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April 12, 2023

Katherine M. Hiner
Acting Secretary to the Commission
U.S. International Trade Commission
500 E. Street, SW
Washington, D.C., 20436

RE: Post hearing Brief for Investigation No. 332-596: *COVID-19 Diagnostics and Therapeutics and Flexibilities Under the TRIPS Agreement*

Dear Acting Secretary Hiner,

Public Citizen submits the following post hearing comments regarding the U.S. International Trade Commission's March 29-30, 2023, public hearing in connection with Investigation No. 332-596: *COVID-19 Diagnostics and Therapeutics and Flexibilities Under the TRIPS Agreement*. This submission does not contain CBI. Public Citizen is a nonprofit consumer advocacy organization with 500,000 members and supporters. Public Citizen's Access to Medicines Program works with partners across the United States and around the world to make medicines available for all through tools in policy and law.

Sincerely,

Peter Maybarduk
Public Citizen Access to Medicines Director

Our Methods for Quantifying Market Demand vs. Population-Based Need: Paxlovid in 2022

In our prehearing brief, we estimated the number of need-based doses that exceeded demand for Paxlovid in LMICs in 2022. The Duke Global Health Innovation Center's Launch and Scale Speedometer data, combined with the data from the WHO Therapeutics Dashboard, informed our estimation of demand and Airfinity's WTO TRIPS COVID-19 Tx Analysis informed our estimation of need. We will describe our methodology in detail below, using data that was updated as of late February 2023. We encourage the Commission to update, expand, and refine these estimations.

Demand Estimation

The Duke Global Health Innovation Center's Launch and Scale Speedometer (the 'Duke Dashboard') tracks purchases of COVID-19 therapeutics and maintains a dashboard that details data on these purchases.[1] This dashboard is updated regularly and aims to provide a comprehensive record of purchases of COVID-19 therapeutics. However, this data is limited to purchase agreements that are publicly available, and likely excludes relevant purchase agreements. For example, Knowledge Ecology International's Paxlovid Procurement Announcement tracker, last updated in April 2022, identified Paxlovid purchases by Panama and Malaysia that are not reflected in Duke's dashboard.[2] If these two purchases could be confirmed, the inclusion of this data in our estimates would increase market demand for Paxlovid by 164,000 courses. The Commission could bridge this gap in the data by inquiring directly with Pfizer about details of the purchase agreements that have been made with LMICs.

As of February 2023, the Duke dashboard reported that 48,186,517 courses of Paxlovid have been purchased worldwide, with over 70% of the courses having been purchased directly by high-income countries. Lower-middle income countries (Egypt and Ukraine) purchased a total of 320,000 courses and upper middle-income countries (Mexico and Thailand) purchased a total of 350,000 courses.

Two ACT-A partners have entered into an agreement with Pfizer for an additional 10 million courses for LMICs.[3] To our best knowledge, this agreement functions as an options agreement rather than an advanced purchase agreement. The courses available to ACT-A partners are offered to eligible countries and countries then confirm the number of courses that they want to receive, at a price that is based upon the country's income status. With this model, we considered the market demand to be the number of courses that were confirmed by countries, rather than the total amount procured by ACT-A partners. Using the WHO Therapeutics Dashboard in February 2023, we determined that 2,132,304 courses of Paxlovid have been offered to LMICs by ACT-A, but only 135,120 courses were confirmed.[4] Therefore, although ACT-A partners entered into an agreement with Pfizer for 10 million courses, we considered the true market demand to be 135,120 courses.

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[1] Duke Global Health Innovation Center Launch and Scale Speedometer, available at https://launchandscalefaster.org/covid-19/therapeutics [accessed February 17, 2023]

[2] Knowledge Ecology International. Paxlovid Procurement Announcements, available at https://docs.google.com/spreadsheets/d/1fE1sB6VwrrqGTXReJb29IH_b-B6yeOhFRzsg0_D1GrQ/edit#gid=0

[3] 6 million courses for the Global Fund and 4 million courses for UNICEF

[4] World Health Organization Therapeutics Dashboard, available at https://partnersplatform.who.int/en/therapeutics-dashboard [accessed February 27, 2023]

Based on the available data, market demand in non-HICs, or the number of treatments that were being ordered or requested, could be defined as the number of courses that were confirmed by ACT-A countries (identified through the WHO Therapeutics Dashboard) combined with non-HIC originator supply deals (identified through the Duke dashboard).

It is important to note that we did not exclude purchase agreements based on the date that they were completed, and, as a result, this estimation of demand could overrepresent the true market demand in 2022. Regardless, as Pfizer began negotiating purchase agreements in late 2021 and this analysis was completed in early 2023, we believe that it was a fair estimation of market demand for 2022. We encourage the Commission to explore and refine how "market demand for Paxlovid in 2022" should or should not be limited.

Table 1: Market demand for Paxlovid in non-HICs[5]

Courses confirmed from ACT-A	135,120
Ukraine	300,000
Egypt	20,000
Mexico	300,000
Thailand	50,000
Total	805,120

Source: Duke Global Health Innovation Center Launch and Scale Speedometer; WHO Therapeutics Dashboard

Need Estimation

To determine the population-based need for Paxlovid (generic name nirmatrelvir/ritonavir), theoretically, we consider the total number of infections in LMICs that would have benefitted from the use of Paxlovid had it been available. Paxlovid is indicated for patients with non-severe COVID-19 at the highest risk of hospitalization. While reliably identifying those at the highest risk is challenging, the WHO has determined that patients with older age, immunosuppression, and/or chronic diseases are the typical characteristics of high-risk patients.[6] The lack of COVID-19 vaccination is an additional risk factor that is particularly significant in the non-HIC setting due to the low vaccination rates.

Airfinity, a health analytics company, released an analysis of the need and demand for Paxlovid in HICs and non-HICs, titled 'WTO TRIPS COVID-19 Tx.' In this analysis, Airfinity describes their estimate for population need for Paxlovid to be "calculated as total infections in >65 years old."[7] This estimation does not capture key population groups that would benefit from Paxlovid, such as those with chronic diseases under the age of 65. Additionally, the estimation only spans from the beginning of 2022 through approximately late November 2022. Both of these factors make this figure an underestimate of population need.

[5] The data in Table 1 is limited to the purchase agreements identified by the Duke Global Health Innovation Center Launch and Scale Speedometer. This may not include other purchase agreements between Pfizer and LMICs that are not publicly available.
[6] Therapeutics and COVID-19: Living Guideline, 13 January 2023, available at https://www.who.int/publications/i/item/WHO-2019-nCoV-therapeutics-2023.1 [accessed February 27, 2023]
[7] Airfinity. 'WTO TRIPS COVID-19 Tx'

From the beginning of 2022 through late November, the population need in non-HICs surpassed nine million doses of Paxlovid. When compared to the previous calculation of market demand, we estimate that population-based need exceeded market demand by over eight million courses of Paxlovid (Table 2).

Table 2: Difference between market demand and population-based need for Paxlovid in LMICs (2022)

Market Demand	Population-Based Need	Need-based courses in excess of demand
805,120	9,135,953	**(8,330,833)**

Source: Airfinity; Launch and Scale Speedometer; WHO Therapeutics Dashboard

If the Commission were to replicate this analysis for Paxlovid, other therapeutics, or diagnostics, we encourage an independent calculation of the population need that is based on the *total* number of infections in LMICs that would have benefitted from the use of the technology had it been available. If an independent calculation is not feasible, more complete and up to date Airfinity data could be used. Also, additional information from Airfinity on their data and calculations could provide a better estimate.

The ACT-A Council Working Group on Diagnostics and Therapeutics also released a report that projected the need for all antivirals in 2023. They estimated an unconstrained need in LMICs for 223 million antiviral treatments in 2023, compared to demand for 31 million treatment courses.[8] Unconstrained need is defined by the Working Group as the "total number of cases in LMICs in the next 12 months, regardless of a country's testing capacity, interest in the product, or capacity to roll it out." It is also acknowledged by the Working Group that actual demand will continue to be much lower than estimated. The methods used by this Working Group could potentially serve as a resource for the Commission in projecting need versus demand.

Clarifying and Reiterating Public Citizen's Response to Commissioners' Questions

Could you speak to the particular challenges faced by upper middle-income countries in accessing COVID-19 diagnostics and therapeutics?

The Medicines Patent Pool (MPP) aims to solve the challenges faced by LMICs in accessing COVID-19 diagnostics and therapeutics by negotiating deals that are acceptable to both patent holders and generics firms. MPP works to negotiate deals that will facilitate generic access in as many countries as possible. However, patent holders limit the number of countries that they will agree to license for a particular product, typically excluding many upper middle-income countries. For example, Pfizer's voluntary MPP agreement for Paxlovid (nirmatrelvir/ritonavir) excludes most of Latin America, a region that was devastated by the pandemic. The exclusion of countries by patent holders from MPP agreements is one reason that we are asking for an expansion of the June 2022 TRIPS Decision to therapeutics and diagnostics, so that it can be easier to get affordable, generic competition into more countries, drive demand, and meet more of the health need.

[8] ACT Accelerator. Report of the Access to COVID-19 Tools Accelerator Facilitation Council Working Group on Therapeutics and Diagnostics, available at https://www.who.int/publications/m/item/act-accelerator-facilitation-council-working-group-report-on-diagnostics-and-therapeutics

In November 2022, dozens of leading Latin American health groups wrote Pfizer, asking for Pfizer to expand the territory of its MPP license to include Latin America and help meet health need. Pfizer has not responded to this request. This is one further indicator that voluntary measures and industry's own access plans alone are not sufficiently addressing the access challenges faced by upper middle-income countries.

When China lifted 'zero-COVID,' the country instantly struggled with life threatening treatment shortages. China is responsible for the challenges and mistakes of this period, and its disastrous consequences. Nonetheless and for purposes of this inquiry, it also is true that there was not sufficient Paxlovid supply in China. There were reports of people smuggling Paxlovid in suitcases across national borders and purchasing from the black market. Pfizer had an advance opportunity to work to mitigate this harm, by including China in the territory of its license with the Medicines Patent Pool more than a year earlier, in November 2021. Pfizer declined. Then Pfizer waited nine months before signing its own bilateral deal with Chinese manufacturer Zhejiang Huahai (which also is an MPP sublicensee, authorized to sell nirmatrelvir outside China under the terms of the MPP license). If we had not lost those nine months, and Pfizer had worked quickly to support rapid generic production and distribution, perhaps generic nirmatrelvir could have been available when zero-COVID was lifted, and more lives saved.

Upper middle-income countries do miss purchasing and procurement opportunities. So does every country. Low-, middle- and high-income countries alike underfund health systems. But that is not the point of this investigation. Because upper middle-income countries are excluded from many of the pharmaceutical companies' concessionary measures, it becomes critically important to ease their path to accessing affordable generics, so demand is induced, and widespread test-to-treat programming is instigated. The power of the extension of the TRIPS Decision to expand global options must be considered.

Are you aware of any government-to-government programs that facilitate access to therapeutics and diagnostics in low-income countries and lower middle-income countries? Is the lack of a test to treat program a barrier to therapeutic access?

For very understandable reasons, there was a bias towards vaccines within global pandemic programming. However, this has left the world today with incredibly scant programming on test-to-treat. In the U.S., many of us can take a test and, if it comes back positive, rapidly access treatment. Through the Biden Administration's Test to Treat initiative, Americans can test, receive a prescription for an antiviral, and have the prescription filled, all at one site.[9] This is not the case in most of the world. Global COVID-19 response and test-to-treat initiatives have been organized under the umbrella of the World Health Organization's Access to COVID-19 Tools (ACT) Accelerator initiative, with the support of the U.S. government, many international agencies, and private foundations and funders. The goal was that anywhere in the world, anyone could have rapid access to a test and would be able to get timely treatment for their needs. Because of the COVID-19 response funding shortfall, unfortunately we have been left with only a shadow of this dream; basically a pilot program in 10-20 countries, with hopes to expand.[10]

[9] HHS Administration for Strategic Preparedness & Response. Test to Treat, available at https://aspr.hhs.gov/TestToTreat/Pages/default.aspx

[10] E.g., The QuickStart Consortium, with partner countries including Ghana, Kenya, Laos, Malawi, Nigeria, Rwanda, South Africa, Uganda, Zambia, and Zimbabwe; https://dukeghic.org/our-work/quick-start/

The U.S. Agency for International Development is doing very good work aiming to launch test-to-treat programs and demonstrate their effectiveness even in resource limited settings. But no longer is robust funding and political will available to support this effort. It remains a challenge to fight the pandemic and provide diagnostics and therapeutics, becoming even more important to find affordable solutions from a variety of potential providers.

To use a historical example, it wasn't until HIV/AIDS drug prices were lowered over 90 percent that major HIV/AIDS global programs were funded. If we can keep prices low, we can help expand test-to-treat programs. We must work at both ends – the financing and regulatory challenges as well as the access pricing challenges.

What information or evidence do we have that more compulsory licenses or greater ability to successfully get a compulsory license will increase access to diagnostics and therapeutics? What developing countries have the manufacturing capabilities for in-vitro diagnostics or therapeutics?

Compulsory licensing is a primary means of expanding generic competition where pharmaceutical companies have chosen not to license voluntarily. Licensing in this understanding is simply a proxy for generic market competition, which we know to be the most effective means of reducing price and ensuring prices continue to fall over time. Already, generic COVID-19 therapeutics are available for a fraction of the price of their patented counterparts. Criticisms of compulsory licensing's effectiveness typically conflate challenges of licensing and challenges facing medicine uptake generally, for example, regulatory pathways, economies of scale, health system financing and delivery challenges.

Relative to vaccines, therapeutics and diagnostics are easier to produce – a reason to be optimistic that we can use the compulsory licensing system to generate access to these products. For therapeutics, indicators of manufacturing capacity, interest and investment in LMICs include the sublicensing agreements with the Medicines Patent Pool. MPP sublicensees to develop generic Paxlovid include 38 manufacturers from 13 countries - Bangladesh, Brazil, Puerto Rico, Dominican Republic, Pakistan, India, China, Ukraine, Vietnam, and Serbia, Israel, Jordan and Republic of Korea.[11] These manufacturers have met MPP's requirements, are confident in their ability to make the licensed therapeutics, and many already are making investments to that end.

Hetero, a pharmaceutical company based in India, already has a World Health Organization prequalified generic for Paxlovid.[12] Generic production of Covid-19 therapeutics is well underway.

What do we do for countries that MPP licenses do not reach? How do we support U.S. trading partners in Latin America that largely are not covered by those licenses? TRIPS flexibilities can make a difference, especially if we ensure they are simple to use, and demonstrate that the U.S. will not oppose their lawful use. In my own experience, Ecuador's pairing of drug price negotiation with licensing authority across a

[11] Unitaid and the World Health Organization. Improving access to novel COVID-19 treatments: A briefing to Member States on how to navigate interfaces between public health and intellectual property, available at https://cdn.who.int/media/docs/default-source/essential-medicines/intellectual-property/j0198_unitaid_briefingcountries_en7178c1800570451fa6f18deccdefb99c.pdf?sfvrsn=6a905980_10&download=true

[12] Reuters. India-based Hetero's Paxlovid generic gets WHO backing, available at https://www.reuters.com/business/healthcare-pharmaceuticals/india-based-heteros-paxlovid-generic-gets-who-backing-2022-12-27/

range of drugs led to savings of $423 million, or 0.4% of GDP in 2016-17. These saving would hardly be noticed in a global pharmaceutical company's balance sheet, and certainly pose no challenge to innovation investments. But for a small middle-income country like Ecuador, it made a significant difference in delivering access to medicines.

The U.S. Secretary of Health and Human Services under President George W. Bush, Tommy Thompson, invoked the government's right to authorize generic competition with Bayer's patented Cipro during the anthrax scare, resulting in the negotiation of nearly a 50% price reduction.[13] The availability of government's compulsory authorities, and a realistic prospect that they may be used, is part of what helps induce better deals with pharmaceutical companies. Allowing developing countries to more effectively use compulsory licensing is part of how we support countries that are not already tended to in the negotiated agreements.

Are you aware of data on the price or range of prices for COVID-19 therapeutics for low-income countries, lower middle-income countries, upper middle-income countries, or high-income countries?

Pharmaceutical pricing data is not readily available or transparent, and it would be worthwhile asking prescription drug corporations to provide this data to better inform the Commission's investigation. To the best of our knowledge, Pfizer has priced Paxlovid at US$500-US$700 per course in some high-income countries, with the U.S. paying $530 per treatment course.[14] The limited information on purchase agreements between Pfizer and LMICs suggests that middle-income countries may pay between $250 and $340. This is 15 times the estimated cost of production and 10 times the price the Clinton Health Access Initiative is offering through negotiated agreements with generics producers. Hopefully, $25 will be the available price to licensees under the MPP arrangement. This is a price that we can expect to help drive demand.

Addressing Statements Made by Other Participants in the Hearing

In the context of countries issuing compulsory licenses, the panelist from the U.S. Chamber of Commerce stated that it should not be easy to override intellectual property rules. We believe that this is a fundamental misunderstanding of the patent system and the TRIPS Agreement. Compulsory licenses do not override the rules; they are not even best understood as exceptions to the rules. Rather, compulsory licenses are part and parcel of the rules; intrinsic and fundamental to any patent system. The U.S. government, for example, makes frequent government use of patented inventions, a form of compulsory license, to ensure availability of the best defense systems to its military. The U.S. government included protections from patent infringement lawsuits, another form of compulsory license, in at least 59 contracts for the manufacture of medical tools against COVID. Without compulsory licensing, the government use of patents, and other flexibilities, intellectual property would not work; it would not be sustainable as a legal system. Intellectual property in that case would amount to monopoly control of new

[13] The New York Times. A NATION CHALLENGED: CIPRO; U.S. Says Bayer Will Cut Cost of Its Anthrax Drug, available at https://www.nytimes.com/2001/10/24/business/a-nation-challenged-cipro-us-says-bayer-will-cut-cost-of-its-anthrax-drug.html

[14] Reuters. Pfizer to provide 10 mln course of COVID pill to developing countries –the Global Fund, available at https://www.reuters.com/world/pfizer-provide-10-mln-courses-covid-pill-developing-countries-the-global-fund-2022-03-02/

inventions, across technological fields, without exception or possibility of government intervention to protect the public or interests of the state – a condition no government could allow.

Additionally, the Pharmaceutical Research and Manufacturers of America (PhRMA), in its hearing statement, asserted that "more than 130 countries, including all Global Fund-eligible low- and middle-income countries in all regions of the world, are eligible to receive COVID-19 treatments at no cost." One of the sources that PhRMA cited for this claim in its prehearing brief was Pfizer's announcement of its agreements with the Global Fund and UNICEF. We believe that this statement is based on a misrepresentation of these agreements. The agreements with the Global Fund and UNICEF were largely options agreements, not advance purchase agreements, with the courses available to low-income countries at the (still high) not-for-profit price and courses available to middle-income countries at a (quite high) tiered price. While there was likely some funding available to cover some of the cost of procurement for certain countries, it is not at all our understanding that every LMIC country would have been able to receive the treatments at "no cost." We encourage the Commission to investigate the nature of Pfizer's agreements with the Global Fund and UNICEF before relying on this statement.

We appreciate the opportunity to provide post hearing comments. Thank you.