patent owners and participates in and contributes to the patent. They often influence professional management companies that work on licensing and management.¹²⁷¹Typically, open pools welcome new members, promote broad access to pooled patents, and improve cooperation and innovation.

2. Closed Patent Pool

A closed patent pool is limited to certain members who can control which patents are included and restrict access to licenses. These types of pools works were more exclusive and have greater control over license terms,¹²⁷²also if not treated properly and access, there is a higher risk of action.

3. Free patent pool payment

¹²⁷¹ PatSeer, All about patent pools, <https://patseer.com/all-about-patent-pools-what-you-need-to-know/#;> (last visited April 9, 2025).

¹²⁷² Everything you need to know about patent pool, <https://www.wissenresearch.com/blog/patent-pool/>, (last visited April 9, 2025).

The paid patent pool calculates licensees for licensees based on usage or sales that distribute income between patents. These pools work by managing the standard patents in various industries such as telecommunications and earn a significant income through the process of licensing fees. The free patent pool does not charge any on-going license fees. Anyone can collect one or no fees.¹²⁷³ These pools will help promote the widespread adoption of technologies that non-profit organizations may oversee to promote open access and collaboration without financial hindrances.

4. Standards-based patent pool

These pools focus on patents that are essential to the implementation of agreed technical standards (standard idioms or SEPs). They allow for the fair implementation of industry standards by licensing SEP and non-discriminatory terms together to ensure interoperability between the products of various companies.¹²⁷⁴

Patent pooling is therefore a strategic mechanism of a mechanism that combines patents from multiple owners to simplify licensing and promote innovation.¹²⁷⁵ His companions with open and closed pools and paid leave Free pools, various member guidelines, licensing fees and goals are often tailored to the needs of a particular industry or technical standard.

Legal Role and Aspects in Patent Pooling

Patent pooling performs a key function in one of the key techniques for joint licensing, especially in place beyond patented era that depend on innovation. Patent pools are growing, lowering transaction expenses and technology

advancement interoperability. However the eliciting troubles concerning marketplace strength, behaviour which is competitive and patent proprietors or pool exclusion practices. In each aspect, distinct jurisdictions cope with precise legal frameworks concerning the functioning of patent pools. In India, the regulatory panorama is frequently assembled with the aid of using the usage of the 1970 Act, managing, furnish and use of Indian jurisdiction.

The Indian Patent Law and Pooling

The right of owner in patent inventions is given by the Patents Act of 1970. This includes several rights, obligations, licensing through various provisions. Section 84 deals with compulsory licensing are granted without the permission of the owner when he has not able to make relevant use of his invention in the territory of India, satisfying the needs of people. Based on this section could be triggered if pooling arrangements or pools tries to cause restrictions to important technologies especially during emergency or need.

According to Section 68 any type of contracts, assignments or licensing must be executed in writing. This ensures that licensing agreement between the patent pools needs to be documented, transparent and also enforceable by appropriate law. No secrecy or any false information should not practice or entertained with regard to pooling licenses. Section 140¹²⁷⁶ puts a bar in imposing any anti-competitive clauses or restrictive clause in agreements of licensing. It stops any indirect restrictions from any member of the patent pool using any collective power that need to impose unreasonable conditions on licenses or stop the rigid downstream innovation.

Patent pools show how revolutionary and collaborative tactics can make a true contribution to fitness results. They devise a space in which proprietary rights can be balanced against humanitarian want and have

¹²⁷³ Russ Krajec, How patent pools work BlueIron IP, <https://blueironip.com/how-patent-licensing-works/#:~:text=The%20idea%20of%20a%20patent,allows%20anyone%20to%20have%20access>, (last visited April 9, 2025).

¹²⁷⁴ Patent Pools, https://www.wipo.int/documents/743993/747687/patent_pools_report.pdf/8690993c-639b-d12d-cb8f-fff1125cf13f?version=1.2&t=1671199878003, (last visited April 1, 2025).

¹²⁷⁵ Dr Rimpu Malhotra, Patent Pools For Innovation and Collaboration, <https://depenning.com/blog/leveraging-patent-pools-for-collaboration-and-innovation/>, (last visited April 3, 2025)

¹²⁷⁶ Indian Patent Act 1970, <https://ipindia.gov.in/writereaddata/portal/cv/sections/ps84.html>, (last visited April 15, 2025).

a reputable claim to have increased get admission to lifesaving medicines in useful resource-poor settings. To enhance and encourage the maximum impact, patent pools ought to be made through sound policy frameworks and multilateral collaborations, also process including transparency and reliable system. Models must expand alongside converting worldwide health challenges to continue making sure that innovation serves.

From the view of innovation and market access, patents pools work closer to tearing down boundaries that accrue from overlapping intellectual assets rights—most typically termed as patent thickets. Such thickets can indeed purpose substantial delays within the improvement of merchandise and incertitude for inventors and buyers in areas along with telecommunications, semiconductors, or software program. What patent pools ideally do is bring collectively the relevant patents and placed them beneath not unusual phrases for licensing. That is anticipated to decrease transaction charges and provide predictable legal surroundings for exciting opposition and innovation through new entrants which include small organizations and startups while lowering their fears of litigation or charges from excessive licensing prices.

Patent pools are pro-competitive; however that need to no longer be taken for granted. Right oversight is critical because pools may also then turn out to be absolutely anti-competitive cartels, which replace innovation and keep out potential entrance to the marketplace. That shows the importance of policy and antitrust law for determining the manner wherein pools will perform. The U.S. Department of Justice in conjunction with the European commission has set up clean standards that define the traces of demarcation among cooperative licensing and anti-competitive collusion. Those suggestions propose transparency, inclusion of best essential patents, and FRAND terms for the licensing. They might make sure that dominant players do not collude by the process of patent

pools to marginalize competition or manage get enter to essential technology.

Some other size of patent pools arises in the area of world health and development. The Medicines Patent Pool (MPP) is an instance of how patent pools can serve humanitarian ends past their industrial efficiency. With the help of permitting voluntary licensing of patented drugs for HIV/AIDS, tuberculosis, and hepatitis C, the MPP has made it feasible for customary producers to offer less costly treatment in low and average earnings nations. This protects lives, suggests how intellectual belongings regulation may be used for social justice and the promotion of public health. The achievement of the MPP model all through the time of COVID-19 treatment, mainly antiviral and diagnostics licensing, has reassessed the relevance of patent pools in responding to global crises. No matter the advantages, there still challenges stay. A few patent holders, especially those who recollect financial incentive mismatched with the industrial priority, will in no way need to take part within the pool. A few precise international locations and populations nevertheless stay excluded from licensing agreements due to a restrictive geographical clause. Then, depending on the emerging technology and market systems inside which patent pools operate, regulatory frameworks will want consistent change. Patent pools need to end up inclusive and self-sustaining with extra transparency, stakeholders' involvement, and global cooperation.

4. Patent Pooling in Pharmaceutical - An Actual Global Utility

Patent pooling means a crucial collaborative framework within the intellectual property structure belongings that's a crucial component in each healthcare and other sectors. A patent pool is an agreement wherein more patent holders collaborate and are available together to combine their patents on shared technological vicinity. This aggregate of series of patents is then collectively given to third events. This collaborate version is made to

streamline the get right of entry to technology and additionally scattered throughout, many patent holders. This concept is mostly relevant in industries which include biotechnology, pharmaceuticals and virtual health where a greater number of overlapping patents are regularly referred to as a patent thicket which can impede accessibility and innovation. Historically patent pools are associated with industries like telecommunications and electronics, the rise of health emergency in 21st century along with the HIV/AIDS pandemic and also the COVID-19 outbreak which confirmed the significance in addressing the public health emergencies. In healthcare aspects patent pools may be intentionally employed the ability and simplified get admission to crucial drug treatments and also health technologies. They have got additionally decreased the limitations associated with the licensing, fixing any problem of gathering royalty in which cumulative royalties from multiple patents has become a pricey. Additionally encouraging that the adaption of practices of voluntary licensing especially in low and middle profits countries. The fundamental idea of patent pools was advanced to eliminate the patent blocking and litigation. But with the time it has evolved as the tool to promote equitable get entry to and additionally promotes innovation.¹²⁷⁷ A nicely-based patent pool have the potential to minimize the boundaries to access for usual manufactures, reduce transaction prices and also promote the innovation in the pharmaceutical industry.

Patent pools are considered to be a vital issue of the intellectual property assets framework since the beginning age of the 20th century. All this were commenced in 1850's where there has been pooling arrangements within stitching machine and radio enterprise. In the early forms patent pools have been typically operate the personal business necessities and also in some cases they brought about agree with in

monopolistic behavior which basically draws the anti-trust with inspection. Because the evolution of time occurs the patent pools has shifted the pursuit of greater extended monetary and social benefit. The origin of evolution of digitalization and additionally developing of standards in business sectors along with cellular communications and DVD generation have performed an crucial function in modernizing discussion concerning the efficiency and also innovation profits which can be associated with patent pooling. With this also trouble arises which include overlapping patent rights which can be created for a scenario wherein innovation is quite rigid due to excessive transaction charges and also granting licenses. In replying to this demanding situations patent pools has evolved as a realistic answer with the aid of integrating intellectual assets and additionally enabling interface of unified licensing. The pharmaceutical sector started experiment and the established order of the Medicines Patent Pool (MPP) by UNITAID in 2010. The MPP turned into set up to deal with the difficulty and demanding situations in global health. To make sure that less costly patented medicines become affordable in low and middle income markets are being considered. At some point of the COVID-19 phase and the World Health Organisation has started the COVID-19 technology access Pool (C-tap). It became made a good way to inspire the voluntary sharing of knowledge, information and intellectual belongings which might be important to COVID-19. These all traits showed a major evolution in the position of patent pools. It has also taken the initiative in transitioning from being a primary industry specific price saving gear to end up a crucial tool of world public health policy.

To cope with all the issue and demanding situations patent pools do offer a process to address those issues with the aid of merging the crucial patents and offer a market for licensing. By way of aggregating patents pools can possible offer a single license for a portfolio

¹²⁷⁷ 5 patent pooling in Public Health,
<https://medicinespatentpool.org/uploads/2020/04/Chapter-five-Patent-Pooling-in-Public-Health-by-Esteban-Burrone.pdf>, (last visited April 16, 2025).

of patents, become a powerful device in reducing the expenses and time associated with negotiating licenses for every individuals. Also by consisting of a huge number of crucial patents, pooling also can reduce the bargaining energy of each patent holder and also less probable that they are able to be part of in patent hold-up. The difficulty with royalty staking can be establish one single set of licensing terms and additionally charges of royalty, patent pools can also pause the royalty stacking and maintain the prices for licensing are predictable and reasonable. Patent pools can also make the licensees to have all get right of entry to referring to complementary technologies which is needed to develop and also commercialize within the marketplace without the chance of infringing on patents and held up by way of non-taking part entities.

The Rise of Applications in Biomedical

The biomedical region has witnessed a growing sample of biomedical patent pools due to the fact that worldwide health crises emerged during the current years. Main progress in utilizing patent pools to remedy public health problems happened in 2010 via the Medicine Patent Pool (MPP) which UNITAID inaugurated. The MPP functions as an organisation which for non-profitable that develops voluntary patent permissions with vital drug holders and transfers these rights to regular manufacturers for generating fee-effective medicinal drug variations on hand in developing and less developed countries. The MPP presents crucial medicines to sufferers with HIV/AIDS but now extends to tuberculosis and hepatitis C remedies alongside different uses. Through the MPP version the patent pool system proves why it may cope with international healthcare troubles through its functionality to enhance the entry to essential medicines in regions dealing with financial manpower obstacles.¹²⁷⁸ The MPP has progressed health effects by consolidating

patents which in turn helps generic competition to attain inexpensive medicines in conjunction with greater remedy accessibility for public health needs.

Medicines Patent Pool (MPP)

The Medicines Patent Pool shows the capabilities as a modern healthcare organisation can work. The enterprise makes use of a specific method to handle intellectual property rights while setting public health at the leading edge. The MPP turned into and established in 2010 as a partnership work between health companies and remedy producing businesses. The joint partnership works to enhance availability of important medications at low and average income countries. The MPP demonstrates significance as an approach to make accessibility and availability and stop innovation barriers in biopharmaceutical practices. A voluntary patent licensing platform exists alongside patent pooling structures to help make lower priced medicinal drug available to populations. Through its operations the MPP gets rid of medicinal obstacles which block treatment availability hence enhancing international public fitness consequences. In 2008 the government Board of UNITAID approved the MPP idea earlier than its legit founding in July 2010. The corporation became formally launched below its modern-day form in July 2010 from Geneva Switzerland. The principle undertaking of the program centered on expanding affected person access to lower value better suitable medicinal drugs in the course of low and average income regions. The MPP started out its operations by way of concentrating on antiretroviral drugs collectively with new drug combinations.

¹²⁷⁹ The MPP continues activities that prioritize transparency and duty as techniques to ensure its operations advantage public health needs. The Medicine Patent Pool (MPP) allows LMIC

¹²⁷⁸ Michael Heller & Rebecca S. Eisenberg, Can patents deter innovation? the Anticommons in biomedical research SSRN (1998), [https://papers.ssrn.com/sol3/papers.cfm?abstract_id=121288&utm_source=](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=121288&utm_source=,), (last visited Apr 21, 2025).

¹²⁷⁹ Awasthy G. Krishnan, Public Health Management : The way forward through patent pools NBU (2022), <https://ir.nbu.ac.in/items/18dc119c-c73b-4e30-8f1b-bf72d3900054>, (last visited April 21, 2025).

countries get essential medicines by the help of modern licensing agreements that create greater access to medicinal drugs. The main functions of MPP licenses shows:

- Through their licensing agreements the MPP tries to reach every country by using granting huge territorial coverage. As much as 131 nations incorporate the large community of MPP license application territories that has been recounted as full-size. The extensive geographical scope enables MPP licenses to attain crucial typical medicines to a massive majority of populations requiring low priced medical treatment.
- Licensees need to gather product approvals through World Health Organisation (WHO) Prequalification Programmed or stringently regulated authorities called Stringent Regulatory authorities (SRA). A pending WHO approval can be substituted through the assessment panel presenting short-time period provisional authorization. MPP licenses require producers to observe high-quality requirements which suit worldwide necessities for their manufactured drugs.
- Under MPP licensing arrangements certified entities all through the sector obtain the capacity to acquire sublicenses by non-discriminatory and non-exclusive provisions. Through this mechanism many popular pharmaceutical producers receive authorization to distribute and manufacture generic medicines which drives market competition and influences price reduction. Suppliers can distribute certified drug treatments outside the desired territories when no patent violations occur under existing provisions which enhance accessibility.
- Under MPP licensing frameworks manufacturers obtain the liberty to make each APIs and completed

formulations everywhere in the global that allows you to guide generic competition. Countries are allowed to buy the goods outside licensed territories whilst there aren't any current patents or when generic incomes do now not involve patent infringement through compulsory licenses.

- Licensors under MPP agreements possess the right to dispute any of the licensed patents. The technology switch package deal serves all sublicenses yet they remain free to use this technology or no longer. The liberal phrases enable usual producers to create better formulations through their very own revolutionary processes.
- The royalty situations included in MPP licenses differ from one license to another. MPP license agreements consist of kinds of phrases: royalty-free agreements and balanced charge necessities which demand 3 percentages of income sales for antiretroviral in applicable patent areas. The royalty device of MPP excludes pediatric drug bills in addition to adult system income in Sub-Saharan Africa and India due to their tremendous want for cheaper drugs.
- Transparency features as the number one basis for conducting business inside MPP operations. All patent rights that exist on every occasion a license settlement is finalized need to be pronounced without delay to the licensee. Keeping of patent records results in higher choice-making through all parties at the same time as building believe among stakeholders.

COVID-19 Technology Access Pool

The COVID-19 technology get entry to Pool emerged as a brand new initiative after the global health emergency brought about by means of the COVID-19 pandemic. C-TAP initiated its operations below the WHO in May 2020 as a joint collaboration among 37

countries committed to facilitate the sharing of COVID-19 vaccine and treatment patents. The program works to allow growing nations to acquire essential research outputs produced at some point of development projects. The vital condition of the COVID-19 pandemic calls for C-TAP to work due to the fact each rapid treatment improvement and fair international medical distribution stand as crucial priorities. The sharing of intellectual property enabled via C-TAP hastens development approaches for crucial scientific products to make sure international population access. The World Health Assembly discussions in 2020 caused the introduction of C-tap at the same time as that specializes in patent pooling in addition to open statistics sharing. This system initiated a request to percentage intellectual property while the MPP functioned as a vital aspect for patent sharing facilitation. C-TAP capabilities now include an application that promotes corporations to freely share ownership rights in addition to regulatory test data and different critical data for growing COVID-19 clinical merchandise. Moreover the initiative continues other applications like European commission-led COVID-19 Tool Access Accelerator which work together globally to deal with the pandemic. The effectiveness of C-TAP can grow by means of broadening its player base to recruit additional agencies from around the arena to offer their intellectual property. Extra emphasis is wanted to cope with both IP sharing incentive and the development of transparent and same operations within the shared pool. To attain maximum effectiveness standards and protocols for handling and dispensing shared IP want right established order.

6. Patent Pools beyond Infectious Diseases

Patent pools formation is a strategic approach that creates a conventional model of a pharmaceutical exclusivity in the infectious diseases cases, thus in case of depending on the market based approach in bilateral negotiation and competition. A Patent Pools represent a good approach in promoting the

collective agreements so that patent holders are managed to share the knowledge. The target of this framework is to initiate voluntary license in patents like formulations, compounds and manufacturing technologies which help manufacture generic drugs and improves availability and affordability and health of public. Access to essential medicines has historically been a battle with patent monopolies which prevent the entry of generics into the market. This is primarily an infectious disease issue where treatment is critical and time limited. It can get on entirely in the context of inequality, monopolistic pricing of patented medicine, and intensifies conflict. However it is not only limited to infectious diseases but as well as in the field of many major diseases such as cancer, diabetes, human cardiovascular diseases treatment of which is a long process and the curability of which is unknown as it goes on for long period of time. And the problem in fighting this diseases required cheap medicines and treatment but when it is stuck in patented monopolies and innovation. Which is why it impacts a much wider segment of the population, particularly in low and mid-income communities where affording the treatment and drugs becomes an issue.

In current scenario wherein the various non-communicable diseases (NCDs), primarily diabetes, cancer and cardio vascular diseases are slowly but surely becoming the top growing health conditions around the world as well as in the low and middle income countries (LMIC); the need of the hour is to identify the actionable areas that lead towards the cost effective prevention and treatment of these NCDs.¹²⁸⁰ Access to medicines through initiatives like pooling model (such as Medicines Patent Pool) has focused on infectious disease (for e.g. hepatitis C, HIV, tuberculosis). But as time passes and the nature of global diseases shifts so too must the patent pool model be expanded to essential medicines that include

¹²⁸⁰ Infectious Disease Surveillance System, <https://patents.google.com/patent/WO2004015612A1/en> (last visited May 1, 2025).

the non-communicable diseases as well. It describes the feasibility and necessity for this expansion in a study of chronic myeloid leukaemia (CML) and second generation tyrosine kinase inhibitors (SG-TKIs) such as dasatinib and nilotinib. It is well known that 70% of all global deaths are attributed to non-communicable diseases. And the dreaded disease of cancer only reveals the grave threat inflicted ground level in the countries with low and middle income country where at times infrastructure becomes an issue. Non-communicable diseases, unlike infectious diseases, require a longer duration and lifelong treatment thereby making accessing and affordability of medicines more crucial. Here is the main problem: the patented medicines. Because of high cost of the medicines there is a patent monopoly and also makes the access difficult for low and middle income countries, which raise the matter as that much-needed life-saving treatments were taking a price that majority of population was unable to afford. Because of the MPP intervention which will be able to improve results in the research inadequate fields, the study discussing case CML is a rare but treatable cancer type.

Besides this understanding and conclusion from CML can also be derive from other NCDs like cardiovascular diseases, diabetes other than the cancer. Patents are needed for all these conditions including the chronic treatment needing high-cost medicines. Some certain examples are insulin, PCSK9 inhibitors for managing cholesterol and SGLT2 inhibitors for diabetes; it clearly shows where patented medicines have various barriers to access in many countries these are in low and middle income groups. If it can negotiate licenses for these drugs with the help of the MPP model and encourage generic competition and the price reduction. Socially it influences this broaden would be well result. Non-communicable diseases are frequently affecting a large portion of the population during their most competitive years and as a result, causing loss of income and increased dependence which

also raised the prevalence of poverty. Additionally, it secures that access to affordable medicines can also enhance the quality of life, economy and further public health of the population. It also promotes the health value by preventing disparity of treatment between rich and poor nations. However, the issues and conflict still exist. With the market for many non-communicable disease medicines being smaller and dispersed, the incentive for generic drugs manufacturers to profit commercially could diminish.

Similarly cardiovascular diseases which is another facet of non-communicable diseases is not accessible to low and middle income societies. Inhibitors which require less monitoring and less restrictions where critical benefits where infrastructure in healthcare unit are very weak, the novel oral anticoagulants provide a wider clinical benefit over the traditional representative like warfarin.

7. Conclusion

The paper is concluded stating that patent pooling mechanism can be a very effective approach and alternative as an equitable means in the battle against public health crisis. The relation between the intellectual properties particularly the pharmaceutical patents and the right to health are full of complication. On the one hand patent encourages the innovation and promotes the research and development (R&D); while on the other hand, they try to restrict access to essential medicines due to their monopolistic nature, especially in low and middle-income countries. The abuse towards the access to affordable essential medicines shall continue as constant threat as the international consensus like TRIPS and the Doha Declaration which put the guidelines about the flexibilities such as compulsory licensing, parallel importation remains essentially under siege. The COVID-19 pandemic and the HIV/AIDs epidemic, as well as the increasing burden of non-communicable diseases (NCD), has revealed that the current legal frameworks are in great need of reform to ensure proper equitable access to medicines at

the global level. This research has provided a clear view that despite International Agreements be it Doha Declaration, TRIPS Agreement and WTO etc. are working together to bridge the gap and balance access and innovation, however, lack implementation in real case scenario. Doha Declaration on TRIPS even established that TRIPS should not prevent member states from solving their public health issues, given that numerous countries lack the capacity, legal analysis and political clarity needed to effectively utilize flexibilities. On the other hand the global level pharmaceutical perspective is overly directed and controlled by the big firms that lose the pro-public procedures like compulsory licensing through trade negotiations and pressure.

The operations of patent pools and their alignment with public health need an effective institutional framework that still remains underdeveloped. The accelerating speed at which technology moves is often seen as a constraint to traditional patent systems, patent pools are one of the alternative solutions. For instance, harmonizing the rules on the voluntary collective licensing of patent would allow existence patent pools like the Medicines Patent Pool (MPP) and the COVID-19 Technology Access Pool (C-TAP) to have far-reaching impact in the improvement of the availability of essential medicines. The MPP offered HIV, hepatitis C and COVID-19 treatments for licensing and also enables the generic producers to expand supplies of life saving medicines to LMICs at lower cost.

Patent pooling is a compromise between creation and access. It protects the patent holder with motivation to invent which may also concern the human necessity. Moreover, prevent at the same time the duplication of research and development and enhance the synergy between them stakeholders. However, the scaling up patent pools beyond non-communicable disease still is an area we need to pay attention to. The demand for various drugs not just for specific diseases but also for chronic disease like cancer family, hypertension,

diabetes and cardiovascular diseases is growing at a rate from that the need for end-of-treatment drugs is becoming much more focused. But the breakthroughs on drug especially in these criteria of diseases keep minimize or not are the fact when many multi-national companies catch and treatment for the patented medicines also remains much expensive. Also, the MPP and all sorts of similar initiatives are also to include NCDs in their models and they should also be entitled to pool licensing as well as this should go beyond the infectious disease as well.

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