Health Diplomacy and Intellectual Property Cooperation within BRICS

From Beijing Declaration to the BRICS Vaccine Research and Development Centre

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Abstract

The COVID-19 pandemic highlighted the importance of multilateralism in global health governance, as well as the potential of South-South cooperation on projects aimed at improving health, capacity building and innovation in developing countries. Since the beginning of BRICS and especially from 2011 onwards, the five countries have established strategic partnerships in the areas of health, science, technology, and innovation, resulting in a wide range of exchanges and availability of resources for scientific projects. This paper aims at analyzing the development of BRICS health cooperation, the understanding of its members regarding patent breaking in WTO, as well as the future perspectives on health and science and technology cooperation within the group, especially while considering the BRICS Vaccine Research and Development Centre. In view of the formal establishment of the Vaccine Centre as determined by the BRICS Foreign Affairs Ministers, this article aims at specifying the state of the art of intellectual property cooperation and health diplomacy within BRICS.

Keywords: BRICS; Health Diplomacy; Intellectual Property; Cooperation.

Introduction

The World Health Organization (WHO) did not emerge spontaneously. It resulted from international cooperation and the immense efforts required to address a global health emergency. During the nineteenth century, cholera was the main subject of discussion and stimulated the nations to persist in their efforts to reach agreement on the measures to be taken to limit its spread (Jones, 1975). Historically, international law has played a key role in global communicable disease surveillance. Throughout the nineteenth century, international cooperation played a dominant role in harmonizing the inconsistent national quarantine regulations among states; facilitating the exchange of epidemiological information on infectious diseases; establishing international health organizations; and standardization of surveillance (Aginam, 2002). The effect of globalization on infectious disease control and prevention demonstrates that states cannot deal with challenges adequately without cooperation. Global challenges require cross-border collaboration, innovative approaches, and multilateral mechanisms in which global rules are calibrated towards the overarching goals, shared prosperity, and environmental sustainability.

The current COVID-19 pandemic exposed and exacerbated vulnerabilities and inequalities between developing and developed countries, deepening poverty and exclusion and pushing the most vulnerable even further behind. Unilateral efforts and the current global health governance based on the assistance are not sufficient to deal with common challenges, as well as not efficient to improve domestic public health, access to vaccines and affordable medicines in developing

countries. Frustrations with the inadequacies of technical assistance provided from the perspective of the early North American and European responses to the epidemic resulted in the emergence of Southern networks and institutions for research and capacity-building. Thus, the prominence of South-South Cooperation (SSC) in the international development dialogue has grown in the last decade (WHO, 2014).

South-South Cooperation refers to the technical cooperation among developing countries in the Global South and can be understood as an exchange of resources, technology, and knowledge among developing countries in order to reduce their excessive dependence on the world-dominated markets from the North. Through exchange of technology, knowledge, or skills among low-income or middle-income countries, the SSC appears to be pursuing a novel paradigm of mutual assistance and shared development.

Brazil, Russia, India, China and South Africa are increasingly active in initiatives to promote health through SSC. Since the beginning of BRICS and especially from 2011 onwards, the five countries have established strategic partnerships in the areas of health, science, technology, and innovation, resulting in a wide range of exchanges and availability of resources for scientific projects.

This paper aims at analyzing the development of BRICS' health cooperation, the understanding of its members regarding patent breaking in WTO, as well as the future perspectives on health and science and technology cooperation within the group, especially while considering the BRICS Vaccine Research and Development Centre. In view of the formal establishment of the Vaccine Centre as determined by the BRICS Foreign Affairs Ministers, this article aims at specifying the state of the art of intellectual property cooperation and health diplomacy within BRICS.

Beijing Declaration: Shifting Paradigm in Global Health Governance

BRICS' ministers of health met for the first time in Beijing in July 2011 and discussed better access to affordable, high-quality medicines to achieve the U.N. Millennium Development Goals, the importance of technology transfer between BRICS countries and other developing nations to stimulate their capacity to produce medicines at affordable prices. Committed to support and undertake inclusive global public health cooperation projects, including South-South and Triangular Cooperation, the health ministers signed the Beijing Declaration, which emphasized the need to reform WHO; the importance and the need of technology transfer as a means to empower developing countries and enable them to establish efficient health systems; the necessity of cooperation in order to advance access to public health services and goods in developing countries, as well as promoting innovation and access to affordable medicines, vaccines and other health technologies of assured quality.

Furthermore, BRICS' ministers of health supported the agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) safeguards to preserve and promote the provisions contained in the Doha Declaration on TRIPS and Public Health and of the Global Strategy and Plan of Action on Public Health, Innovation, and Intellectual Property. At that occasion, the ministers encouraged the development of innovative mechanisms of transfer of intellectual property rights for priority technologies, to open avenues for BRICS countries to supply these medicines to low and middle-income countries.

The Beijing Declaration has been the first and one of the most important documents in terms of health cooperation among BRICS countries, and it clearly defined a shift in global governance by emphasizing cooperation instead of aid or assistance. The technological and scientific training has been considered as a significant mechanism to transform a governance system that favors the concentration of the global pharmaceutical market, dominated by the monopoly of powerful

pharmaceutical industries from developed countries. From a different perspective, BRICS countries have been playing a new role aiming at remodeling the system in a way more favorable to developing countries, contributing to the reduction of inequalities.

By contributing their respective strengths, developing countries have the potential to enhance their research and development activities to lead to new health products and services aimed at their often-dire health needs. In addition, SSC has the potential to extend capacity in science-intensive fields, such as health research, to an increasing number of developing countries. As some developing countries have a track record of producing relatively affordable health products, SSC is able to distribute lower-cost health products among developing countries. In this sense, SSC in health shows great potential to contribute to improved health, capacity-building and innovation (Chaturvedi; Thorsteinsdóttir, 2012).

In 2012, the BRICS Health Ministers decided to meet over the side-lines of the World Health Assembly at WHO, Geneva. During the second meeting of BRICS Health Ministers, in 2013, the Ministers reiterated their support to the continued discussions on the process of reform of WHO to better respond to global challenges; renewed their commitment to strengthening international cooperation in health, in particular South-South cooperation, with a view to supporting efforts in developing countries to promote health for all; and agreed to cooperate in all international for a regarding matters relating to TRIPS flexibility with a public health perspective (BRICS India, 2021). In addition, BRICS countries resolved to collaborate to develop capacity and infrastructure to reduce the prevalence and incidence of Tuberculosis (TB) through innovation for new drugs, vaccines, diagnostics, and promotion of consortia of TB researchers to collaborate on clinical trials of drugs and vaccines.

The Ufa Declaration signed by BRICS leaders in 2015 enlarged concerns and priorities on health, aiming at contributing to international cooperation and to support the efforts of countries to achieve their health goals, including the implementation of universal and equitable access to health services, and ensure affordable, good-quality service delivery. The leaders highlighted that the international community is struggling with increased antimicrobial resistance, which contributes to multiplying health risks and express concern with the continuing spread of major diseases and with the emergence of infections with a pandemic potential, such as highly pathogenic influenza, novel coronavirus, or Ebola.

Considering that BRICS countries have significant experience in combating communicable diseases, the leaders demonstrated willing to cooperate and coordinate efforts, including with relevant international organizations, to tackle global health challenges and ensure that BRICS countries jointly contribute to improve global health security, prioritizing areas such as management of risks related to emerging infections with pandemic potential; compliance with commitments to stop the spread of, and eradicate, communicable diseases that hamper development; research, development, production and supply of medicines aimed at providing increased access to prevention and treatment of communicable diseases (BRICS Russia 2015).

Approved in the 6th Health Ministers Meeting in New Delhi, 2016 and supported by BRICS Heads of States, as agreed in the Xiamen Declaration, 2017, the BRICS Tuberculosis Research Network is the most important outcome of BRICS cooperation in the health area. The newly launched network is a platform for collaboration and its goal is to strengthen mutually beneficial research amongst the BRICS countries, particularly in the areas of product development, technology transfer, and capacity building. Priority activities include the development of common protocols and implementation of multicountry studies to speed up product development in TB diagnostics, vaccines, drugs, and to facilitate effective adoption of innovative interventions (BRICS TB Research Network, 2021).

Intellectual Property Cooperation within BRICS

The possibility of developing new vaccines, drugs, and innovative interventions as a product of BRICS research cooperation requires further analyzing the state of the art of Intellectual Property (IP) cooperation within the group. The COVID-19 pandemic highlighted the importance and potential of BRICS IP cooperation, considering that half of the 20 vaccines for the disease were being researched, tested or produced in BRICS countries (Buss; Hoirisch; Alcazar, 2021). This also demonstrates the scientific and technological knowledge of each country, which is of great relevance to multilateral cooperation on health matters.

Furthermore, the five countries are recognized for their national health policies, whether focused on research and development innovation or their public health systems (Buss; Hoirisch; Alcazar, 2021). In this sense, BRICS countries have great potential of generating a more beneficial South-South multilateral collaboration through health diplomacy. A World Health Organization editorial entitled "BRICS and global health" already highlighted the five countries' capacities and advantages for providing positive contributions to address global health challenges (Acharya et al., 2014).

The development of diagnostics, vaccines, and drugs is one of the main priorities defined by BRICS in the Tuberculosis (TB) Research Network. While facing infectious diseases and pandemics, which is one of the six most important trends in global health issues, according to the WHO[1], intellectual property matters should be a facilitator for cooperation and access to research products. However, when COVID-19 vaccines were starting to be approved by each countries' regulatory agencies and WHO, conflicts arose regarding patent break.

The New Delhi Declaration (2021) underlines that COVID-19 extensive immunization is a global public good. Considering the inequity in access to vaccines, diagnostics and therapeutics, especially for the world's poorest and most vulnerable population, BRICS leaders recognised the importance of safe, efficacious, accessible and affordable vaccines, as stated in paragraph 8 of the recently released declaration. Multilateral mechanisms created by WHO, such as the COVID-19 Vaccines Global Access (COVAX) facility, were essential to consolidate global efforts for providing access to vaccines.

In addition, BRICS nations noted the ongoing discussions in the World Trade Organization regarding a COVID-19 vaccine Intellectual Property Rights waiver and the use of flexibility of the TRIPS Agreement and the Doha Declaration on TRIPS Agreement and Public Health. The discussions are a result of India and South Africa's initiative in the WTO[2] for a temporary waiver of patents on useful products to prevent, contain and treat COVID-19. The initiative aims at reducing the cost of vaccines, as well as increasing global production. The issue of COVID-19 vaccine patents exposes only the tip of the iceberg. (2021). SBMT - Sociedade Brasileira de Medicina Tropical.

India and South Africa, in Communication IP/C/W/669 to the WTO Council for Trade-Related Aspects of Intellectual Property Rights regarding the waiver, highlighted that WTO members should cooperate to ensure that intellectual property rights do not hinder timely access to affordable medical products, including vaccines and medicines to combat COVID-19. The initiative is still being discussed, however, 60 WTO members have already co-sponsored the proposal, which has also been supported by BRICS members as stated in the Leaders' Declaration and the Ministers of Foreign Affairs/International Relations Media Statement of 2021.

Even though a part of BRICS countries has not yet co-sponsored the initiative brought by India and South Africa, the statements issued indicate the important role played by the five countries

1 Global Health Issues, Challenges and Trends. (2021). AUC School of Medicine.

2 IP/C/W/669.

as facilitators and even providers of access to vaccines and other medical goods. In this context, supporting the temporary waiver of patents is aligned to the health diplomacy that has been shaped by BRICS cooperation. By 2014, BRICS countries were already jointly promoting access to affordable, safe and efficacious medical products through the use of the WTO's Agreement on Trade Related Aspects of Intellectual Property Rights, as demonstrated by Ilona Kickbusch (2014).

It is possible to recognize the coordinated action regarding TRIPS flexibility with a public health perspective as a result of the compromise undertaken by BRICS Ministers since the first meeting of BRICS Health Ministers in 2011. The initiatives that align health diplomacy and intellectual property rights integrate a key area of the global governance for health that is being built by BRICS (KICKBUSCHA, 2014, p. 464). Furthermore, the importance and potential of the area for BRICS health diplomacy is also revealed in joint efforts made by IBSA and BRICS to strengthen IP cooperation and build a flexibilities agenda (Menezes, 2018).

The flexibilities agenda is identified in the Doha Declaration on TRIPS and Public Health (2001), as well as in the WIPO Development Agenda (2007) which points out the flexibilities, exceptions, and limitations in IP rules. Considering the impact of international IP norms on national legislations, BRICS countries, except for Russia, have implemented or reformed its internal norms to benefit from the flexibility's agenda (Menezes, 2018). Therefore, it is possible to consider that the TRIPS flexibility compromise established by BRICS countries in 2013 have also echoed in the countries' legislation, in a way to harmonize the positions assumed in the global governance and national regulatory norms.

The initiative proposed by India and South Africa in the WTO underlines the importance of "TRIPS flexibilities to safeguard public health, including issuing compulsory licenses and placing limitations on or making exceptions to exclusive rights" (India, South Africa, et al., 2021)[3], as well as the crucial role played by the Doha Declaration on TRIPS and Public Health in promoting access to medicines. However, the co-sponsoring countries have also recognized the magnitude of COVID-19 health crises, which could hinder the proper application of TRIPS flexibilities. Furthermore, it states that many countries lack the institutional capacities to apply such flexibilities.

In this sense, the initiative initiated by India and South Africa does not intend to replace TRIPS flexibilities with a temporary waiver, because the proposal encourages countries that have the capacity to implement flexibilities in a timely manner. However, the purpose of the TRIPS waiver is to guarantee all countries are able to have accessible and affordable vaccines, in a way that already existent flexibilities ought not create barriers to international collaboration aiming to allow a sufficient supply of healthcare products for COVID-19.

As stated in the Communication issued by the co-sponsors of the initiative (IP/C/W/672), "the waiver is more than just a legal mechanism, it is a statement of intent by all countries that they accord the highest value to protecting human lives rather than protecting private profits". This perfectly emphasizes the gravity of BRICS joint health governance, which meets the goals of South-South collaboration to protect the interests of developing countries (Menezes, 2018), as well as the fundamental rights of their populations.

Beyond the cooperation in this multilateral forum, BRICS countries have also developed internal structures specific for IP cooperation. The Contact Group on Economic and Trade issues (CGETI) was established in 2011 as a deliverable of the Sanya Summit and was further assigned during the Second Economy Ministers Meeting (29/03/2012) to strengthen i) IP cooperation; ii) increase the exchange

3 IP/C/W/672. Waiver from Certain Provisions of the Trips Agreement for The Prevention, Containment and Treatment of Covid-19. (2021). Communication from the Plurinational State of Bolivia, Eswatini, India, Kenya, Mozambique, Mongolia, Pakistan, South Africa, the Bolivarian Republic of Venezuela and Zimbabwe.

of legislative and regulatory information about IP on seminars, capacity building development programs in the area; and (iii) promote cooperation within IP Offices.

The first meeting of the BRICS Heads of IP offices took place on the margins of the World Intellectual Property Organization General Assemblies in 2012. The first formal meeting of BRICS Heads of Intellectual Property Offices (HIPOs) occurred in Magaliesburg in 2013. In the meeting, HIPOs adopted a roadmap for BRICS IP cooperation which identified six key areas of cooperation: i)Training of Intellectual Property Office Staff and Examiner Exchange; ii)National IP Strategy and Promotion of Public Awareness on IP; iii)Information Services on IP; iv)IP/Patent Processes and procedures; v)IP Strategies for SMMES; and vi)Collaboration in International Forums. Since then, HIPOs have been meeting regularly. As a result, BRICS HIPOs established the Intellectual Property Rights Coordination Group (IPRCG). The joint action of IPRCG and HIPO is known as IP BRICS, which is the general organization of the BRICS IP offices.

In light of the above, it is possible to note how IP cooperation within BRICS has developed through internal mechanisms of the group as well as multilateral forums such as the WTO. The joint action promoted by BRICS countries regarding TRIPS flexibilities and waivers has been of great relevance for health diplomacy matters, for instance, the access to affordable, safe and efficacious medical goods. This demonstrates the potential of internal and external BRICS IP collaboration to shape a new form of IP cooperation in the international system.

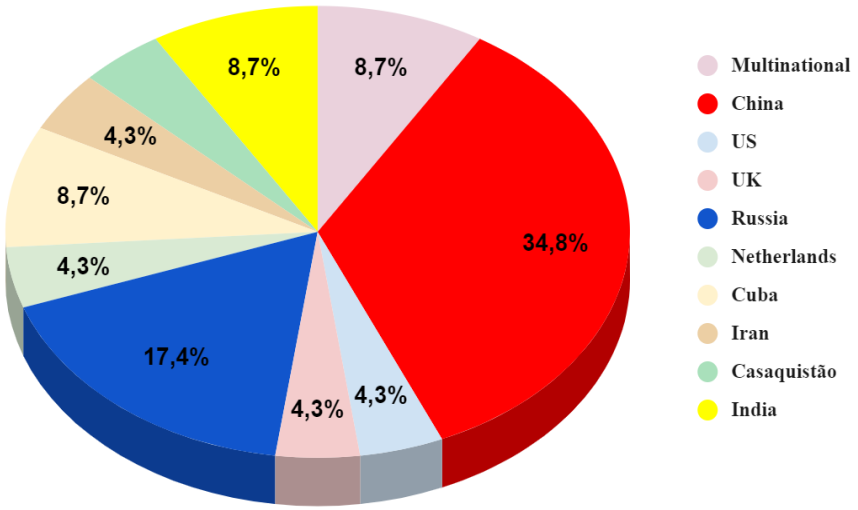
Other initiatives in BRICS also have the potential to generate new forms of IP protection and further discussions aimed at improving IP norms through multilateral forums deliberations. The BRICS TB Research Network and the BRICS Vaccine Research and Development Centre are important initiatives that will generate research products in the future as a result of the five countries' investments and collaboration. In this context, BRICS internal mechanisms such as the HIPOs may collaborate to provide and shape new strategies of IP cooperation considering TRIPS flexibilities, waivers and other legal instruments available.

BRICS Vaccine Research and Development Centre

The Covid-19 pandemic has shown us the striking global dependence of vaccines and their inputs, as for example the active pharmaceutical ingredient (API), on the technological capabilities installed in BRICS countries (Buss, Hoirisch, Alcázar, 2021). Likewise, it has demonstrated that equal access to vaccines and other medical goods require further strengthening South-South Cooperation. Most African countries are facing challenges to acquire vaccines for their populations, which reveals the failure of vaccine equity, as recognized by Tedros Adhanom Ghebreyesus, Director-General of the WHO (United Nations, 2021).

Considering the health diplomacy established by BRICS since 2011, there is ample opportunity in intra-BRICS health cooperation with the Vaccine Centre, as a way to provide better access to vaccines for low and middle-income countries. The chart below displays the nationality of currently approved and applied vaccines.

Chart 1: Nationality of COVID-19 Vaccines Applied



Source: Regulatory Affairs Professionals Society, 2021

Half of all 20 Covid-19 vaccines have been researched, developed, and produced by BRICS countries. China is responsible for six and is currently a major player in innovative vaccines for several contagious diseases. India produced two vaccines and hosts the world's biggest pharmaceutical companies, with enormous capacities to produce bioproducts for immunization. Russia is responsible for two vaccines and has massive capabilities in medicine and in the biological sciences. South Africa has an outstanding performance in public health programs and has important continental leadership. Brazil has two internationally recognized public biopharmaceutical institutes, Biomanguinhos/Fiocruz and Butantan, with large-scale production capacities and a bulky market that includes Mercosul and all Latin America (Buss, Hoirisch, Alcázar, 2021).

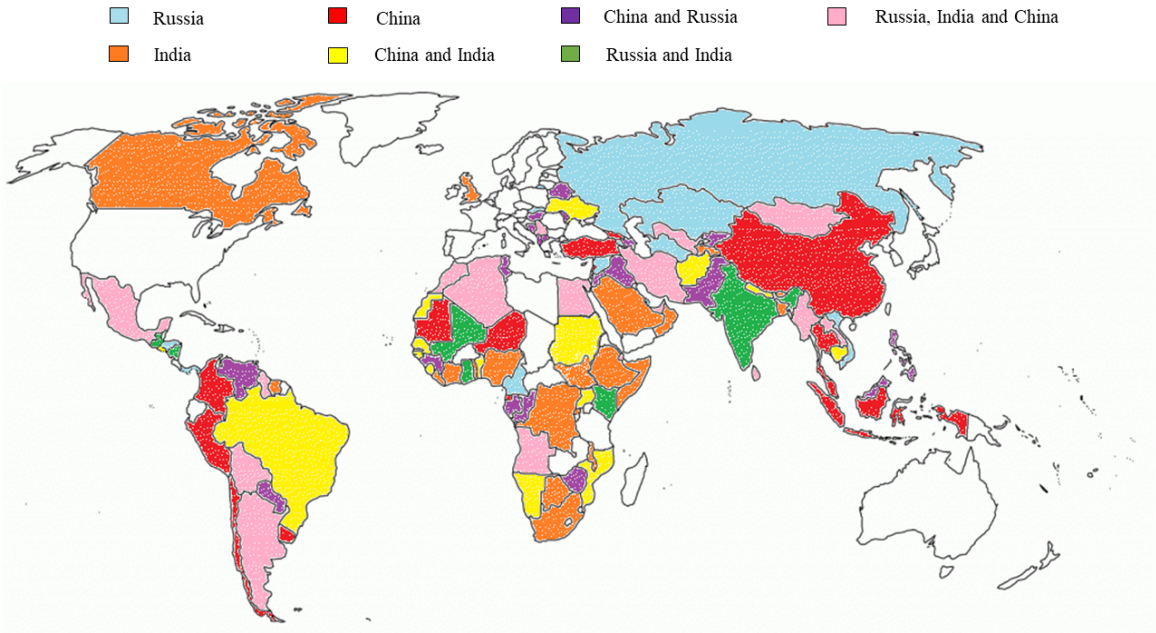
BRICS countries have played a critical role by providing vaccines to developing countries, as well as by reducing global health inequalities facing an unfair distribution of vaccines around the world. As observed in the Figure 1, the Global South depends on the vaccines produced by the three countries, which demonstrates the potential for health diplomacy through South-South Cooperation.

During the BRICS Summit 2021, BRICS members noted with satisfaction the intra-BRICS cooperation to strengthen preparedness and response to the pandemic, including in vaccine cooperation and welcome the progress towards the early launch of the BRICS Vaccine Research and Development Centre in a virtual format. They supported the progress towards establishing a BRICS Integrated Early Warning System for preventing mass infectious diseases risks, in accordance with the International Health Regulations (2005), and the WHO's Global Outbreak Alert and Response Network for identifying future pandemics and forecasting outbreaks through institutional collaboration.

In this sense, the BRICS Vaccine Research and Development Centre is a catalyst for scientific development in countries without national vaccines (Brazil and South Africa). In addition, there is the potential for greater economic-scientific coordination with the preference for vaccines and inputs of the BRICS member countries. According to Devonshire-Ellis (2021), "Of the BRICS nations, India has the world's largest vaccine production capability, while China and Russia possess significant viral research facilities and are upgrading and improving production capability. Brazil and South Africa have the largest production capabilities in Latin America and the African continent respectively. All are additionally members of significant free trade blocs, with Brazil the lead member of the Latin American Mercosur, Russia the lead of the Eurasian Economic Union, India the lead member

of SAARC, China a member of the upcoming RCEP East Asian bloc, and South Africa a lead member of AfCFTA".

Figure 1: Global Usage of Russian, Indian and Chinese Vaccines 2021



Source: Compilation of Sputnikvaccine.com; Veronika Blablova (Choice, 2021)

The regional power, characteristic of each BRICS member country, may also be considered as a relevant element of the BRICS Vaccine Research and Development Centre. In addition to the capacity of influencing their national realities, BRICS countries have the potential to act regionally. By supporting TRIPS flexibilities, BRICS countries may assist countries in their zones of influence and partners in other trading blocs with needed vaccination products.

BRICS Vaccine Research and Development Centre has potential to boost cooperation not only with BRICS countries but also with other regions, and enhance ties with universities, scientific research institutions as well as health and disease control institutions worldwide to monitor contagion changes and virus mutations in order to promote vaccine research and industrialization (Yang Guang, 2021).

Moreover, New Delhi Declaration represents the effort of mutual vaccination recognition — which is an issue with the European Union, inasmuch as it does not recognize vaccination in BRICS countries. In this regard, the BRICS Vaccine Research and Development Centre promotes the expansion of mutual recognition of vaccination, given the possibility of regional effects on all continents with BRICS leadership in supplying inputs.

Conclusion

The establishment of BRICS Vaccine Research and Development Centre is a valuable deliverable of BRICS health cooperation and has the potential to become a landmark in BRICS IP cooperation. Besides the TB Research Network, the Vaccine Centre presents the possibility of developing new products as a result of the five countries' investment and collaboration. In this context, intra-BRICS initiatives regarding IP matters are of utmost importance to provide appropriate mechanisms on the legal aspects of those products.

Since the first BRICS ministerial health meeting, the ministers have been encouraging the development of innovative mechanisms to aid the transfer of intellectual property rights for priority technologies, to allow an adequate supply of medical goods to low and middle-income countries. Considering the COVID-19 pandemic and the trends of infectious diseases worldwide, the access to health is substantially correlated to the access to priority technologies in the production of medical goods. Therefore, IP BRICS cooperation has the ability to provide a fairer and more equitable access to medical goods, as a result of its intra and multilateral initiatives.

The Vaccine Centre is presented as a common ground for the development of new strategies in IP cooperation, such as the strengthening of TRIPS flexibilities and waivers. In this sense, the impact of the Vaccine Centre will considerably depend on the support provided by the development of those innovative mechanisms through IP cooperation within BRICS. The more BRICS countries collaborate to promote the advancement of IP BRICS, for instance, the transfer of intellectual property rights for priority technologies related to health, the more successful the Vaccine Centre will be in achieving the goals of BRICS health diplomacy.

References

Acharya, S., Barber, S.-L., Lopez-Acuna, D., Menabde, N., Migliorini, L., Molina, J., Schwartländer, B., & Zurn, P. (2014). BRICS and global health. *Bulletin of the World Health Organization*, *92*(6), 386–386A. https://doi.org/10.2471/blt.14.140889

Aginam, Obijiofor. (2002). International law and communicable diseases. *Bulletin of the World Health Organization, 80* (12), 946 - 951. World Health Organization. https://apps.who.int/iris/handle/10665/268693

Blablová, V. (2021). *How China and India are Competing in Vaccine Diplomacy - chinaobservers*. chinaobservers. https://chinaobservers.eu/how-china-and-india-are-competing-in-vaccine-diplomacy/

Breaking of COVID-19 vaccine patents exposes only the tip of the iceberg. (2021, June 6). SBMT - Sociedade Brasileira de Medicina Tropical. https://www.sbmt.org.br/portal/quebra-de-patentes-de-vacinas-contra-covid-19-expoe-apenas-a-ponta-do-iceberg/?lang=en

BRICS TB Research Network. (2018). BRICS TB Research Network. http://bricstb.samrc.ac.za/about.html

Vacinas, Pantagruel e a diplomacia da Saúde de Brics. (2021). Le Monde Diplomatique. https://diplomatique.org.br/vacinas-pantagruel-e-a-diplomacia-da-saude-de-brics/

Buss, P., Hoirisch, C., & Alcázar, S. (2021, March 10). *BRICS and the global vaccine barbarism*. Fiocruz. https://portal.fiocruz.br/en/news/brics-and-global-vaccine-barbarism

Chaturvedi, S., & Thorsteinsdóttir, H. (2012.). *BRICS and South-South Cooperation in Medicine: Emerging Trends in Research and Entrepreneurial Collaborations*. RIS Discussion Papers. https://www.ris.org.in/images/RIS_images/pdf/dp177_pap.pdf

Craven, J. (2020, March). *COVID-19 vaccine tracker*. Regulatory Affairs Professionals Society | RAPS. https://www.raps.org/news-and-articles/news-articles/2020/3/covid-19-vaccine-tracker

Devonshire-Ellis, C. (2021). *BRICS Nations To Set Up Virtual Early Warning Vaccine Research & Development Centre - Silk Road Briefing*. Silk Road Briefing. https://www.silkroadbriefing.com/news/2021/07/29/brics-nations-to-set-up-virtual-early-warning-vaccine-research-development-centre/

Global Health Issues, Challenges and Trends. (2021). AUC School of Medicine. https://www.aucmed.edu/about/blog/global-health-issues

BRICS INDIA 2021 | *Ministry of External Affairs*. (2021). BRICS INDIA 2021 | Ministry of External Affairs. https://brics2021.gov.in/health

Projects. (2021). BRICS. http://www.ipbrics.net/secondpage/project.html

Howard-Jones, N. (1975). *The scientific background of the International Sanitary Conferences, 1851-1938*. World Health Organization.

Kickbusch, I. (2014). BRICS' contributions to the global health agenda. *Bulletin of the World Health Organization*, *92*(6), 463–464. https://doi.org/10.2471/blt.13.127944

Menezes, H. Z. d. (2018). South-South Collaboration for an Intellectual Property Rights Flexibilities Agenda. *Contexto Internacional*, *40*(1), 117–138. https://doi.org/10.1590/s0102-8529.2017400100006

Ufa Declaration. (2015). BRICS 2015. http://en.brics2015.ru/documents/

Unequal Vaccine Distribution Self-Defeating (ECOSOC/7039). (2021). World Health Organization Chief Tells Economic and Social Council's Special Ministerial Meeting. https://www.un.org/press/en/2021/ecosoc7039.doc.htm

Wen, X. (2021). *BRICS research center to focus on vaccines*. China Daily Website - Connecting China Connecting the World. http://www.chinadaily.com.cn/a/202105/29/WS60b18028a31024ad0bac240d.html

Waiver from certain provisions of the trips agreement for the prevention, containment and treatment of covid-19 (IP/C/W/669). (2020). Council for Trade-Related Aspects of Intellectual Property Rights. https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/IP/C/W669.pdf

Waiver from certain provisions of the trips agreement for the prevention, containment and treatment of covid-19 (IP/C/W/672). (2021). Council for Trade-Related Aspects of Intellectual Property Rights. https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/IP/C/W672.pdf&Open=True

Watt, N. F., Gomez, E. J., & McKee, M. (2013). Global health in foreign policy--and foreign policy in health? Evidence from the BRICS. *Health Policy and Planning*, *29*(6), 763–773. https://doi.org/10.1093/heapol/czt063

South-South and Triangular Cooperation in Health Current status and trends May 2014 Aligning for better results Summary of findings from an analysis undertaken on behalf of IHP+. (2014). World Health Organization. *https://www.uhc2030.org/fileadmin/uploads/ihp/Documents/About_IHP_/what_we_do/ihp_south_south_and_triangular_cooperation_in_health.pdf*

WTO | intellectual property (TRIPS) - TRIPS and public health. World Trade Organization - Home page - Global trade. https://www.wto.org/english/tratop_e/trips_e/pharmpatent_e.htm

Ying, H. (2013). BRICS: A new cooperation model in horizon. In *Laying the BRICS of a new global order: From yekaterinburg 2009 to ethekwini 2013*. (pp. 51–64). Africa Institute of South Africa.