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9 Steps to End COVID-19 and Prevent the Next Pandemic: Essential Outcomes From the World Health Assembly

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About a year ago, the World Health Assembly (WHA) met virtually for the first time since the creation of the World Health Organization (WHO) in 1948. Last year's WHA adopted a [resolution](#) asking states to intensify action to fight COVID-19. Yet a year on, there have been [3.7 million](#) deaths reported, with the real number estimated as [more than 7 million](#). From May 24-31, 2021, the 74th WHA (WHA74) was again held virtually amidst this historic pandemic. The WHA created a [member states working group on strengthening WHO preparedness for and response to health emergencies](#) to make recommendations to next year's WHA.¹ Here are 9 steps to end this pandemic and prevent the next one.

Step 1: Prevent Zoonotic Spillovers

SARS-CoV-2 most likely originated from a zoonotic leap, as have [three-quarters of all novel infections](#). Yet the WHO's International Health Regulations (IHR) are silent on how to prevent zoonotic spillovers. The WHO's [Independent Panel for Pandemic Preparedness and Response \(IPPPR\)](#) proposed a One Health strategy, recognizing deep interconnections between people, animals, plants, and their shared environment.² The [One Health High-Level Expert Panel](#) will examine how novel diseases emerge and spread. Furthermore, the [Global Virome Project](#) aims to "identify the vast majority of zoonotic viral threats." A new pandemic treaty, [supported by 28 world leaders](#),³ would regulate key causes of zoonotic spillovers, including deforestation, live animal markets, and wildlife trade. Although WHA74 endorsed the treaty, it failed to create an intergovernmental negotiating working group, [postponing discussion until a special session in November 2021](#).⁴

Step 2: Rapid Identification and Response

Because zoonoses will occur, even with bold new governance of the intense human-animal-environment interface, countries must have health system capacities to identify and respond rapidly. These capacities include pandemic planning, pathogen surveillance, genomic sequencing, diagnostic testing, contact investigations, and open sharing of scientific information. However, most countries currently do not meet IHR core health system capacities, and [at least half the world's population](#) lacks access to essential health services. The IPPPR proposed high-level national focal points on preparedness and response, with sustainable financing.²

Step 3: Create a System for Biosafety and Biosecurity Oversight

Although a zoonotic spillover is the most likely cause of COVID-19, a laboratory release cannot be ruled out. Yet WHA74 failed to create a rigorous mechanism for determining SARS-CoV-2's origins. The WHO lacks the power to compel nations to provide access to their territories or share scientific data. China has blocked a renewed WHO investigation, instead pointing to WHO's initial [global study](#), which the [director-general characterized as inadequate](#).⁵ President Biden recently asked US

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intelligence services to investigate a potential [leak at the Wuhan Institute of Virology](#). The IHR purportedly covers “all hazards,” but it fails to regulate biosafety and biosecurity, including [gain of function research](#). A pandemic treaty should include rigorous and independent oversight of biological laboratories, just as similar systems exist for [chemical](#) and [nuclear](#) hazards.

Step 4: Empower the World Health Organization

The WHO has been chronically hobbled by inadequate funding and authority, with a biennial budget of \$6.12 billion—roughly equivalent to that of a large US hospital system. Furthermore, more than three-quarters of its funding comes from voluntary contributions, largely earmarked to align with donors’ preferences. The [proposed programme budget for 2022-2023](#) sets member state-assessed contributions at 2020-2021 levels, while overall budget increases are funded exclusively from voluntary contributions. Only \$957 million of the WHO’s budget comes from mandatory assessments. This downward trajectory in the percentage of assessed contributions is damaging. For the WHO to operate effectively, at least two-thirds of its budget should be mandatory. The agency also needs authority to verify state reports, publish outbreak data without state agreement, and investigate novel pathogens, including rights of access. China [delayed reporting](#) a novel infection in December 2019 and then [falsely discounted human-to-human transmission](#).

Step 5: Elevate Pandemic Response to High Political Levels

The absence of high-level and well-coordinated political leadership on pandemic preparedness and response was exposed by the COVID-19 pandemic. Countries should act on IPPPR’s recommendation to create a high-level global health threats council led by heads of state.² The UN General Assembly should adopt a political declaration this September to endorse such a council and maintain high-level political commitment to pandemic preparedness and response. The council would provide political support for states’ compliance with the IHR and a new pandemic treaty. [The G7 summit \(June 11-13, 2021\)](#) should support the council, as well as establish funding mechanisms for COVID-19 and future pandemics.

Step 6: Embed Equity in Planning and Response

The COVID-19 pandemic revealed unconscionable divides in disease risk and health outcomes based on race, socioeconomic status, and nationality. In the US, the disease burden among some racial minorities was [twice that of White](#) individuals. There has been price competition for essential medical resources, including personal protective equipment, diagnostics, and ventilators. Although [50% of the US adult population is fully vaccinated](#), [low- and middle-income countries have been left behind](#).^{6,7} The global mechanism for equitable vaccine distribution, [COVAX](#), has shipped doses to [124 countries that will be sufficient for less than 0.5% of their combined populations](#). The WHO’s [Access to Covid-19 Technologies \(ACT\) Accelerator](#) is about [\\$18 billion short](#). The IPPPR, echoed by the [Global Preparedness Monitoring Board](#), called on G7 and G20 nations to provide full funding for the ACT Accelerator. Yet money alone is insufficient. High-income countries should provide COVAX with 1 billion vaccine doses by September and 2 billion by mid-2022.² Pharmaceutical companies have [pledged](#) to supply 1.3 billion doses this year to low- and middle-income countries at cost or for only a low profit. The pharmaceutical companies should be transparent regarding costs and pricing and should be held accountable.

Not only are inequities unjust, but the pandemic cannot end without [global immunity](#). The International Monetary Fund has offered a blueprint to vaccinate at least 40% of populations of all countries by year’s end and reach 60% vaccination by the middle of next year. [This proposal](#), also [endorsed](#) by the heads of the World Bank, the World Trade Organization (WTO), and the WHO,

includes vaccine donations, genomic surveillance, widespread testing, and other public health measures.⁸ Its \$50 billion price is among the world's greatest bargains from an economic—much less human—perspective, with economic benefits worth 180 times this amount (\$9 trillion) through 2025. To achieve this, generous donations from wealthier countries are needed, with [Japan's donor conference](#) this month a good place to start.

Longer-term, the ACT Accelerator should be transformed into a permanent end-to-end delivery system for vaccines, diagnostics, and other essential supplies, as the IPPPR recommended,² along with new inclusive governance. The transformed platform would accelerate research and development to achieve equitable access to lifesaving tools.

Step 7: Suspend Intellectual Property Rights and Transfer Technologies

Chronic vaccine shortages have resulted in skewed distribution, which if not remedied, will prolong the pandemic. As SARS-CoV-2 widely circulates in low- and middle-income countries, more variants of concern will emerge—some will be more transmissible or pathogenic, while others could evade current vaccine technologies. With international travel rebounding, variants may reseed epidemics in higher-income countries. Consequently, the world needs more capacity to produce vaccines. Vaccine-producing countries and manufacturers should provide voluntary licenses and the WTO should waive intellectual property protections. Manufacturers holding multiple patents impede vaccine discovery and production in low- and middle-income countries.

President Biden reversed long-standing US policy of intellectual property protection, backing a proposal to waive relevant provisions of WTO's Agreement on Trade-Related Intellectual Property Rights for COVID-19-related technologies, including vaccines. However, this requires WTO member state consensus, which is hard to achieve and takes precious time. A [good next step](#) would be to endorse the [WHO COVID-19 Technology Access Pool](#) (C-TAP, a mechanism for sharing intellectual property, knowledge, and data on health technologies for combatting COVID-19) and encourage US-based vaccine manufacturers to participate.

Without technology transfer, raw materials, and logistical support, intellectual property waivers will have limited effects. The WHO's [COVID-19 messenger RNA technology transfer hub](#) proposal, using a hub and spoke model to facilitate technology transfer and training for messenger RNA vaccines, and C-TAP, are a good start. Vaccine manufacturers must transfer technologies, with governments [using whatever steps necessary](#), including incentives (eg, funding, technical support, tax credits) and regulations.

Step 8: Create an International Pandemic Financing Facility

The IPPPR called on countries to establish a well-funded International Pandemic Financing Facility capable of rapidly financing pandemic response—as much as \$100 billion in the event of a [crisis](#)—with contributions based on countries' ability to pay.² The facility should have a broad mandate to fund not only pandemic response but also to contain smaller outbreaks and alleviate conditions that spread infections, such as poor sanitation. A Pandemic Financing Facility could unleash major resources to fuel national and global responses to novel diseases, which could rapidly bring outbreaks under control before they cross borders.

Step 9: Support Health Workers

No one has done more to bring care, solace, and life to the millions of people who become seriously ill from COVID-19 than the world's health workers. [More than 17 000 health workers died](#) during the pandemic's first year alone. The world owes them more than its gratitude. It owes them genuine support. This means robust investment and supportive policies. The WHO and partners will develop

a [health and care worker action plan and investment agenda](#) for support through to 2030. Countries must implement the plan, including with full funding. The WHA also [mandated the WHO's director-general](#) to lead a process to develop a global health and care worker compact to guide states and others in protecting, safeguarding the rights of, and ensuring safe, decent, and discrimination-free working conditions of these workers. This must become another rigorously followed blueprint for action.

Without the type of bold actions described above, the world risks once again slipping into the lethal cycle of panic and complacency that left it so underprepared for the COVID-19 pandemic. That is a possibility we cannot afford to risk.

ARTICLE INFORMATION

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REFERENCES

1. World Health Assembly. Strengthening WHO preparedness for and response to health emergencies. Published May 25, 2021. Accessed June 5, 2021. https://apps.who.int/gb/ebwha/pdf_files/WHA74/A74_ACONF2-en.pdf
2. Independent Panel for Pandemic Preparedness and Response. COVID-19: make it the last pandemic. Published May 12, 2021. Accessed June 5, 2021. https://theindependentpanel.org/wp-content/uploads/2021/05/COVID-19-Make-it-the-Last-Pandemic_final.pdf
3. World Health Organization. Global leaders unite in urgent call for international pandemic treaty. Published March 30, 2021. Accessed June 5, 2021. <https://www.who.int/news/item/30-03-2021-global-leaders-unite-in-urgent-call-for-international-pandemic-treaty>
4. World Health Assembly. Special session of the World Health Assembly to consider developing a WHO convention, agreement or other international instrument on pandemic preparedness and response. Published May 25, 2021. Accessed June 5, 2021. https://apps.who.int/gb/ebwha/pdf_files/WHA74/A74_ACONF7-en.pdf
5. Adhanom Ghebreyesus T. WHO director-general's remarks at the member state briefing on the report of the international team studying the origins of SARS-CoV-2. Published March 30, 2021. Accessed June 5, 2021. <https://www.who.int/director-general/speeches/detail/who-director-general-s-remarks-at-the-member-state-briefing-on-the-report-of-the-international-team-studying-the-origins-of-sars-cov-2>
6. Li Bassi L. Allocating COVID-19 vaccines globally: An urgent need. *JAMA Health Forum*. 2021;2(2):e210105. doi:10.1001/jamahealthforum.2021.0105
7. Stephenson J. Unequal access to covid-19 vaccines leaves less-wealthy countries more vulnerable, poses threat to global immunity. *JAMA Health Forum*. 2021;2(3):e210505. doi:10.1001/jamahealthforum.2021.0505
8. Agarwal R, Gopinath G. A proposal to end the COVID-19 pandemic. Published May 19, 2021. Accessed June 5, 2021. <https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2021/05/19/A-Proposal-to-End-the-COVID-19-Pandemic-460263>