B3 | HEALTHCARE AND COVID-19: PRIVATIZATION BY STEALTH

Introduction

Privatization has been a major international trend in healthcare systems reform during the last four decades. Although there is no consensus on what privatization consists of, the World Health Organization (WHO) defines it as the process through which non-governmental actors get gradually more involved in the provision and financing of healthcare services (Muschell 1995). It entails a wide set of policies ranging from precursors of privatization (such as autonomization, fiscal decentralization, and internal market reforms), to mild (such as contracting-out) and more direct forms, such as liquidation of public assets, public–private partnerships (PPPs), and privatization of healthcare financing (Table B3.1, Maarse 2006).

In most countries, especially in low-income countries (LIC) and lower middleincome countries (LMIC), privatization has been promoted by international organizations such as the World Bank (WB) and the International Monetary Fund (IMF). In 1993, the WB in its *World Development Report* called for the increased participation of private actors in the provision and financing of services, especially in the former European socialist countries and in Latin-American countries (World Bank 1993), linking financial support and loans with the promotion of market-oriented reforms. Twenty years later, the IMF made the same call for increased participation of private providers and increased competition in healthcare systems (IMF 2010), linking its loans to indebted EU countries to extensive healthcare privatization conditionalities.

The COVID-19 pandemic poses enormous challenges on healthcare systems globally. This chapter explores how privatization has affected the preparedness of healthcare systems around the world, undermining in most cases their ability to timely and effectively control the epidemic and manage its health and social consequences. The chapter also reports on new emerging trends in healthcare privatization during the pandemic and explores the future role of international funding organizations in the promotion of healthcare commercialization after the COVID-19 epidemic crisis.

130 | GLOBAL HEALTH WATCH 6

Туре	Definition	Rationale	
Termination (or liquidation)	The process of state divestment of public assets (like hospitals or primary care centers). It entails the transfer of shares or the direct selling of public infrastructure to private owners.	To reduce the scope of public intervention so to reduce the "burden of public sector financing."	
Contracting-out (or outsourcing)	The partial or total shift of responsibility for provision of clinical or non-clinical services to the private sector, keeping financing responsibilities with the public sector.	Under contracting, the state releases itself from the "burden of direct provision," while retaining the political and financial responsibility over the contracted services.	
Fiscal decentralization	The transfer of the responsibility for pooling revenues and spending healthcare resources from national governments to local authorities (e.g., regional authorities or municipalities).	The state shifts responsibilities within the public sector. Fiscal decentralization can facilitate direct privatization at local levels.	
Autonomization	The transfer of decision-making responsibilities and – often – of revenue rights from central government to providers' level (e.g., hospitals).	Hospitals or primary care centers remain public or semi-public legal entities but operate as private corporates. Autonomization in many cases is the first step towards full privatization.	
Internal (or "quasi") market reforms	Also known as regulated competition, this involves competition on the supply side of the healthcare system while maintaining a single source of public health financing.	Regulated competition is usually combined with the autonomization of public providers and the introduction of contractual relationships between them and the single public health financing body.	
Public-private partnerships (PPPs)	Long-term contractual arrangements between public authorities and corporates, which aim to ensure the funding, construction, renovation, management, or maintenance of new public healthcare infrastructure.	Types of PPPs may vary. In most cases the public sector sets the requirements for the new public infrastructure, while the private sector designs, builds, finances, operates, or manages the new project. The public sector reimburses the private contractors for their services.	
Privatization of healthcare financing	The increasing involvement of private actors in the financing of healthcare services.	Usually promoted through increased out-of-pocket payments, or by increased participation of private-for- profit insurance schemes in the health coverage of the population.	

TABLE B3.1:	The seven main types	of privatizations i	n healthcare systems
-------------	----------------------	---------------------	----------------------

Source: Table based on Kondilis (2016).

Privatization of healthcare systems prior and during the epidemic and its impact on COVID-19 policy responses

1. Privatization of public health services and functions

Control of an epidemic requires sufficient public health infrastructure, with local public health teams able to test symptomatic and suspicious cases, trace their contacts, support individual patients during self-quarantine, and inform local communities on how to apply social distancing measures and use personal protective equipment (PPE) against infection (WHO 2020a). Effective control of any infectious disease epidemic also requires that data collected through testing and tracing systems is timely synthesized and transparently communicated, allowing introduction of targeted containment measures and increasing public compliance and trust during their implementation (O'Malley et al. 2009).

Over the last 25 years these basic public health functions have gradually been eroded even in high-income countries (HICs), mainly due to low government prioritization and underfunding. The Center for Disease Control and Prevention (CDC) in the USA lost almost 35% of its budget between 2018 and 2020 (Garrett 2020). England's local public systems of communicable diseases control were gradually dismantled over a longer period lasting several decades (Roderick et al. 2020), while in Greece public funding on epidemiological surveillance was reduced by 40% during the European Commission, Central Bank, and IMF mandated fiscal consolidation program between 2010 and 2018 (Kondilis et al. 2020).

When the COVID-19 pandemic unfolded, public health services around the world were ill-resourced and unprepared to carry out their basic functions for the control and management of the epidemic. Immediately, necessary testing, tracing, data management, and communication functions in many cases, as outlined below, were outsourced to private-for-profit corporations.

In most countries, testing remains a private individual responsibility, carried out in private-for-profit laboratories and covered by private health insurance or out-of-pocket payments (OOPPs). Even in countries where the state or social security organizations assume the financial responsibility of testing, this is still mostly outsourced to private diagnostic providers. In the USA, for example, local public-school authorities pay private contractors to test students and staff for SARS-CoV-2 (Rafiei and Mello 2020); in the UK, the "Pillar 2" program for testing the wider population is fully outsourced to a network of corporates (including Boots, Sodexo, Deloitte, AstraZeneca, and GlaxoSmithKline labs) responsible for receiving and analyzing samples and managing testing results (Roderick et al. 2020).

Similarly, contact tracing is often fully contracted out to private providers or facilitated through partnerships with private-for-profit actors. Serco Plc in the UK runs on behalf of the National Health Service (NHS) call centers with 3,000 newly recruited call handlers and contact tracers (Roderick et al. 2020). The Indian government launched its publicly developed COVID-19 contacttracing app ("the Aarogya Setu App") using the Android and iOS platforms, after Google and Apple had made them compatible to such tracing applications (French et al. 2020).

Less is known about corporate actors' participation and involvement on COVID-19 data analysis and management. In the UK, Palantir (an American software company specialized in big data analytics) offered to assist the British government in constructing a COVID-19 database, which was received with widespread unease (French et al. 2020). In Greece, a similar contract between Palantir and the Greek government was terminated due to concerns over health data privacy raised by the opposition.

This "corporate testing and contact tracing system" is responsible for the failure of even developed health systems to have comprehensive and timely knowledge of how SARS-CoV-2 is spreading in the community, a fact that led to significant resurgences, forcing public authorities to control the second or even third wave of the epidemic mainly through stay-at-home orders (lockdowns) instead of targeted measures with less social and economic consequences. The US's fragmented and privatized epidemiological surveillance system has been unable to collect and report at the federal level comprehensive racial and ethnic data on COVID-19 cases (Schneider 2020; Krieger et al. 2020). UK testing results were lost or partially reported by private laboratories as reporting obligations were not included in their contracts (Gill et al. 2020), while contact-tracing information from private contractors was incomplete and not communicated to public health authorities, leading to local outbreaks that could have been prevented (Torjesen 2020).

2. Privatization of healthcare financing

Private contributions represent a significant share of current health expenditure and a major cause for unmet healthcare needs and bankruptcy among the lowincome segments of the population. Although the share of OOPPs to current health expenditure appears to be slowly decreasing, in absolute terms they are rapidly increasing in all countries, for all income groups, and in the most regressive fashion. Health systems in LMICs remain much more dependent on OOPPs than those in HICs. On average, 40% of current health expenditure in LMICs comes from OOPPs; in middle-income countries it is 30%, while the average in HICs fluctuates between 15% and 20% (WHO 2020b). Amid a global pandemic, the fact that access to healthcare services is linked to people's ability to pay becomes a life-threatening aspect that adversely affects the poorest and unhealthiest segments of society.

Many countries, even those with publicly funded health insurance, are at least partly reliant on private health insurance for some services. Amongst highincome countries, the US has the most extensive private healthcare and health insurance system. There, the average amount of co-payments and deductibles for the cheapest insurance plan amounts to \$6,506: a sum that discourages sick patients from seeking appropriate care and one possible contributor to skyrocketing COVID-19 infections and avoidable deaths in the country (Huff 2020). Although some states have waived private contributions for COVID-19 hospitalization during the pandemic, the measure does not extend to treatment costs that average between \$1,600 and \$1,900 for insured patients and up to \$75,000 for uninsured ones (Wapner 2020). In India providers have increasingly redirected patients away from publicly subsidized beds to private hospital units, where bills for COVID-19 treatment range from \$6,000 to over \$20,000 (Thiagarajan 2020). In some cases, insured patients have struggled to get their insurance claims paid for their treatment with their claims denied on the grounds that they had pre-existing conditions, that the infection was only mildly symptomatic, or that the price charged by private hospitals did not match insurance's reimbursement rates (Parashar 2020).

In countries where COVID-19 treatments are available free of charge, private contributions continue to pose a barrier to access to other services. In Ireland, for example, the majority of the population incurs a fee for GP (general practitioner) consultations, although this co-payment has been waived for patients with COVID-19 symptoms (Kennelly et al. 2020). The pandemic-driven rise of unemployment and wage reductions means that the segment of population unable to access services due to high costs will inevitably increase (Navarro 2020).

Box B3.1: A particularly American failure

Mr. Morris was a 31-year-old man originally in good health who was experiencing houselessness and precarious low-wage work in a mid-sized city in the American South. One evening during the spring Mr. Morris began experiencing fatigue, weakness, and blurred vision, and was hit by a car while crossing a street, leading to a broken leg. He was taken by ambulance to the emergency department of the large academic hospital in his city where he received surgery on his leg and a new diagnosis of Type I diabetes. He stayed in the hospital until he was medically stable enough to be discharged and received insulin and instructions on how to manage his new condition.

Two months later, Mr. Morris presented to the same emergency department with acute symptoms due to uncontrolled diabetes. He was again admitted to the hospital where his condition was brought back under control by the medical team. He expressed confusion about why his condition had worsened, as he believed he had been following the instructions given to him after his last hospitalization. The medical team explained again the insulin regime, confirmed his understanding, and discharged him.

Two weeks after this second hospitalization Mr. Morris was found unresponsive in his tent. A friend called an ambulance, but Mr. Morris was pronounced dead at the hospital. The friend had brought the remaining insulin in Mr. Morris's backpack along to the hospital where the providers were able to calculate that he had been using his insulin at the prescribed rate. Because of Mr. Morris's lack of refrigeration, which went unnoticed or unaddressed during his prior medical stays, his insulin had spoiled in the rising summer heat, causing his death. The field of Social Medicine would call this a "stupid death," or even "social murder." This is because of the many (unnecessary) instances of structural violence which led to his death. First, there is the simple lack of refrigeration, but this was missed by the medical team whose analysis and planning excluded understanding of the social and structural determinants of health. Mr. Morris's second hospitalization would have been an opportunity to ask "why," instead of assuming that he had made an uneducated mistake.

These proximal realities are set in a larger context. The American healthcare system generally does not incentivize preventative or holistic care, making it less likely to be addressed. For example, procedure-based medical care is reimbursed significantly higher than non-procedural medical care. Additionally, most insurance plans require the patient to pay 100% of costs until the point where the insurer begins to pay, leading many patients to forgo preventative care, turning only to medical care when dire need arises. Neoliberal austerity changes have defunded public health departments and prevent them from taking a proactive stance towards the vulnerable. The state in which Mr. Morris lived and died was not a "Medicaid Expansion" state, one of 12 states where politicians rejected federal dollars from the 2013 Affordable Care Act that could have been used to expand medical access for the poor and uninsured. State politicians justified this decision by claiming that doing so would "increase dependency" upon the government, or by using racialized narratives to claim that undeserving people would abuse these services. The ecosystem of medical providers and payers in the United States is a frayed patchwork quilt of governmental, non-profit, and for-profit organizations which many vulnerable patients are unable to navigate or financially afford.

Like many American municipalities, the local government has a history of clearing people out of homeless encampments using police, increasing their vulnerability and transience. It has not pursued "housing first" approaches for people experiencing houselessness, even though certain other forward-thinking programs have shown this to be effective and humane. Finally, American society has continued to promote and to embrace an individualistic, commodified, and predominantly biomedical approach to healthcare, instead of one based in human rights and universal human dignity. Mr. Morris's life and death show the interlocking ways in which housing, medical care, and social exclusion interact. Let that be his legacy, highlighting the necessity for addressing these human rights in an integrated matter that supports all patients, especially those facing the greatest vulnerabilities.

3. Privatization of primary health care

Primary health care (PHC) has been privatized in different ways, each one having a different impact on the COVID-19 response. A strong and well-coordinated PHC network is a key pillar for effective epidemic management, especially in cases of high community transmission (Lim and Wong 2020). However, the predominant first point of contact may vary according to the structure of a country's health system and its PHC network. In South Asian and sub-Saharan African countries, decades of structural adjustment programs and austerity have weakened PHC networks, led to a chronic shortage of healthcare professionals, and created a heavy dependence on - most of times unpaid and informal community health workers (CHWs) as first point of care (Barria et al. 2018). In Bangladesh and in the South African Western Cape Province, CHW programs have been outsourced to large NGOs. With the rise of COVID-19 infections, the role of CHWs in tracing and monitoring COVID-19 spread in the community became even more indispensable (see Chapter A2). Their efforts, however, are hampered by precarious working conditions, inadequate training, support, and supervision, lack of PPE, difficulty to access transport, and an excessive workload since CHWs also ensure continuity of all essential services. In effect, the most vulnerable cadre of the health workforce is left to carry the cost of keeping the system running.¹

In other middle-income countries, such as Brazil, Sri Lanka, and Thailand, a well-developed public PHC network is often complemented by formal CHWs which remain the first point of contact for care. In Thailand's semi-urban and rural areas, public health networks have been a strong point of their local pandemic response (Patcharanarumol et al. 2020). More recent trends of underfunding and outsourcing, however, might be eroding this trend. In Brazil, the dismantling of community and family-focused PHC networks since 2017 set the stage for a constrained PHC, with reduced CHW numbers and lower budgetary allocations. These changes have discouraged a territorial approach to the management of the epidemic and have weakened healthcare system accountability to the population.²

In most HICs, access to PHC is free at the point of use or partly reimbursed by social insurance funds, although co-payments remain common practice. PHC is organized around private GPs and specialists whose services are fully or partially integrated to the healthcare system, depending on country contexts. In South Korea, the government moved the role of first point of care from private GPs and clinics to its public health centers for test and trace activities. In normal times, South Korean public health centers are only entrusted with public health measures and do not provide individual medical care. While South Korea has been lauded for its extensive and effective test and trace capacity, the lack of coordination and referral system between public health centers and (mostly private) hospitals led to poor linkages between test and trace activities and COVID-19 treatments.³

136 | GLOBAL HEALTH WATCH 6

Finally, even before the pandemic, countries witnessed a push for digitalization and telemedicine in PHC (Greenhalgh 2012) (see Chapter B2). COVID-19 accelerated this trend. When most public and private primary care practices had to downsize their services to fight the rise of infections, telemedicine, e-prescriptions, and digital screenings with prediction algorithms (Fagherazzi 2020) were gradually introduced to replace GPs and to counterbalance the disruption in provision. These algorithms, however, rely on unregulated private technology, yet another step away from the public system (see Chapter B2). Digitalization also increases inequalities, such as in Italy where elderly people and migrants face higher barriers in accessing digitalized welfare benefits and healthcare and social services.⁴

4. Privatizations of hospital provision

The effects of continuous privatization have not strengthened healthcare systems, as neoliberal theories argue, and, instead, have eroded the first line of emergency public health response. The more the system is commodified, the less it is prepared to effectively react to and recover from emergencies.

In LMICs, healthcare commodification has been promoted by international agencies to rapidly expand services in countries with weak public health systems. These policies, however, have meant the inevitable weakening of health systems. In war-torn Afghanistan, for example, the WB encouraged outsourcing of healthcare functions as a valid alternative to strengthening public healthcare services, leading to further fragmentation (Palmer et al. 2006). In India and South Africa, hospital care has been contracted out to private providers under the rationale of broadening accessibility to existing services (Palmer et al. 2006).

In HICs efficiency prescriptions have facilitated the expansion of privatefor-profit providers. Over the last two decades, PPP hospitals in the UK have proliferated, despite evidence that they are a more expensive and inadequate alternative to publicly financed and built hospitals (Romero 2015). In Italy and Spain, fiscal decentralization has facilitated regional outsourcing of hospital provision to private accredited actors (Rotulo et al. 2020).

The limits of private hospital provision have been exposed since the early stages of the COVID-19 pandemic by the inability of health systems to address healthcare needs. The lack of adequate public hospital beds, intensive care units (ICUs), public healthcare workers, and PPE were the main causes for public overload and discontinuity of care. Governments of Italy and Spain responded to the rapid saturation of their hospitals through legal *requisitioning* of private resources for a reimbursement fee. The aim of this policy was to quickly increase ICU wards' capacity – downsized by years of privatization and budget cuts – and to guarantee the treatment of COVID-19 patients (Kruse and Jeurissen 2020) (See Table B3.2). Governments of the UK and Ireland, on the other hand, allocated large sums of public resources to private companies to outsource non-COVID-19 procedures and treatment of COVID-19 cases to private practices.

Type of involvement	Country	Description	
Public-Private Contracts Rent of private assets for a flat rate or cost-price reimbursement	India	Punjab, Tamil Nadu, Andhra Pradesh, and Jharkhand governments leased private facilities to build local capacity for COVID-19 treatment.	
	Ireland	Lease of 40% of total private beds, 47 ICU beds, 194 ventilators, and nine laboratories. Fees are based on average costs for similar procedures in public hospitals and on costs related to staff and consumables.	
	South Africa	Purchase of private hospital beds, medicines, equipment, and staff for a flat rate (\$164 per patient per day for ICU use), plus any extra treatment required by COVID-19 patients	
	UK	\$547 million for block-buying of private resources for COVID-19 treatment and for non- COVID-19 procedures	
Requisitioning Direct state control of privately owned resources for a reimbursement fee. Does not imply change of ownership	Greece	Seizing of two private clinics for two weeks for treatment of COVID-19 patients.	
	Italy	€150 million public funds to reimburse private firms over control of private hospital facilities, ICUs, PPE, and hotels for the treatment of COVID-19 patients.	
	Spain	Management of private health clinics, hotels, laboratories, and testing facilities for the treatment of COVID-19 cases.	

TABLE B3.2: Private hospital sector's involvement for the treatment of COVID-19 patients

Source: Table based on Thiagarajan (2020); Bolger et al. (2020); Dunhill (2020); Patcharanarumol et al. (2020); PHM South Africa (2020).

Reluctance to take possible COVID-19 cases and unwillingness to compromise in their more profitable services were the common responses of for-profit hospitals (Williams 2020). In Bangladesh, many private providers refused to treat COVID-19 patients (Al-Zaman 2020). In Greece, private clinics refused to admit COVID-19 cases and contracted beds to the Greek NHS only for non-COVID-19 cases and for a high reimbursement fee (Kondilis et al. 2020). In India, private hospitals charged exorbitant fees to COVID-19 patients, bypassing price caps and ignoring national government calls for cooperation (Thiagarajan 2020).

At a later stage of the epidemic, a general trend saw private hospitals accepting COVID-19 patients either as part of a PPP or because of requisitioning. In both cases private hospitals received either a flat-rate or a cost-price reimbursement for their services. Some Indian states required that a fraction of private hospital beds be reserved for COVID-19 patients for a capped fee reimbursed by the government. However, private providers kept redirecting COVID-19 cases to

unsubsidized private beds, for which patients were charged higher, unregulated fees (Thiagarajan 2020). In Greece, private hospitals refused to treat COVID-19 cases, fearing that potential contamination of their facilities could jeopardize their businesses. The government responded by requisitioning only two out of almost 144 private clinics to allow access to COVID-19 patients for two weeks. Patients' treatment was reimbursed by the Greek National Health Service (NHS) (Kondilis et al. 2020).

Box B3.2: Privatization of care homes contributes to high COVID-19 deaths among elderly in HICs

There has been a lack of public investment and political will to address longterm care policy and provision in high-income countries for decades. Public care homes were known to be chronically under-funded and under-staffed. Pressures to cut public spending over the last decade led commercialized elderly care facilities to flourish to meet the need of aging populations (Corporate Europe Observatory 2021). These commercialized elderly care facilities were under-resourced despite government subsidies, and staff were often underpaid and undertrained; some facilities did not even have medical professionals among the staff (Public Services International 2020).

Consequently, care homes for the elderly in Europe, Australia, and North America were ill-prepared to face the pandemic. As of mid-2020, care home resident deaths were reported to make up a large share of total COVID-19 deaths in a number of countries: 50% in Belgium, 46% in France, 24% in Hungary, 82% in Canada, around 30% in Italy and Germany, 47% in England and Wales, 75% in Australia, around 69% in Spain, and suspected to be more than 50% in the United States (Declercq et al. 2020). In all these countries, residents and staff of both public and private facilities were not provided with adequate supply of PPE and tests at the early stage of the pandemic, leaving them unable to contain the spread of the virus.

Public or government-run care homes, however, performed better during the pandemic than private for-profit institutions (Corporate Europe Observatory 2021). State-run aged care facilities operating under strict patient care regulations and guidelines in Australia reported fewer COVID-19 cases and deaths (Cousins 2020). In Ontario, Canada, the number of COVID-19 cases and deaths among long-term care residents in private-for-profit facilities was found to be almost twice as high as the number in public/non-profit facilities (Stall et al. 2020). Private operators tend to cut corners in staffing and equipment to maximize profits which often result in lower quality of care. The deadly consequences of these deregulations had been especially highlighted during the pandemic.

Box B3.3: Effects of the privatization of India's health system on COVID-19 response

Indian health system financing is one of the most privatized in the world with 70% total health expenditure coming from private health expenditure, in most cases OOPPs. The role of the private sector is also expanding. While private companies are concentrated in both specialized care in large urban areas and primary care in both urban and rural areas, private firms have also recently taken over hospital care services in smaller urban centers through PPPs. Despite a government-backed insurance scheme, the number of households unable to access care owing to economic hardship or having fallen into poverty due to medical expenses remaining very high accounted for 55 million people in 2015 (Sengupta et al. 2017).

India has been harshly affected by the pandemic: both the sudden introduction of a strict lockdown (Mukhra et al. 2020) and the for-profit organization of its healthcare system have taken a toll on the population. The government's early response to the pandemic was to guarantee public treatment for COVID-19 cases, which required reducing provision of other health and essential services as public facilities were repurposed for COVID-19 care. To facilitate access to treatment in private hospitals, a COVID-19 package was made available under the public health insurance program. However, the package only covers hospitalization fees and does not account for costs related to consultations, testing, and treatment. Following the widespread occurrence of private hospitals refusing to admit COVID-19 cases and the charging of expensive fees for treatment, some states imposed price caps for COVID-19-related interventions. To maximize profits, private hospitals responded with medical malpractice, including violation of infection control measures, informal employment, wage reductions, and inadequate supply of PPE. The private health workforce in West Bengal and Delhi reacted with mass resignations.

The country's unreliable epidemiological surveillance is also an effect of earlier fiscal decentralization and extreme fragmentation. Testing does not follow a coordinated strategy but relies on individual responsibility. In large urban areas, testing capacity is concentrated in private laboratories, whereas in semi-urban areas tests are carried out in primary care centers and public medical colleges. As a result, the government's Integrated Disease Surveillance Program is unable to map out deaths and cases precisely. Kerala – with a history of strong administration and integrated role of the public sector in diagnostics and surveillance – stands as an exception and a positive example of surveillance during the pandemic (Ariyari 2019). In the face of escalating costs, public pressure resulted in varying state-based caps on the price of diagnostic tests. Pre-existing capacity constraints, including staff vacancies, means that the country relies heavily on an over-stretched workforce. The municipality of Delhi mobilized the dengue and malaria prevention workforce for case monitoring and tracing, which was already working at 80% undercapacity before the pandemic and could therefore not complete both tasks. Similarly, CHWs were simultaneously deployed for community outreach, delivery of relief, surveillance, and continuity of essential care (Nanda et al. 2020). Shortage of PPE throughout the country has fueled a series of discriminatory behaviors among municipalities and in public management of low supplies. In areas with strong public procurement such as Tamil Nadu, Kerala, and Rajasthan, however, the supply chain proved to be more effective.

Future developments on privatization of healthcare after the COVID-19 pandemic

Economic recession triggered by the pandemic left countries scrambling for loans from international financial institutions. The liquidity needs of emerging economies to weather the pandemic were estimated at around \$2.5 trillion (Stubbs et al. 2021).

In March 2020, the IMF and the WB announced their commitment to provide \$50 billion and \$14 billion respectively in emergency loan assistance to LMICs. By the end of 2020, the IMF had approved 130 loans totaling \$88.08 billion, although disbursement has been very slow. It is also important to note that many of these countries were already undergoing loan programs prior to the pandemic and are therefore still tied up in debt repayment; some are even categorized as high risk or in debt distress. Despite the large amount of loans provided to these countries, only a small portion is allocated for emergency COVID-19 spending while the rest is used to bail out private lenders (Jubilee Debt Campaign 2020).

A recent report by Oxfam showed that a majority of IMF's COVID-19 loans suggested or demanded spending cuts and wage bill restraints to service debt repayment (Oxfam International 2020) and 72 countries are projected to begin these fiscal consolidation measures as early as 2021 (Munevar 2020) when there is still great uncertainty surrounding the scale of the pandemic and the depth of economic crisis (see Chapters CI and D4). The WB loans are also conditional on structural adjustment policies mandating deregulation and trade liberalization, with a focus on scaling up PPPs (Dimakou et al. 2020). The WB channels the larger portion of its COVID-19 assistance (\$8 billion) through its private financing arm, International Finance Corporation (IFC), which aims to support private companies including those in the healthcare sector (Engel et al. 2020). Whatever the financing mechanism, the resources do not necessarily go to those in need in this time of crisis and are not being invested in building a resilient and strong public system.

The IMF and the WB have long been criticized for conditionalities attached to their loans, typically involving a mix of privatization, liberalization, and fiscal austerity, which generally result in negative health and social costs. The growing body of evidence shows that the programs increase socioeconomic inequality and result in lower economic growth than expected in the medium- and long-term (Ruckert et al. 2015). These institutions drive the proliferation of privatization in health and social sectors actively by promoting commodification of services (Gideon and Unterhalter 2020) and passively by requiring austerity and structural economic reforms. The devastating pandemic and expected prolonged economic recession have not substantively changed this practice despite their top-level rhetoric. As noted above, there is already a trend of resorting to PPPs to handle the pandemic, which may be further catalyzed by the WHO's continued support for engagement of the private sector to achieve Universal Health Coverage (UHC) (Moeti and Salah 2020) (see Chapter B1). Post-COVID-19, we will almost certainly see an acceleration of this trend as countries face high debt repayment and immense pressure for fiscal consolidation.

Conclusions

The COVID-19 pandemic has exposed health system vulnerabilities around the globe. Most of these vulnerabilities are related to the chronic under-investment in public health and healthcare services, and their fragmentation due to privatization.

Given the current global power dynamics, the COVID-19 pandemic created new opportunities for the involvement of private-for-profit actors in the delivery and financing of services. Corporates are heavily involved in COVID-19 testing, tracing, and data management systems, in many occasions undermining the ability of public health services to control the epidemic in a targeted and comprehensive manner. They are also engaged in the facilitation or direct delivery of telemedicine services which expanded rapidly to compensate for disrupted public primary care services. These new areas of activity create new opportunities for profit-making at the expense of patients and public financing bodies. In areas where private-for-profit corporates were already playing a significant role, alarming trends have been reported. Private-for-profit hospitals refused to treat COVID-19 patients and only agreed to engage at a price after legal action was taken by governments or new lucrative PPP contracts were signed. In the private-for-profit nursing home market, high COVID-19 mortality rates have been recorded mostly related to the low staffing rates, the lack of PPEs, and the loose oversight of these facilities by public agencies.

Contracting-out, new PPPs, and privatization of healthcare financing have been the major trends of healthcare privatization during the pandemic. These trends may accelerate in the near future given that multiple countries are facing COVID-19 induced recession and loan agreements with IMF and WB, wellknown proponents of market-oriented options in healthcare.

The COVID-19 pandemic has set the alarm. Strengthening public healthcare systems is a prerequisite for controlling the current epidemic and a necessary investment for managing future public health threats and emergencies (PHM 2021). Increased public financing (predominantly through progressive taxation), direct public investments for new public infrastructure and modernization of existing public facilities, empowerment and support of public healthcare workers, strict regulation of digital health services and big data, and the re-socialization of essential health services (including long-term care) are the necessary steps that must be taken to increase public healthcare capacity and to safeguard public goods.

Notes

1 Interviews by the People's Health Movement (PHM): Leslie London, Chair of Public Health Medicine, University of Cape Town, and Lauren Paremoer, Lecturer at the Department of Political Studies, University of Cape Town, January 12, 2021; Indranil Mukhopadhyay, Associate Professor, Jindal School of Government and Public Policy, December 14, 2020.

References

- Al-Zaman, Md Sayeed. 2020. "Healthcare Crisis in Bangladesh during the COVID-19 Pandemic." The American Journal of Tropical Medicine and Hygiene 103 (4): 1357–1359. doi: 10.4269/ajtmh.20-0826.
- Ariyari, Sukumaran. 2019. "Partnership in Surveillance: A Kerala Model to Emerging Public Health Threats." *Online Journal of Public Health Informatics* 11 (1): 1–2. doi: 10.5210/0jphi.v11i1.9766.
- Barria, Susana, Baba Aye, Jasper Goss, Kate Lappin, Veronica Montufar, and Michael Whaites. 2018. *Decent Work for Community Health Workers in South Asia: A Path to Gender Equality and Sustainable Development*. Bangkok: International Labour Organization. https://www.ilo.org/asia/ publications/WCMS_616210/lang--en/index. htm.
- Bhuyan, Anoo. 2020. "Covid Patients' Claims Denied as Insurers, Private Hospitals Battle over Bills." BloombergQuint. https://www. bloombergquint.com/coronavirus-outbreak/ covid-patients-claims-denied-as-insurersprivate-hospitals-battle-over-bills.

2 PHM interview, Aquilas Mendes, Professor at the Public Health Department, University of São Paulo, December 28, 2020.

3 PHM interview, Chang Yup Kim, Professor at the School of Public Health, Seoul National University, December 16, 2020.

4 PHM interview, Chiara Bodini, University of Bologna, March 1, 2021.

Bolger, J.C., M.E. Kelly, C. Whelan, A. Doyle, H. Frizelle, W.D. Boyd, G.P. McEntee, and J.B. Conneely. 2020. "Public–Private Partnership: Strategies for Continuing Urgent Elective Operative Care during the COVID-19 Pandemic." *The British Journal* of Surgery 107 (9): e320–321. doi: 10.1002/ bjs.11774.

- Corporate Europe Observatory. 2021. "When the Market Becomes Deadly." Brussels: Corporate Europe Observatory (CEO). https://corporateeurope.org/en/2021/01/ when-market-becomes-deadly.
- Cousins, Sophie. 2020. "Experts Criticise Australia's Aged Care Failings over COVID-19." *The Lancet* 396 (10259): 1322– 1323. doi: 10.1016/S0140-6736(20)32206-6.
- Declercq, Anja, Mathieu de Stampa, Leon Geffen, George Heckman, John Hirdes, Harriet Finne-Soveri, Terry Lum, et al. 2020. "Why, in Almost All Countries, Was Residential Care for Older People so Badly Affected by COVID-19?" OSE Working Paper Series Opinion Paper No. 23. Brussels: European Social Observatory.

- Dimakou, Ourania, María Jose Romero, and Elisa Van Waeyenbe. 2020. "Never Let a Pandemic Go to Waste: How the World Bank's COVID-19 Response Is Prioritising the Private Sector." Briefing Paper. Brussels: Eurodad. https://www.eurodad.org/ never_let_a_pandemic_go_to_waste.
- Dunhill, Lawrence. 2020. "Revealed: The Private Hospitals Handed the Largest COVID-19 Contracts." *Health Service Journal*, October. https://www.hsj.co.uk/coronavirus/revealedthe-private-hospitals-handed-the-largestcovid-19-contracts/7028648.article.
- Engel, Susan, Nadeen Madkour, and Owain Williams. 2020. *The World Bank's Response to COVID-19* 1, Occasional Paper Series. Australia: Jubilee Australia Research Centre. https://www.cadtm.org/spip. php?page=imprimer&id_article=19111.
- Fagherazzi, Guy, Catherine Goetzinger, Mohammed Ally Rashid, Gloria A. Aguayo, and Laetitia Huiart. 2020. "Digital Health Strategies to Fight COVID-19 Worldwide: Challenges, Recommendations, and a Call for Papers." *Journal of Medical Internet Research* 22 (6): e19284. doi: 10.2196/19284.
- French, Martin, Adrian Guta, Marilou Gagnon, Eric Mykhalovskiy, Stephen L. Roberts, Su Goh, Alexander McClelland, and Fenwick McKelvey. 2020. "Corporate Contact Tracing as a Pandemic Response." *Critical Public Health* o (o): 1–8. doi: 10.1080/09581596.2020.1829549.
- Gaffney, Adam, David U. Himmelstein, and Steffie Woolhandler. 2020. "COVID-19 and US Health Financing: Perils and Possibilities." *International Journal of Health Services* 50 (4): 396–407. doi: 10.1177/0020731420931431.
- Garrett, Laurie. 2020. "COVID-19: The Medium Is the Message." *The Lancet* 395 (10228): 942– 943. doi: 10.1016/S0140-6736(20)30600–0.
- Gianella, Camila, Jasmine Gideon, and María Jose Romero. 2020. "What Does COVID-19 Tell Us about the Peruvian Health System?" *Canadian Journal of Development Studies / Revue Canadienne d'études Du Développement* 42 (1–2): 55–67. doi: 10.1080/02255189.2020.1843009.
- Gideon, Jasmine, and Elaine Unterhalter. 2020. Critical Reflections on Public Private Partnerships. New York: Routledge.
- Gill, Mike, Devi Sridhar, and Fiona Godlee. 2020. "Lessons from Leicester: A COVID-19 Testing

System That's Not Fit for Purpose." *British Medical Journal* 370 (July): m2690. doi: 10.1136/bmj.m2690.

- Greenhalgh, Trisha, Rob Procter, Joe Wherton, Paul Sugarhood, and Sara Shaw. 2012. "The Organising Vision for Telehealth and Telecare: Discourse Analysis." *British Medical Journal Open* 2 (4): e001574. doi: 10.1136/ bmjopen-2012-001574.
- "Health System Response Monitor (HSRM)." 2021. January 3. https://www. covid19healthsystem.org/mainpage.aspx.
- Huff, Charlotte. 2020. "COVID-19: Americans Afraid to Seek Treatment because of the Steep Cost of Their High Deductible Insurance Plans." *British Medical Journal* 371 (October): m3860. doi: 10.1136/bmj.m3860.
- lacobucci, Gareth. 2020. "COVID-19:
 Government Has Spent Billions on Contracts with Little Transparency, Watchdog Says." *British Medical Journal* 371 (November): m4474. doi: 10.1136/bmj.m4474.
- International Monetary Fund. 2010. "Macro-Fiscal Implications of Health Care Reform in Advanced and Emerging Economies." https:// www.imf.org/en/Publications/Policy-Papers/ Issues/2016/12/31/Macro-Fiscal-Implicationsof-Health-Care-Reform-in-Advanced-and-Emerging-Economies-PP4521.
- Jubilee Debt Campaign. 2020. "IMF Loans Bailing out Private Lenders during the COVID-19 Crisis." Worcester. https:// jubileedebt.org.uk/wp-content/ uploads/2020/07/IMF-bailoutsbriefing 07.20.pdf.
- Kennelly, Brendan, Mike O'Callaghan, Diarmuid Coughlan, John Cullinan, Edel Doherty, Liam Glynn, Eoin Moloney, and Michelle Queally. 2020. "The COVID-19 Pandemic in Ireland: An Overview of the Health Service and Economic Policy Response." *Health Policy and Technology* 9 (4): 419–429. doi: 10.1016/j. hlpt.2020.08.021.
- Kondilis, Elias. 2016. "Privatization of Healthcare in Europe." London. https:// healthemergency.org.uk/pdf/Kondilis%20 _2016%20Brussels_%20Healthcare%20 privatization.pdf.
- Kondilis, E., I. Pantoularis, E. Makridou, S.
 Seretis, A. Benos, and A. Rotulo. 2020.
 "Critical Assessment of Preparedness and Policy Responses to SARS-CoV2 Pandemic: International and Greek Experience."

144 | GLOBAL HEALTH WATCH 6

Thessaloniki: CEHP – Centre for Research and Education in Public Health, Health Policy, and Primary Health Care. https:// www.healthpolicycenter.gr/el/.

- Krieger, Nancy, Christian Testa, William
 P. Hanage, and Jarvis T. Chen. 2020. "US
 Racial and Ethnic Data for COVID-19 Cases:
 Still Missing in Action." *The Lancet* 396 (10261): e81. doi: 1016/S0140-6736(20)
 32220-0.
- Kruse, Florien Margareth, and Patrick P.T. Jeurissen. 2020. "For-Profit Hospitals out of Business? Financial Sustainability during the COVID-19 Epidemic Emergency Response." International Journal of Health Policy and Management 9 (10): 423–428. doi: 10.34172/ ijhpm.2020.67.
- Lim, Wei Han, and Wei Mon Wong. 2020. "COVID-19: Notes from the Front Line, Singapore's Primary Health Care Perspective." Annals of Family Medicine 18 (3): 259–261. doi: 10.1370/afm.2539.
- Maarse, Hans. 2006. "The Privatization of Health Care in Europe: An Eight-Country Analysis." *Journal of Health Politics, Policy and Law* 31 (5): 981–1014. doi: 10.1215/03616878-2006-014.
- McCoy, David. 2020. "Coronavirus Has Exposed the Dangerous Failings of NHS Marketisation." *The Guardian*. May 5. http:// www.theguardian.com/commentisfree/2020/ may/05/coronavirus-nhs-marketisationpandemic.
- McKee, Martin, Nigel Edwards, and Rifat Atun. 2006. "Public–Private Partnerships for Hospitals." *Bulletin of the World Health Organization* 84 (11): 890–896. https://www. who.int/bulletin/volumes/84/11/06-030015. pdf.
- Moeti, M.R., and H. Salah. 2020. "Steering, Not Drifting, Rowing Not Sinking: A New WHO Strategy for Navigating Private Sector Engagement for UHC." Webinar. https:// youtu.be/XJZYQkAnG10.
- Mukhra, Richa, Kewal Krishan, and Tanuj Kanchan. 2020. "COVID-19 Sets off Mass Migration in India." *Archives of Medical Research* 51 (7): 736–738. doi: 10.1016/j. arcmed.2020.06.003.
- Munevar, Daniel. 2020. "Arrested Development: International Monetary Fund Lending and Austerity Post COVID-19." Briefing Paper. Brussels: Eurodad. https://www.eurodad.org/ arrested_development.

- Muschell, Jeffrey. 1995. "Privatization in Health. Health Economics Technical Briefing Note." WHO/TFHE/TBN/95.1. Unpublished. Geneva: World Health Organisation's Task Force on Health Economics. https://apps.who.int/iris/ handle/10665/58523.
- Nanda, Priya, Tom Newton Lewis, Priya Das, and Suneeta Krishnan. 2020. "From the Frontlines to Centre Stage: Resilience of Frontline Health Workers in the Context of COVID-19." *Sexual and Reproductive Health Matters* 28 (1): 1837413. doi: 10.1080/26410397.2020.1837413.
- Navarro, Vicente. 2020. "The Consequences of Neoliberalism in the Current Pandemic." International Journal of Health Services: Planning, Administration, Evaluation 50 (3): 271–275. doi: 10.1177/0020731420925449.
- OECD and European Union. 2020. Health at a Glance: Europe 2020: State of Health in the EU Cycle. Paris: OECD Publishing. https://www.oecd-ilibrary.org/social-issuesmigration-health/health-at-a-glance-europe-2020_82129230-en.
- O'Malley, P., J. Rainford, and A. Thompson. 2009. "Transparency during Public Health Emergencies: From Rhetoric to Reality." *Bulletin of the World Health Organization* 87 (8): 614–618. doi: 10.2471/BLT.08.056689.
- Oxfam International. 2020. "IMF Paves Way for New Era of Austerity Post-COVID-19." Oxfam International., December 11. https://www. oxfam.org/en/press-releases/imf-paves-waynew-era-austerity-post-covid-19.
- Palmer, Natasha, Lesley Strong, Abdul Wali, and Egbert Sondorp. 2006. "Contracting out Health Services in Fragile States." *British Medical Journal* 332 (7543): 718–721. doi: 10.1136/bmj.332.7543.718.
- Parashar, Rakesh. 2020. "The COVID-19 Pandemic and Associated Catastrophic Financial Burden: A Tragedy Still in the Making." Health Policy and Planning Debated, December 9. http://blogs. lshtm.ac.uk/hppdebated/2020/12/09/ the-covid-19-pandemic-and-associatedcatastrophic-financial-burden-a-tragedy-stillin-the-making/.
- Park, June, and Eunbin Chung. 2021. "Learning from Past Pandemic Governance: Early Response and Public-Private Partnerships in Testing of COVID-19 in South Korea." *World Development* 137 (January): 105198. doi: 10.1016/j.worlddev.2020.105198.

- Patcharanarumol, W., A. Issac, N. Asgari-Jirhandeh, and V. Tangcharoensathien. 2020. "COVID-19 Health System Response Monitor." Thailand, New Delhi: World Health Organization Regional Office for South-East Asia. http://www.searo.who. int/asia_pacific_observatory/publications/ covid_thailand/en/.
- People's Health Movement (PHM) South Africa. 2020. "The Service Level Agreement (SLA) between the Western Cape Department of Health (WCDPH) and Independent Health Care Specialists." https://www.phm-sa.org/ the-service-level-agreement-sla-betweenthe-western-cape-department-of-healthwcdoh-and-independent-health-carespecialists/.
- People's Health Movement (PHM). 2021. "Reclaiming Public Health: Experiences and Insights from Europe." https://phmovement. org/wp-content/uploads/2021/08/reclaimingpublic-health-care-in-europe_compressed. pdf.
- Public Services International. 2020. "CICTAR: New Report Shows That Funding for Non-Profit Aged Care Operators Disappears in the Dark." August 13. https:// publicservices.international/resources/news/ cictar-new-report-shows-that-funding-fornon-profit-aged-care-operators-disappearsin-the-dark?id=11012&lang=en.
- Rafiei, Yasmin, and Michelle M. Mello. 2020. "The Missing Piece – SARS-CoV-2 Testing and School Reopening." New England Journal of Medicine 383 (23): e126. doi: 10.1056/ NEJMp2028209.
- Roderick, Peter, Alison Macfarlane, and Allyson M. Pollock. 2020. "Getting Back on Track: Control of COVID-19 Outbreaks in the Community." *British Medical Journal* 369 (June): m2484. doi: 10.1136/bmj.m2484.
- Romero, María José. 2015. "What Lies Beneath? A Critical Assessment of PPPs and Their Impact on Sustainable Development." Eurodad. http://www.world-psi.org/sites/ default/files/documents/research/eurodad_-_ what_lies_beneath.pdf.
- Rotulo, A., M. Epstein, and E. Kondilis. 2020. "Fiscal Federalism vs Fiscal Decentralisation in Healthcare: A Conceptual Framework." *Hippokratia* 24 (3): 107–113.
- Ruckert, Arne, and Ronald Labonté. 2015. "Global Healthcare Policy and the Austerity Agenda."

In *The Palgrave International Handbook of Healthcare Policy and Governance*, edited by E. Kuhlmann, R. Blank, I. Bourgeault, and C. Wendt, 37–53. London: Palgrave Macmillan. doi: 10.1057/9781137384935.

- Sands, Peter, and Mukesh Chawla. 2017. "Financing Preparedness at a National Level." *The Lancet* 389 (10084): 2086–2087. doi: 10.1016/S0140-6736(17)31375–2.
- Schneider, Eric C. 2020. "Failing the Test The Tragic Data Gap Undermining the U.S. Pandemic Response." New England Journal of Medicine 383 (4): 299–302. doi: 10.1056/ NEJMp2014836.
- Sengupta, Amit, Indranil Mukhopadhyay, Manuj C. Weerasinghe, and Arjun Karki. 2017. "The Rise of Private Medicine in South Asia." *British Medical Journal* 357: j1482. https:// www.jstor.org/stable/26948748.
- Stall, Nathan M., Aaron Jones, Kevin A. Brown, Paula A. Rochon, and Andrew P. Costa. 2020. "For-Profit Long-Term Care Homes and the Risk of COVID-19 Outbreaks and Resident Deaths." *Canadian Medical Association Journal* 192 (33): E946–955. doi: 10.1503/ cmaj.201197.
- Stubbs, Thomas, William Kring, Christina Laskaridis, Alexander Kentikelenis, and Kevin Gallagher. 2021. "Whatever It Takes? The Global Financial Safety Net, COVID-19, and Developing Countries." *World Development* 137 (January): 105171. doi: 10.1016/j. worlddev.2020.105171.
- Thiagarajan, Kamala. 2020. "COVID-19 Exposes the High Cost of India's Reliance on Private Healthcare." *British Medical Journal* 370 (September): m3506. doi: 10.1136/bmj.m3506.
- Torjesen, Ingrid. 2020. "COVID-19: Local Public Health Teams Being Denied Access to Data That Could Help Them Trace Cases." *British Medical Journal* 370 (July): m2883. doi: 10.1136/bmj.m2883.
- Wapner, Jessica. 2020. "COVID-19: Medical Expenses Leave Many Americans Deep in Debt." *British Medical Journal* 370 (August): m3097. doi: 10.1136/bmj.m3097.
- Werner, Rachel M., Allison K. Hoffman, and Norma B. Coe. 2020. "Long-Term Care Policy after COVID-19 – Solving the Nursing Home Crisis." *New England Journal of Medicine* 383 (10): 903–905. doi: 10.1056/NEJMp2014811.
- Williams, Owain David. 2020. "COVID-19 and Private Health: Market and Governance

146 | GLOBAL HEALTH WATCH 6

Failure." *Development (Society for International Development)* 63: 181–190. doi: 10.1057/541301-020-00273-x.

World Bank. 1993. World Development Report 1993: Investing in Health. New York: Oxford University Press.

World Health Organization. 2020a. "Laboratory Testing Strategy Recommendations for COVID-19." Interim guidance WHO/2019nCoV/lab_testing/2020.1. Geneva: World Health Organization. https://apps.who.int/ iris/handle/10665/331509.

World Health Organization. 2020b. *Global* Spending on Health 2020: Weathering the Storm. Geneva: World Health Organization.

B4 OLD/NEW POLITICS OF ACCESS TO MEDICINES

Introduction

Mention the words "access to medicines" and one's mind is immediately cast back to the battles to make HIV/AIDS medicines available to people in Africa in the 1990s. But despite some significant wins, inequities in access have persisted over time and have been growing in importance in recent years due to the increasing number of high-cost technologies entering markets. The COVID-19 pandemic has brought urgent attention to solving the problem of inequitable access to pharmaceuticals, with the future of the world's 7.8 billion people dependent on affordable, timely access to new diagnostics, treatments, and vaccines.

In this chapter we explore the problem of inequitable access to medicines, the way it has changed over time, and the entrenched global power structures that perpetuate the status quo, including the power of the pharmaceutical industry. We examine the way in which intellectual property (IP) regimes allow for monopoly pricing and the exclusion of competition and trace the expansion of IP protections through trade agreements over the last two and a half decades. We also explore regulatory processes and the ways in which these can also limit access. Special attention is given to the global politics of access to COVID-19 products, efforts to provide timely and affordable access globally, and the persistent barriers encountered in meeting this aim. Throughout, current debates about how to make medicines more affordable, options that are being investigated, and the efforts of activists to change the status quo are described, and opportunities provided by the COVID-19 products into the future are considered.

Inequities in access to medicines

Access to "safe, effective, quality and affordable essential medicines and vaccines for all" forms a core part of Target 3.8 under the United Nations Sustainable Development Goals (SDGs), and is seen as key to achieving universal health coverage and SDG Goal 3 ("Good Health and Well-being") (United Nations 2015). Access to medicines and vaccines is also important for meeting many of the other Goal 3 targets (such as Targets 3.3, "By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases," and 3.4, "By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being") (United Nations 2015).

Over the last few decades, significant advances in medical technologies have seen large reductions in morbidity and mortality due to infectious diseases such as polio, HIV/AIDS, rotavirus, and hepatitis C, as well as non-communicable diseases including various cancers and autoimmune diseases (United Nations Secretary-General's High Level Panel on Access to Medicines 2016). For large parts of the world's population, however, lack of access to affordable medicines remains a significant problem. The World Health Organization (WHO) estimated in 2004 that almost 2 billion people did not have access to essential medicines (WHO 2004). In 2015, the WHO and the World Bank (2015) estimated that 400 million people were still missing out on access to medicines, vaccines, diagnostics, and medical devices. The report found that, globally, only 37% of people living with HIV had access to anti-retroviral treatment, while treatment coverage for hypertension ranged from 7%-61% of people with high blood pressure, with effective coverage ranging from 1%–31% (WHO and World Bank 2015). Large numbers of people also continue to go without treatment for neglected tropical diseases, which lack sufficient investment in research and development (United Nations Secretary-General's High Level Panel on Access to Medicines 2016).

A large proportion of those who lack access to medicines, vaccines, and other medical products live on low incomes in middle-income countries (ibid.). Middle-income countries, often referred to by the pharmaceutical industry as "pharmerg-ing markets" (IQVIA Institute for Human Data Science 2019), can face steeply increasing tiered pricing arrangements that make it difficult to provide access for low-income groups; for example, increasing gross national income (GNI) per capita is associated with sharp increases in prices for vaccines (WHO 2018). For low-income countries, medicines account for the largest proportion of out-of-pocket care costs, with the proportion dedicated to medicines increasing as national income decreases (Vialle-Valentin et al. 2008). But people on low incomes in wealthy countries can also experience difficulties obtaining affordable access.

Gender equity with respect to access to medicines and vaccines has been little-studied as a global phenomenon, although gender differences in access are common when examining specific nations, treatments, and conditions (Stephens et al. 2013). Depending on the setting, women and girls' access to medicines can be limited by many factors other than socioeconomic status including gender discrimination, religious and cultural practices, lack of financial independence, and gender-based violence (Mike 2020).

Affordability as a key determinant of access

Access to medicines depends on many factors including financing, information systems, procurement and distribution systems, health service delivery, and human resources (United Nations Secretary-General's High Level Panel on Access to Medicines 2016). However, medicine affordability is crucial to achieving equitable access (Wirtz et al. 2017). An important historical case study is the lack of access to HIV/AIDS treatments in Africa in the 1990s. In 2000, HIV/AIDS

treatments costed more than \$10,000 per patient per year until social struggles to provide access to generics in 2001 brought the cost down to a fraction of the original price thanks to the Indian generics producers' reaction to mounting mobilization around this piercing issue (Médecins Sans Frontières 2002).

In recent years, high-cost medicines such as cancer and immunotherapy treatments, along with treatments for hepatitis C, have seen rising pharmaceutical expenditure which has challenged the ability even of high-income countries (HICs) to provide access. In 2019, the global pharmaceutical market was predicted to be worth more than \$1.5 trillion by 2023, growing at 3%-6% per year (IQVIA Institute for Human Data Science 2019). A 2015 Organization for Economic Cooperation and Development (OECD) report found that pharmaceutical expenditure, which accounted for approximately 20% of health expenditure in OECD countries in 2013, was continuing to rise, mainly driven by increasing numbers of high-cost medicines becoming available, some of which only provide minor improvements in comparison with existing drugs (OECD 2015). In 2015, the median price of a 12-week course of sofosbuvir, a breakthrough treatment for hepatitis C, was \$42,017 across 26 OECD countries, with lower-income countries paying higher adjusted prices than higher-income OECD members (Iyengar et al. 2016). A cross-country study of access to medicines for cardiovascular disease found that these medicines were "unavailable and unaffordable for a



Image B4.1 Inequitable access to COVID-19 vaccines. *Source:* Sketch by Indranil for *Global Health Watch 6.*

large proportion of communities and households in upper middle-income, lower middle-income, and low-income countries" (Khatib et al. 2016: 61). In many low- and middle-income countries (LMICs), particularly in South-East Asia and Africa, out-of-pocket spending on medicines is one of the main causes of catastrophic health expenditure (World Health Organization and International Bank for Reconstruction and Development 2020), with high prices acting as a barrier in any public provisioning of medicines in LMICs (Ewen et al. 2017).

Box B4.1: Colonial control: pharmaceuticals access in Palestine

Access to essential medicines, as part of the right to the highest attainable standard of health, is well founded in international law. This extends to ensuring the right of countries to develop their own pharmaceutical manufacturing capacity, which can grant long-term affordable access to essential medicines.

Pharmaceutical production in Palestine started in the West Bank and Gaza Strip in the 1970s. There are many Palestinian companies that produce pharmaceuticals for the local market and for export: Birzeit Pharmaceutical Company, Jerusalem Pharmaceuticals, Dar Al-Shifa Pharmaceutical Company (Pharmacare), Beit Jala Pharmaceutical Company, Sama Pharmaceuticals Manufacturing, Gamma (now closed), and Middle East (Megapharm) (Social and Economic Policies Monitor 2013, 54). These companies cover around 60% of the Palestinian market's pharmaceutical needs. They also export to Eastern Europe, Jordan, Algeria, Qatar, and Germany.

In its latest report, the Palestinian Authority's Ministry of Health revealed that it spends around 366 million Shekels on medicines, vaccines, laboratory supplies, and medical consumables, which constitutes 18% of its budget. The procurement of medicines from abroad constitutes around 40% of the Palestinian Authority's delayed payments (debt) budget line (around 336 million Shekels) (Palestinian Ministry of Health 2019, 70).

The regulation of the Palestinian pharmaceuticals market is subject to the Paris Protocol, which governs the economic and financial relations between "Israel" and the Palestinian Authority. The Protocol also regulates importing, exporting, and taxation mechanisms. This has led to the occupation government imposing restrictions on Palestinian pharmaceutical manufacturers, leading to the pharmaceutical market being flooded with competitively priced "Israeli"-produced medicines, undermining the local industry. The occupation government also slows the production process of Palestinian pharmaceutical companies by delaying imported needed raw materials allegedly to conduct security checks (Social and Economic Policies Monitor 2013, 54).

The occupation's Ministry of Health allows only medicines registered in "Israel" to be imported by the West Bank and Gaza Strip, denying Palestine the ability to maintain pharmaceutical importing or exporting relations with its closest markets. Pharmaceutical products to which access is being prevented include inexpensive generic medicines manufactured in India and China, as imported medicines registered in "Israel" come mainly from the EU, North America, and Australia (Who Profits from the Occupation 2012).

Under agreements with the Palestinian Authority, "Israeli"-produced or imported medicines enter Palestine without the need to pay any customs, change their products, or change their product packaging. "Israeli" and multinational companies can sell medicines to Palestinians without having to provide any instructions in Arabic, and without considering different social categories based on income when drug prices are set.

This situation led to "Israeli" companies monopolizing the medicine manufacturing and distribution market in occupied Palestine while ignoring the human rights guidelines, with a huge increase in the capital of those companies. The outcome of these policies is a loss of Palestinian pharmaceutical manufacturing capacity.

In 2018, the value of imported medicines increased from the previous year and ranked seventh of the top ten products imported from "Israel" (Palestinian Central Bureau of Statistics 2019, 153). If the Palestinian Authority stopped importing pharmaceuticals from "Israel," local companies could increase their current level of coverage in the local market from between 50% and 60%, to between 70% and 80%. The Palestinian Authority will still need to import some medicines which are too costly to produce domestically or that require special production lines, but its ability to do so should not be confined to "Israeli"-registered products only and should not be at the cost of weakening its own domestic manufacturing.

Authors' note: We took the decision to write "Israel" in quotation marks because we, as Palestinian people, do not recognize the legitimacy of the "Israeli" state on the lands that have been colonized in 1948 by Zionist entities. Palestinian people have lived under colonization since 1948, under occupation since 1967, and under apartheid regime from the river to the sea for decades. We will never stop demanding the respect of our right to self-determination based on international law.

The COVID-19 pandemic: highlighting global inequities

The COVID-19 pandemic has starkly highlighted global inequities in access to medicines and vaccines and in access to other medical products such as devices and diagnostics. Trade in medical products was already highly concentrated and inequitable due to neoliberal policies disincentivizing local manufacturing, with the top ten importers, all HICs, accounting for 65% of the world's medical imports (including personal protective equipment and ventilators) in 2019 (World Trade Organization 2020a). Similarly, the top ten exporters of medical

products (all HICs except for China) accounted for 74% of exports (WTO 2020a). These inequities were exacerbated during the pandemic, with per capita imports of COVID-19 medical products in HICs exceeding those of low-income countries (LICs) by a factor of around 100 (United Nations Conference on Trade and Development 2020).

Early in the pandemic, the WHO along with several global health and private organizations (including the Bill & Melinda Gates Foundation) established the Access to COVID-19 Tools Accelerator (ACT Accelerator) to support the development and distribution of COVID-19 medical technologies (see Chapter DI). The ACT Accelerator includes four pillars: diagnostics, treatments, vaccines, and health systems strengthening. The vaccines pillar, COVAX, aimed to allocate at least 2 billion doses of vaccine equitably amongst participating countries according to population, providing 20% coverage by the end of 2021.

These mechanisms to promote affordable access have not attracted sufficient investment: by June 2021 the ACT Accelerator was \$16 billion short of its funding targets (Business Standard 2021), and by the end of August 2021 COVAX had shipped less than 230 million vaccine doses (UNICEF n.d.), putting it way behind its goal of delivering 2 billion by the end of the year. Meanwhile, by November 15, 2020, governments had negotiated pre-purchase agreements directly with pharmaceutical companies for almost 7.5 billion doses of COVID-19



Image B4.2 Inequitable distribution of COVID-19 vaccines. *Source:* Sketch by Indranil for *Global Health Watch 6.*

vaccines, 51% of which had been reserved by wealthy countries representing only 14% of the global population (So and Woo 2020).

This imbalance has only worsened over time. On August 4, 2021, the director general of the WHO pointed out that "So far, more than 4 billion vaccine doses have been administered globally. More than 80% have gone to high- and upper-middle income countries, even though they account for less than half the world's population" (WHO 2021). By this stage, while HICs had administered close to one dose per person on average, low-income countries had only managed to administer 1.5 doses per 100 people (WHO 2021). Many HICs have begun stockpiling reserves for booster programs, ignoring an appeal by the WHO for a moratorium on booster shots until health workers and older adults could be vaccinated in all countries (The Straits Times 2021). G7 countries are expected to have close to a billion stockpiled vaccine doses left over by the end of 2021, even after completing their booster programs (Lovett 2021).

This inequitable distribution of COVID-19 vaccines could greatly slow the global recovery from the pandemic. A study undertaken by researchers at Northeastern University (Chinazzi, Davis et al. 2020) modeled two vaccine distribution scenarios based on the hypothetical case of 3 billion doses of a single dose vaccine available on March 16, 2020. The first (uncooperative) scenario assumed the first 2 billion doses would be reserved for HICs with the remaining billion distributed equitably according to population. The second (cooperative) scenario involved equitable sharing of all 3 billion doses according to population. For a vaccine of 80% effectiveness, they found that the cooperative strategy would avert 61% of deaths by September 1, 2020, while the uncooperative strategy would only avert 33%. Estimates of the global economic costs of vaccine nationalism by the RAND Corporation (Hafner et al. 2020) and the International Chamber of Commerce (Cakmakli et al. 2021) found that hoarding of vaccines by wealthy countries could result in a gross domestic product (GDP) loss to the global economy of around \$1.2 trillion (in GDP terms) and between \$1.5-\$9.2 trillion respectively.

The global intellectual property regime and its effects on access to medicines

One of the root causes of inequitable access to medicines and vaccines is the global regime of intellectual property rights (IPRs) for pharmaceuticals. Intellectual property rights provide a period of exclusivity where the rights holder can prevent third parties from making or selling the product. The rationale for providing these exclusive rights is to offset the high development cost and provide incentives for investment. However, arguments that IPRs and monopoly pricing are necessary to incentivize innovation are not supported by sound evidence – in fact, there is evidence to suggest that intellectual property can hamper drug development (Government Accountability Office 2006). Estimates of research and development (R&D) costs are often based on non-transparent industry information from confidential surveys or proprietary databases and vary widely,

from the low hundreds of millions to close to a billion dollars per new discovery (Morgan et al. 2011). Much of the R&D that results in new drugs is publicly funded (Galkina Cleary et al. 2018) and prices of new drugs are often set so high they generate income that greatly exceeds the likely R&D costs (Tay-Teo et al. 2019). Increasing IPRs has not been shown to incentivize innovation or increase technology transfer in LMICs (Sweet and Eterovic Maggio 2015) or to give rise to greater R&D for diseases that mainly affect the Global South (Kyle and McGahan 2012).

The global IPR regime is underpinned by the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), established in 1995, which set into place an agreed minimum standard for IPRs for all members of the World Trade Organization. These IPRs included a minimum 20-year patent term for both product and process patents in all fields of technology, including pharmaceuticals. The TRIPS Agreement represented a profound change. Prior to TRIPS, countries had varying patent periods, with many LMICs not providing patent protection at all, or at least not for pharmaceuticals ('t Hoen 2009). The negotiation of TRIPS involved intense lobbying by the pharmaceutical industry and HICs and opposition by many LMICs, which ultimately agreed to adopt TRIPS in the vain hope that it would reduce unilateral trade retaliation over perceived IPR breaches from the US ('t Hoen 2009). As Peter Drahos describes, "TRIPS was the outcome of a sophisticated networked power wielded by a coalition of powerful developed states and corporate actors seeking greater economic rents for their intellectual property assets" (Drahos 2007, 12).

Over the last 25 years, the TRIPS Agreement has legally prevented manufacturing of generic pharmaceutical products and has legitimized private ordering of pharmaceutical production and supply in low- and middle-income countries (LMICs). TRIPS, however, does provide certain flexibilities to allow members to meet the public health needs of their populations, thanks to the relentless efforts of some countries in the Global South during the General Agreement on Tariffs and Trade (GATT) negotiations (particularly India and Brazil). The rights of World Trade Organization (WTO) members to use these flexibilities were re-affirmed in the Doha Declaration on the TRIPS Agreement and Public Health adopted in 2001 (World Trade Organization 2001). One of these flexibilities is compulsory licensing, which allows for a patented invention to be exploited without the permission of the patent holder in certain circumstances. While this remains an important mechanism for enabling access, in the two and a half decades since TRIPS compulsory licensing has remained relatively littleused, mainly limited to HIV/AIDS drugs (Son and Lee 2018), with countries that do invoke their right to use it facing pressure from the USA, the EU, and other wealthy countries (Navarro and Vieira 2021).

In the meantime, bilateral and regional trade agreements negotiated outside of the WTO umbrella have incrementally added to the IPRs enshrined in TRIPS, lengthening patent terms, expanding the scope of patentability, and adding further layers of IP rights that delay generic competition (see Chapters C3 of *Global Health Watch 3* and D4 of *Global Health Watch 4*). This is particularly the case for trade agreements negotiated by the United States and the EU, where most of the transnational pharmaceutical corporations are headquartered (Lopert and Gleeson 2013).

IPRs commonly sought by the US in its trade agreements include patent term extensions, data exclusivity (exclusivity for test data are submitted to regulatory agencies for the purpose of obtaining marketing approval), patents for new uses, processes, and/or methods of using known products, and patent linkage (creating a dependent relationship between patent status and marketing approval) (Lopert and Gleeson 2013). These IPRs all appeared in the Trans-Pacific Partnership Agreement (TPP) (Gleeson et al. 2018) and then subsequently in the United States-Mexico-Canada Agreement (USMCA) (Labonté et al. 2019), at least until it was renegotiated and amended to get it through the US Congress, when some TRIPS-Plus provisions were altered or removed (Labonté et al. 2020). EU agreements have included a similar set of IPRs; for example, the Comprehensive Economic and Trade Agreement (CETA) between the EU and Canada included data exclusivity provisions along with an additional period of protection following the end of the patent term (Lexchin and Gagnon 2014).

The pharmaceutical industry has lobbied heavily for increased IPRs in these trade agreements. This is particularly notable in the USA, where the industry associations and pharmaceutical companies have direct input to the US trade negotiating positions through its formal trade advisory committees, as well as exercising influence through other avenues including political donations and close informal relationships with trade negotiators (Gleeson et al. 2017).

The IPR expansionist agenda has not gone unopposed; significant civil society movements have countered the pharmaceutical industry lobbying which has mitigated US and EU agendas and, in some cases, completely overturned them. The US and EU proposals have also met with resistance from other countries. In the TPP negotiations, the initial US proposals were mitigated significantly during the negotiations and when the Trump administration withdrew the USA from the agreement in 2017, the remaining parties suspended many of the TRIPS-Plus IPRs from the re-named Comprehensive and Progressive Agreement for Trans-Pacific Partnership (Pusceddu 2018). After the USMCA was signed, the agreement was renegotiated to ensure it obtained enough support from Democrats to be ratified by the US Congress. The amendments included removal of the controversial provision for extended exclusivity for biologics, along with removal or modification of several other TRIPS-Plus provisions (Labonté et al. 2020).

IPRs as barriers to access for COVID-19 products

During the COVID-19 pandemic, IPRs have created barriers to the rapid scaling up of treatments and vaccines. In the early stages, patents on N95 masks

threatened to prevent sufficient numbers being manufactured (Watkins 2020). Later, patents on the potential COVID-19 treatment remdesivir, together with restrictive licensing practices by its maker Gilead Sciences, prevented middleincome countries from accessing either the highly priced originator product, or the lower-priced version made by licensed manufacturers in India, Pakistan, and Egypt (see Box B4.1).

Voluntary efforts to facilitate sharing of IP such as the COVID-19 Technology Access Pool (C-TAP), established by the WHO following a proposal by Costa Rica (WHO 2020a), have largely failed to gain support from high-income countries and pharmaceutical companies. By the end of August 2021, C-TAP was supported by only 43 countries (almost all LMICs), but not by a single research-based biopharmaceutical company. At the time of writing, C-TAP remained unused. While some pharmaceutical companies have made voluntary promises to share IP during the pandemic, most have not, and with the notable exception of AstraZeneca, many clearly intend to profit from the COVID-19 products they make. Moderna, maker of one of the first COVID-19 vaccines to finish Phase III trials, issued a statement indicating that:

... while the pandemic continues, Moderna will not enforce our COVID-19 related patents against those making vaccines intended to combat the pandemic. Further, to eliminate any perceived IP barriers to vaccine development during the pandemic period, upon request we are also willing to license our intellectual property for COVID-19 vaccines to others for the post pandemic period. (Moderna 2020, para. 3)

This statement was greeted with skepticism by some civil society organizations, who expressed reservations about the value of Moderna's commitment not to enforce patents given that it made no commitment to sharing the other types of information and resources that would be needed to make its vaccine (HealthGap 2021).

Despite large injections of public funding (Martin and Jani-Friend 2021), pharmaceutical companies hold the rights to determine who can access vaccines that are desperately needed the world over, and on what terms. According to Médecins Sans Frontières (2020a), the development and manufacturing of the six most promising vaccine candidates attracted \$12 billion in public funding. The KENUP Foundation (2021) estimated that by January 2021, 93 billion euros of public financing (including advance market commitments) had been invested in COVID-19 vaccines and treatments, with over 95% of this amount devoted to vaccines. Yet some pharmaceutical companies are expected to profit handsomely from COVID-19 vaccines. Makers of two of the front-runner vaccines, Pfizer/BioNTech and Moderna, indicated in March 2021 that they expected to generate \$15 billion and \$18.4 billion in revenue respectively in 2021 based on existing supply agreements (Kollewe 2021, 6 March). By the end of July 2021, Pfizer was predicting COVID-19 sales worth approximately \$33.5 billion for 2021, including expected sales of booster shots (Hopkins and Grossman 2021).

Box B4.2: IP and barriers to access during the COVID-19 pandemic: the example of remdesivir

Remdesivir was a candidate for COVID-19 treatment which appeared promising in the early months of the pandemic and was given emergency use authorization in some countries for severe cases of COVID-19. WHO later issued a recommendation against its use in hospitalized patients due to lack of evidence that its use reduced mortality and other significant outcomes (WHO 2020b).

Gilead Sciences, a US company, owns patents for remdesivir in more than 70 countries (Médecins Sans Frontières 2020c). For a five-day course of treatment (six vials), it set the price at \$2,340 for US government buyers and purchasers in other high-income countries (Gilead Sciences 2020). The cost of production has been estimated at around \$1 per day, or \$6 for a full treatment course (Hill et al. 2020). The development of the drug was underpinned by at least \$70.5 million in public funds (Public Citizen 2020).

Gilead negotiated voluntary licenses with pharmaceutical companies in India, Pakistan, and Egypt to produce the drug much more cheaply (Silverman 2020). One company, Cipla, planned to sell the drug for \$66 dollars per vial (Reuters Staff 2020). But the terms of the licenses limited exports of these cheaper versions to 127 mainly low-income countries (Maybarduk 2020). Many middle-income countries – such as China, Brazil, and Mexico, for example – along with high-income countries were excluded from the deal.

The US government bought up almost all of the first three months' supply of remdesivir from Gilead (U.S. Department of Health & Human Services 2020), leaving many countries unable to source the drug from Gilead, and prohibited from either making it or sourcing it from other suppliers.

Some companies producing COVID-19 medical products have negotiated voluntary licenses with other manufacturers. However, these licenses are commercial contracts which are often non-transparent and can tightly restrict what companies with these licenses can do with the product, including how much they can manufacture, who they can sell or export it to, and for what price (Médecins Sans Frontières 2020b).

1. The TRIPS waiver for COVID-19 products

In October 2020, India and South Africa made a proposal to the WTO TRIPS Council that IPRs for COVID-19 products should be waived for the duration of the pandemic (WTO 2020b). This waiver would enable WTO members to elect to declare that their IP laws would not apply to COVID-19 products during the pandemic, thus paving the way for increased manufacturing of critical tools to fight the pandemic (Dhar and Gopakumar 2020). While WTO members can use compulsory licensing to bypass patents, it is a time-consuming, cumbersome, and contestable mechanism. Compulsory licensing also only applies to patents, whereas several other IPRs, such as trade secrets protection, can block access to biologic treatments and vaccines by preventing competitors from accessing information about manufacturing processes, discussed later in this chapter, and biological resources such as cell lines (Levine 2020).

By March 2021, the TRIPS waiver had gained the support of more than 100 of the WTO's 164 member states but was blocked from moving to text-based discussions by the opposition of several wealthy countries including the USA, the European Union, the United Kingdom, Japan, Canada, Switzerland, Brazil, and Norway (Third World Network 2021).

In May 2021, the USA made an historic move in declaring its support for a waiver limited to vaccines (Office of the United States Trade Representative 2021). This development makes the success of negotiations for a waiver far more likely; several of the opposing countries have since fallen in line with the USA, although the EU continues to express the lack of need for such a waiver. It is not clear how long text-based waiver negotiations may take, although the new WTO Director-General is hoping for a consensus to be reached by November 2021.

Meanwhile, wealthy countries that have opposed the TRIPS waiver have continued to hoard vaccines and, in some cases, squabble over preferential access. In January 2021 the EU, facing supply shortfalls of the Pfizer/BioNTech and AstraZeneca vaccines, introduced regulations requiring export notifications and threatened to introduce export bans (Lee 2021). France and Germany made legal threats against AstraZeneca after production problems reduced its promised supply for the first quarter of 2021 by 75% (Boffey 2021). The underlying issues for the shortages – monopolies over the IP and production of the vaccines – are the very issues that the TRIPS waiver is intended to assist in addressing.

Some of the short-term access problems for COVID-19 products could be addressed through the TRIPS waiver along with incentivizing or requiring pharmaceutical companies to contribute to mechanisms for sharing knowledge and data (such as C-TAP) and investing in technology transfer and local production in LMICs. In the longer term, greater attention needs to be given to more fundamental changes to the way in which R&D is funded and to shifting the entrenched power imbalances that reinforce the status quo. Alternative mechanisms that have been proposed for funding R&D in ways that promote rather than obstruct access include financial incentives like grants and prizes, and other incentives to invest in R&D, along with shared licensing mechanisms such as patent pools, as discussed in Chapter B5 of *Global Health Watch 2*. A global R&D treaty, as called for by many civil society organizations and recommended by the WHO Consultative Expert Working Group (CEWG) on Research and Development: Financing and Coordination (2012), would help to ensure a more equitable distribution of the costs and rewards of pharmaceutical R&D. Shifting power away from industry also requires improving transparency in pharmaceutical markets, to ensure that information about prices, sales, marketing expenditure, public financing, and so on, which is currently considered commercial-in-confidence, is available to governments and the public. Building support for these types of initiatives in the face of trenchant opposition by the pharmaceutical industry requires civil society action, as in the case study of Universities Allied for Essential Medicines described in Box B4.3.

Box B4.3: Universities Allied for Essential Medicines UK: public return for public investment

Universities Allied for Essential Medicines (UAEM) is a student-led movement based at university campuses across 20 countries. We see universities as key to reimagining an innovation system that is fair for all. Up to a third of new drugs originate from public sector research, and universities are critical to the scientific progress underlying advances in health (Nayak et al. 2019). UAEM is therefore advocating for universities to implement equitable research and technology transfer policies that ensure affordable access downstream. In spring 2020, UAEM UK gathered online to foster a new generation of student campaigners. We experienced first-hand how grassroots activism can flourish during a pandemic, even when there is no physical space to come together and organize.

UAEM grew out of the HIV/AIDS crisis in the early 2000s, when students and staff at Yale University, supported by Médecins Sans Frontières, campaigned successfully against the prohibitively high price of the essential antiretroviral stavudine, developed at the university (Kapczynski et al. 2005). At the time 95% of HIV-infected people in the developing world did not have access to antiretroviral therapy. Following protests, the university was pressured to renegotiate the license with Bristol-Myers Squibb, which enabled a 30-fold drop in price. UAEM grew globally from this experience, focusing on improving technology transfer policies of publicly funded research institutions. Following advocacy efforts by UAEM students, Johns Hopkins University in the USA licensed the tuberculosis drug sutezolid to the Medicines Patent Pool (UAEM 2015).

At the start of the current pandemic, we recognized the need to invigorate our member base to tackle anticipated access challenges around COVID-19 health technologies, including drugs, vaccines, and diagnostics. The student body is a powerful voice within the university and can advocate for change at institutions otherwise inaccessible to other health activists. University-level decisions regarding technology transfer can impact the lives of millions of people downstream following transfer of a health technology to the private sector. We trained teams across the UK in the fundamentals of university technology transfer, campaigning strategy, and creative activism, empowering students to address policies and practices at their own institutions. The first year of the pandemic also saw the finalization of the Equitable Technology Access Framework (ETAF) (UAEM 2020). This policy guidance framework aims to support universities in adopting policies for global equitable access and affordability of biomedical innovation. In collaboration with a local UAEM chapter, we saw the University of Edinburgh in December 2020 update its essential medicines policy as outlined in the ETAF framework. We hope to further expand the implementation of ETAF across higher education institutions in the UK.

To track the amount of public funding pledged towards COVID-19 R&D at universities, UAEMers from 15 countries collected and visualized this information on the interactive website *publicmeds4covid*. The Tracker illustrates that the public are the key investors and risk-takers for COVID-19 innovation, supporting the argument against upholding intellectual property rights and profit-making during the pandemic. For example, the British government, through direct research grants to universities and research institutions, spent approximately \$169 million on the development of diagnostics, vaccines, and therapeutics for COVID-19 (UAEM 2021). A team of UAEM UK students also found that the research behind the Oxford-AstraZeneca vaccine was 97% publicly funded (Cross et al. 2021). Undertaking these research projects provided us with data to support our advocacy efforts, allowed us to challenge ideas about the origins of innovation, and strengthened our negotiation position with individual universities.

With many access issues being decided on a (inter)national level, we continued fostering our collaboration with other civil society organizations in the Missing Medicines Alliance (https://missingmedicines.org/) and the People's Health Movement. We mobilized young activists' voices for issues such as the COVID-19 Technologies Access Pool (C-TAP) and the TRIPS waiver proposal, as well as informing national debates in the UK Parliament on access to COVID-19 technologies (UAEM UK 2020). In collaboration with the Free the Vaccine Campaign and Act Up London, we organized a socially distanced protest to call for COVID-19 vaccines, drugs, and diagnostics to be sustainably priced, available to all, and free at the point-of-delivery.

If we are to achieve health equity worldwide, we need fundamental reform of the biomedical innovation system so that it puts people over profit, and we believe that student grassroots advocacy is part of this solution.



Image B4.3 The Free the Vaccine Campaign Carnival March in London on July 27, 2020, supported by UAEM UK student activists. *Source:* Photo by Poppy Hosford, member of UAEM UK.

Regulatory regimes that constrain access to medicines

1. Industry involvement in international regulatory standard-setting processes

While the quality of medicines is critical to ensure the credibility of the health system, the norms and standards related to quality, safety, and efficacy (QSE) of medicines are not free from conflicts of interest. These norms and standards are being used by the research-based pharmaceutical industry to manage competition in the market.

The primary forum for norms and standards setting related to QSE is the multistakeholder platform known as the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH). The ICH was established in 1990 as a public–private partnership primarily to reduce development costs and hasten marketing approval processes for pharmaceuticals (Lexchin 2012). It has been criticized for lowering marketing approval standards for new chemical entities and for setting standards in a way that builds a set of technical barriers to prevent competition from the generic industry (Ohno 2002). The founding members of ICH are the drug regulatory authorities of the EU, Japan, and the USA, and the research-based pharmaceutical industry associations of those countries. Prior to 2018, the steering committee of ICH, its highest decision-making body, constituted these founding members along with the International Federation of Pharmaceutical Manufacturers Associations (IFPMA, a federation of national associations of research-based pharmaceutical industry associations), WHO, Health Canada, and the European Free Trade Area. Only the founding members enjoyed voting rights. Until recent years, the ICH secretariat operated from the office of IFPMA (Nagarajan 2014).

In 2018, the governance mechanism of ICH underwent reform, and the steering committee was replaced with a 14-member management committee which included, along with the six founding members:

- two standing regulatory members (Health Canada and Swissmedic);
- two Standing Observers (IFPMA and WHO);
- regulatory agencies from Brazil, Singapore, the Republic of Korea, and China; and
- two industry associations, the International Generic and Biosimilar Medicine Association and Biotechnology Innovation Organization (BIO).

The research-based pharmaceutical industry remains firmly embedded in the decision-making structures of ICH. Further, until 2018 there was no representation of the generic medicines industry. ICH's role in norms and standards setting therefore raises serious concerns regarding conflicts of interest and accountability. As per its mission statement, the aim of ICH is to harmonize various technical and scientific aspects of pharmaceutical registration. While the word harmonization sounds attractive, harmonization of QSE norms and standards bears the dangers of compliance costs and impacts on the prices of medicines. The ICH initiatives have often resulted in the ratcheting up of the QSE norms and standards in ways that benefit the big firms and the members of ICH, at the expense of smaller or publicly funded firms and patients (Berman 2012). This concern was shared by a committee appointed by WHO to examine the impact of ICH guidelines in non-ICH countries which found that:

In many countries, essential drugs required for the prevention and treatment of locally endemic conditions are not supplied by the major multinationals, but by local industry or by generic manufactures. If these suppliers are unable to meet what may be unsubstantiated quality standards, adverse impact of the withdrawal of these drugs on the population might well be far more dramatic than of any hypothetical risk posed by failing to achieve the ICH standards. (WHO 2002)

In short, the ICH standards set high standards claiming to protect patients but have limited "clinical relevance" (Timmermans 2004).

In 2014 there was an attempt to mainstream the ICH standards through a World Health Assembly resolution on regulatory system strengthening for medical products (WHO 2014a). The draft resolution urged member states to follow ICH guidelines and to implement the guidance of international harmonization initiatives such as the Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use (Gopakumar 2014). While direct references to ICH and harmonization were removed from the draft due to opposition from many low- and middle-income WHO member states such as India, harmonization efforts continue, and may be used as a tool to manage competition. Another example of legitimization of ICH is WHO's criteria for a stringent regulatory authority.

The WHO's observer role in ICH and the adoption of ICH norms and standards as part of WHO's advice to member states undermines the organization's integrity, independence, and credibility. Further, it violates the principles of WHO's Framework on Engagement with non-State Actors (FENSA) which states that any engagement with such actors must "protect WHO from any undue influence, in particular on the processes in setting and applying policies, norms and standards" (WHO 2016).

2. Regulatory regimes for follow-on biologics

Access to biologic products (including biotherapeutics and vaccines) is becoming critical due to their use in treating diseases such as cancer and autoimmune disorders, and the development of novel therapies and vaccines to address emerging diseases such as COVID-19. These products can be very expensive and there is a need to bring cheaper follow-on versions to market as soon as possible. However, there are formidable barriers to doing so, including international guidelines for assessing safety and efficacy.

When considering an application for marketing approval for a generic small molecule medicine, regulatory agencies primarily assess bioequivalence, i.e., whether a competitor's generic product is an identical copy of the originator. Therefore, a manufacturer of a generic medicine need not prove the safety and efficacy of the medicine through clinical trials, and instead can rely on the data produced by the originator to obtain marketing approval (once any period of exclusivity on the test data has expired). This means the generic medicine can be produced much more cheaply than the originator. For biologics, however, which are much more complex, the assumption is that the manufacturing process is critical in determining the clinical properties of the drug and therefore a follow-on product developed through a different manufacturing process (which cannot be an identical copy and therefore is referred to as a "biosimilar") needs to have its safety and efficacy established through extensive clinical trials. Since the originators protect their knowledge about the manufacturing process through trade secret protections and are not required to share information about the manufacturing process and the cell lines in the public domain, the competitor is

forced to depend on a different manufacturing process. In the absence of access to the originator's manufacturing process, which is protected as a trade secret, the competitor must use independently developed manufacturing processes and carry out clinical trials to prove safety and efficacy, which requires time and resources and makes the development process costly.

The WHO (2009) Guidelines on Evaluation of Similar Biotherapeutic Products (SBP) provide guidance on how to develop a non-originator product with a smaller number of clinical trials than those required for originator biologics. These guidelines, which set the norms for the marketing approval of biotherapeutics, are based on outdated precautionary assumptions and put onerous requirements on their assessment, creating entry barriers. Many scientists have questioned the science behind the requirements and have asked the WHO to reconsider the need for such extensive clinical trials for follow-on biotherapeutics (New 2019). In 2014 the World Health Assembly adopted Resolution WHA 67.21 (WHO 2014b), which requested the director-general to convene an expert committee to update the 2009 guidelines in the context of technological advances and national regulatory needs and resources. It wasn't until 2020 that this expert committee finally decided to revise the SBP guidelines (WHO 2020c). Meanwhile, the lack of competition in the biosimilar market due to outdated regulatory barriers has compromised affordable access in LMICs. Currently, Canada, the EU, and the USA account for 77% of the market for monoclonal antibodies (the largest class of biotherapeutics), while the Asian Pacific accounts for 16%, Latin America 4%, the Middle East 2%, and Africa only 1% (International AIDS Vaccine Initiative 2021).

In the case of vaccines, there is no regulatory pathway currently existing to obtain marketing approval for a non-originator vaccine. As a result, every competing manufacturer is treated as a new vaccine developer and must carry out extensive clinical trials. If this regulatory insistence on clinical trials is not re-examined in the light of developments in science and technology, it risks using the façade of safety and efficacy concerns to stifle competition, thereby eliminating the possibility of affordable vaccines. The COVID-19 pandemic highlights the urgent need to explore reforming the regulatory framework to establish an approval pathway for non-originator vaccines.

3. Targeting of regulatory processes in trade agreements

Regulatory processes for pharmaceuticals, including the assessment of safety, efficacy, and quality, along with procedures for pricing and reimbursement, have increasingly been targeted in recent trade agreements, particularly those negotiated by the USA (Gleeson et al. 2019). The Australia–US Free Trade Agreement (AUSFTA) which came into force in 2005, for example, saw provisions targeting national coverage programs for pharmaceuticals introduced in a trade agreement for the first time. Similar provisions have since appeared in the Korea–US Free Trade Agreement (KORUS), the TPP (before the USA withdrew

from it), and the USMCA. While varying between agreements, these provisions generally impose detailed procedural requirements in the pharmaceutical industry's favor, including time limits for assessing proposals for listing drugs on national formularies, disclosure of decision-making criteria and reasons for decisions, and review or appeals processes for unsuccessful listing applications. Opportunities for industry input during decision-making and for consultation between trade partners about pharmaceutical policy must also be provided (Gleeson et al. 2019). These requirements raise concerns about the potential for reduced flexibility and industry interference in pharmaceutical decision-making and for pressure from trade partners such as the USA (Gleeson et al. 2019). These types of rules are generally unpalatable to other countries, as evidenced by the suspension of the procedural rules from the CPTPP after the collapse of the TPP. However, their inclusion in three US trade agreements in force (AUSFTA, KORUS, and the USMCA) suggests that its trade partners are in many cases prepared to accept them in exchange for access to US markets.

Recent US free trade agreements have also included provisions pertaining to marketing authorization processes and pharmaceutical inspections. The TPP and USMCA contain provisions seeking to harmonize processes for assessing safety and efficacy and align them with international standards; depending on how it is done, this may drive standards downwards or towards industry-favorable norms (Gleeson et al. 2019). These agreements also set criteria for making marketing authorization decisions, which may reduce flexibility and opportunities for requiring companies to submit data needed for transparency purposes, such as R&D costs or public financing received (Gleeson et al. 2019). Other provisions in these texts may increase pressure for accelerated decision-making about drug approval (with concomitant safety risks), protect information about pharmaceutical inspections from public disclosure, and encourage the participation of the pharmaceutical industry in the development of policies and standards (Gleeson et al. 2019).

Conclusion

There have been few times in history when inequities in access to medicines have seemed so stark, the health, economic, and social costs so high, and the underlying causes so intractable as in the case of COVID-19. We have traced in this chapter how the problem of inequitable access to medicines is underpinned by global intellectual property, trade, and regulatory regimes that stifle competition and allow medicines and vaccines to be monopolized by private companies and wealthy countries. After 25 years of WTO rules, with increasing proliferation of TRIPS-Plus rules and ongoing difficulties with using TRIPS flexibilities, the medicines access problem that at the beginning affected primarily the Global South has become a problem affecting wealthy countries as well. The power of the pharmaceutical industry in influencing norm and standard setting at the international level, as well as the behavior of individual nation states, is long-standing and undeniable. Yet access to medicines activists and civil society organizations have continued to challenge and disrupt the status quo, with some important victories such as the Doha Declaration on the TRIPS Agreement and Public Health, the removal or mitigation of TRIPS-Plus provisions in many trade agreements, and the mobilizing of efforts to get approval at the WTO for the TRIPS waiver. Whether or not the TRIPS waiver campaign succeeds, there remains an urgent need for governments and activists to continue to challenge TRIPS and TRIPS-Plus intellectual property regimes, which deny new medicines to much of the world's population while protecting pharmaceutical industry profits in high-income countries. The COVID-19 pandemic and the negotiations taking place at the WTO for a TRIPS waiver for COVID-19 medical products provide opportunities for activists and civil society organizations to further advance the cause of access to medicines, potentially opening the space for more fundamental reforms and power shifts.

References

- Berman, Ayelet. 2012. "The Distributional Effects of Transnational Pharmaceutical Regulation." CTEI Working Paper. Geneva: Graduate Institute of International and Development Studies.
- Boffey, Daniel. 2021. "France and Germany Threaten AstraZeneca over Vaccine Shortage." *The Guardian*. January 31. https:// www.theguardian.com/society/2021/jan/31/ france-germany-threaten-covid-astrazenecavaccine-shortageeu-uk.
- Business Standard. 2021. "Covid: WHO Urges Countries to Bridge \$16 bn Funding Gap for ACT Accelerator." *Business Standard*. June 15. https://www.business-standard.com/ article/current-affairs/covid-who-urgescountries-to-bridge-16-bn-funding-gap-foract-accelerator-121061500070_1.html.
- Cakmakli, Cem, Selva Demiralp, Şebnem Kalemli-Ozcan, Sevcan Yesiltas, and Muhammed A. Yildirim. 2021. *The Economic Case for Global Vaccinations: An Epidemiological Model with International Production Networks.* Paris: International Chamber of Commerce.
- Chinazzi, Matteo, Jessica T. Davis, Natalie E. Dean, Kunpeng Mu, Ana Pastore Y Piontti, Xinyue Xiong, M. Elizabeth Halloran, Ira M. Longini Jr., and Alessandro Vespignani. 2020. Estimating the Effect of Cooperative Versus Uncooperative Strategies of COVID-19 Vaccine Allocation: A Modeling Study. Boston: Network Science Institute, Northeastern University.

- Cleary, Ekaterina G., Jennifer M. Beierlein, Navleen S. Khanuja, Laura M. McNamee, and Fred D. Ledley. 2018. "Contribution of NIH Funding to New Drug Approvals 2010–2016." *Proceedings of the National Academy of Sciences of the United States of America* 115 (10): 2329–2334. doi: 10.1073/pnas.1715368115.
- Crager, Sara. E. 2018. "Improving Global Access to New Vaccines: Intellectual Property, Technology Transfer, and Regulatory Pathways." *American Journal of Public Health* 104 (11): e85–e91.
- Cross, Samuel, Yeanuk Rho, Henna Reddy, Toby Pepperrell, Florence Rodgers, Rhiannon Osborne, Ayolola Eni-Olotu, Rishi Banerjee, Sabrina Wimmer, and Sarai Keestra. 2021. "Who Funded the Research behind the Oxford-AstraZeneca COVID-19 Vaccine? Approximating the Funding to the University of Oxford for the Research and Development of the ChAdOx Vaccine Technology." *MedRxiv*, 1–22. doi: 10.1101/2021.04.08.21255103.
- Dhar, Biswajit, and K.M. Gopakumar. 2020.
 "Towards More Affordable Medicine: A Proposal to Waive Certain Obligations from the Agreement on TRIPS." ARTNET Working Paper Series No. 200. Bangkok: United Nations Economic and Social Commission for Asia and the Pacific.
- Drahos, Peter. 2007. "Four Lessons for Developing Countries from the Trade Negotiations over Access to Medicines." *Liverpool Law Review* 28 (1): 11–39.

- Ewen, Margaret, Marjolein Zweekhorst, Barbara Regeer, and Richard Laing. 2017. "Baseline Assessment of WHO's Target for Both Availability and Affordability of Essential Medicines to Treat Non-communicable Diseases." *Public Library of Science ONE* 12 (2): e0171284.
- Galkina Cleary, Ekaterina, Jennifer M. Beierlein, Navleen S. Khanuja, Laura M. McNamee, and Gilead Sciences. 2020. "An Open Letter from Daniel Day, Chairman & CEO, Gilead Sciences." California: Gilead Sciences.
- Gleeson, Deborah, Joel Lexchin, Ronald Labonté, Belinda Townsend, Marc Andre Gagnon, Jillian Kohler, Lisa Forman, and Kenneth
 C. Shadlen. 2019. "Analyzing the Impact of Trade and Investment Agreements on Pharmaceutical Policy: Provisions, Pathways and Potential Impacts." *Globalization and Health* 15 (1): 78.
- Gleeson, Deborah, Joel Lexchin, Ruth Lopert, and Burcu Kilic. 2018. "The Trans Pacific Partnership Agreement, Intellectual Property and Medicines: Differential Outcomes for Developed and Developing Countries." *Global Social Policy* 18 (1): 7–27.
- Gleeson, Deborah, Pat Neuwelt, Erik Monasterio, and Ruth Lopert. 2017. "How the Transnational Pharmaceutical Industry Pursues its Interests through International Trade and Investment Agreements: A Case Study of the Trans Pacific Partnership Agreement." In *Research Handbook on Transnational Corporations*, edited by A. De Jonge and R. Tomasic, 223–254. Edward Elgar.
- Gopakumar, K.M. 2014. "WHO: Governmental Pushback on Industry Role in Medical Product Regulation." Third World Network Info Service on Health Issues (May 14/08). 30 May. https://twn.my/title2/health. info/2014/hi140508.htm.
- Government Accountability Office. 2006. "New Drug Development: Science, Business, Regulatory and Intellectual Property Issues Cited as Hampering Drug Development Efforts." GAO-07-49. https://www.govinfo. gov/content/pkg/GAOREPORTS-GAO-07-49/ html/GAOREPORTS-GAO-07-49.htm.
- Hafner, Marco, Erez Yerushalmi, Clement Fays, Eliane Dufresne, and Christian van Stolk. 2020. COVID-19 and the Cost of Vaccine Nationalism. Santa Monica, California and Cambridge: RAND Corporation.

- HealthGap. 2021. "Moderna Responds to Activist Pressure, but in the Race for our Lives, We Need More Than Baby Steps." https:// healthgap.org/moderna-responds-to-activistpressure-but-in-the-race-for-our-lives-weneed-more-than-baby-steps/.
- Hill, Andrew, Junzheng Wang, Jacob Levi, Katie Heath, and Joseph Fortunak. 2020.
 "Minimum Costs to Manufacture New Treatments for COVID-19." *Journal of Virus Eradication* 6 (2): 61–69.
- Hopkins, Jared S., and Matt Grossman. 2021. "Pfizer Forecasts \$33 Billion in COVID-19 Vaccine Sales." *Wall Street Journal.* July 28. https://www.wsj.com/articles/ pfizer-raises-full-year-outlook-on-vaccinesales-11627472453.
- International AIDS Vaccine Initiative. 2021. "Expanding Access to Monoclonal Antibodybased Products: A Global Call to Action." https://www.iavi.org/news-resources/ expanding-access-to-monoclonal-antibodybased-products-a-global-call-to-action.
- IQVIA Institute for Human Data Science. 2019. "The Global Use of Medicine in 2019 and Outlook to 2023: Forecasts and Areas to Watch." Danbury, Connecticut: IQVIA Institute.
- lyengar, Swathi, Kiu Tay-Teo, Sabine Vogler, Peter Beyer, Stefan Wiktor, Kees de Joncheere, and Suzanne Hill. 2016. "Prices, Costs, and Affordability of New Medicines for Hepatitis C in 30 Countries: An Economic Analysis." *Public Library of Science Medicine* 13 (5): e1002032.
- Kapczynksi, Amy, Samantha Chaifetz, Zachery Katz, and Yochal Benkler. 2005. "Addressing Global Health Inequities: An Open Access Licensing Approach for University Innovations." *Berkeley Technology Law Journal* 20: 1031–1114. http:// www.hcs.harvard.edu/hac/wp-content/ uploads/2009/02/Addressing-Global-Health-Inequities_-An-Open-Licensing-Approach-f. pdf.
- Kapczynski, Amy, E. Tyler Crone, and Michael Merson. 2003. "Global Health and University Patents." *Science* 301: 5640. doi: 10.1126/ science.301.5640.1629
- kENUP Foundation. 2021. "Governments Spent at Least €93bn on COVID-19 Vaccines and Therapeutics during the Last 11 Months." https://www.businesswire.

com/news/home/20210110005098/ en/Governments-Spent-at-Least-%E2%82%AC93bn-on-COVID-19-Vaccinesand-Therapeutics-During-the-Last-11-Months.

- Khatib, Rasha, Martin McKee, Harry Shannon, Clara Chow, Sumathy Rangarajan, Koon Teo, et al. 2016. "Availability and Affordability of Cardiovascular Disease Medicines and their Effect on Use in High-Income, Middle-Income, and Low-Income Countries: An Analysis of the PURE Study Data." *The Lancet* 387 (10013): 61–69.
- Kollewe, Julia. 2021. "From Pfizer to Moderna: Who's Making Billions from COVID-19 Vaccines?" *The Guardian*. March 6. https:// www.theguardian.com/business/2021/ mar/o6/from-pfizer-to-moderna-whosmaking-billions-from-covid-vaccines.
- Kyle, Margaret, and Anita McGahan. 2012. "Investments in Pharmaceuticals before and after TRIPS." *The Review of Economics and Statistics* 94: 1157–1172.
- Labonté, Ronald, Eric Crosbie, Deborah Gleeson, and Courtney McNamara. 2019. "USMCA (NAFTA 2.0): Tightening the Constraints on the Right to Regulate for Public Health." *Globalization and Health* 15: 35. doi: 10.1186/ 512992-019-0476-8.
- Labonté, Ronald, Deborah Gleeson, and Courtney L. McNamara. 2020. "USMCA 2.0: A Few Improvements but far from a 'Healthy' Trade Treaty." *Globalization and Health* 16 (1): 43.
- Ledley, Fred D. 2018. "Contribution of NIH Funding to New Drug Approvals 2010–2016." *Proceedings of the National Academy of Sciences* 115 (10): 2329.
- Lee, Gavin. 2021. "Coronavirus: WHO Criticises EU over Vaccine Export Controls." BBC News. January 30. https://www.bbc.com/ news/world-europe-55860540.
- Levine, David S. 2020. "Trade Secrets and the Battle against Covid." *Journal of Intellectual Property Law & Practice* 15 (11): 849–850.
- Lexchin, Joel. 2012. "Harmony in Drug Regulation, but Who's Calling the Tune? An Examination of Regulatory Harmonization in Health Canada." *International Journal of Health Services* 42 (1): 119–136.
- Lexchin, Joel, and Marc Andre Gagnon. 2014. "CETA and Pharmaceuticals: Impact of the Trade Agreement between Europe and Canada on the Costs of Prescription

Drugs." *Globalization and Health* 10. doi: 10.1186/1744-8603-10-30.

- Lopert, Ruth, and Deborah Gleeson. 2013. "The High Price of 'Free' Trade: US Trade Agreements and Access to Medicines." *Journal of Law, Medicine and Ethics* 41 (1): 199–223.
- Lovett, Samuel. 2021. "G7 Nations Will Have Stockpiled a Billion Spare Covid Vaccine Doses by End of 2021, Analysis Shows." *Independent*. August 18. https://www. independent.co.uk/news/science/covidvaccine-doses-2021-rates-b1904061.html.
- Martin, Manuel, and Isabelle Jani-Friend. 2021. "Pharma Companies Must Open Their Books on the Funding Agreements for COVID-19 Vaccines." BMJ Opinion. https://blogs.bmj.com/bmj/2020/11/12/ pharma-companies-must-open-their-bookson-the-funding-agreements-for-covid-19vaccine-candidates/.
- Maybarduk, Peter. 2020. "Remdesivir Should Be in the Public Domain; Gilead's Licensing Deal Picks Winners and Losers." May 12. https:// www.citizen.org/news/remdesivir-should-bein-the-public-domain-gileads-licensing-dealpicks-winners-and-losers/.
- Médecins Sans Frontières. 2002. "Patents, Prices and Patients: The Example of HIV/ AIDS." https://www.msf.org/patents-pricespatients-example-hivaids.
- Médecins Sans Frontières. 2020a. "Governments Must Demand Pharma Make All COVID-19 Vaccine Deals Public." https://www.msf.org/ governments-must-demand-all-coronaviruscovid-19-vaccine-deals-are-made-public.
- Médecins Sans Frontières. 2020b. "Voluntary Licenses and Access to Medicines." Geneva: Médecins Sans Frontières.
- Médecins Sans Frontières. 2020c. "Open Letter: Civil Society Urges Gilead to Take Immediate Action to Ensure Access to Potential COVID-19 Treatment." https://msfaccess.org/ open-letter-civil-society-urges-gilead-takeimmediate-action-ensure-access-potentialcovid-19.
- Mike, Jennifer H.M. 2020. "Access to Essential Medicines to Guarantee Women's Rights to Health: The Pharmaceutical Patents Connection." *The Journal of World Intellectual Property* 23 (3–4): 473–517.
- Moderna. 2020. "Statement by Moderna on Intellectual Property Matters during the

COVID-19 Pandemic." October 8. https:// investors.modernatx.com/news-releases/ news-release-details/statement-modernaintellectual-property-matters-duringcovid-19.

- Morgan, Steve, Paul Grootendorst, Joel Lexchin, Colleen Cunningham, and Devon Greyson. 2011. "The Cost of Drug Development: A Systematic Review." *Health Policy* 100 (1): 4–17.
- Nagarajan, Rama. 2014. "Conflict of Interest in Setting Norms for Pharmaceuticals in WHO." https://timesofindia.indiatimes. com/city/delhi/conflict-of-interest-insetting-norms-for-pharmaceuticalsin-who/articleshow/35261958. cms?utm_source=contentofinterest&utm_ medium=text&utm_campaign=cppst.
- Navarro, Danielle, and Marcela Vieira. 2021. "Research Synthesis: Compulsory Licensing." Geneva: Global Health Centre, the Graduate Institute Geneva.
- Nayak, Rahul, Jerry Avorn, and Aaron Kesselheim. 2019. "Public Sector Financial Support for Late Stage Discovery of New Drugs in the United States: Cohort Study." *British Medical Journal* 367: 1–12. doi: 10.1136/ bmj.l5766.
- New, William. 2019. "Revise Biosimilar Guidelines, Scientists Demand; WHO Says Not Now." *Health Policy Watch*. https:// healthpolicy-watch.news/revise-biosimilarguidelines-scientists-demand-who-says-notnow/.
- OECD. 2015. "Chapter 2: Pharmaceutical Spending Trends and Future Challenges." In *Health at a Glance*, 29–44. Paris: OECD.
- Office of the United States Trade Representative. 2021. "Statement from Ambassador Katherine Tai on the COVID-19 Trips Waiver." May 5. https://ustr.gov/ about-us/policy-offices/press-office/pressreleases/2021/may/statement-ambassadorkatherine-tai-covid-19-trips-waiver.
- Ohno, Yasuo. 2002. "ICH Guidelines Implementation of the 3Rs (Refinement, Reduction, and Replacement): Incorporating Best Scientific Practices into the Regulatory Process." Institute for Laboratory Animal Research Journal 43 (Suppl. 1): S95–S98.
- Palestinian Central Bureau of Statistics. 2019. "Foreign Trade Statistics on Goods and Services 2018." https://www.pcbs.gov.ps/ site/lang_en/712/default.aspx.

- Palestinian Ministry of Health. 2019. "Annual Health Report 2018." https://bit.ly/3a3mgsy.
- Public Citizen. 2020. "The Real Story of Remdesivir." https://www.citizen.org/article/ the-real-story-of-remdesivir/.
- Pusceddu, Piergiuseppe. 2018. "Assessing Access to Medicines in Preferential Trade Agreements: From the Trans-Pacific Partnership to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership." *International Review of Intellectual Property and Competition Law* 49: 1048–1079. doi: 10.1007/s40319-018-0758-3.
- Reuters Staff. 2020. "India's Cipla to Price Remdesivir Version for COVID-19 under \$66." Reuters. June 23. https://www.reuters. com/article/us-health-coronavirus-ciplaidUSKBN23U1PQ.
- Silverman, Ed. 2020. "Gilead Signs Licenses for Generic Companies to Make and Sell Remdesivir in 127 Countries." StatNews. May 12. https://www.statnews.com/ pharmalot/2020/05/12/gilead-genericsremdesivir-covid19-coronavirus-licenses/.
- So, Anthony D., and Joshua Woo. 2020. "Reserving Coronavirus Disease 2019 Vaccines for Global Access: Cross Sectional Analysis." *British Medical Journal* 371: m4750.
- Social and Economic Policies Monitor. 2013. "Development and Funding in Palestine."
- Son, Kyung-Bok, and Tae-Jin Lee. 2018. "Compulsory Licensing of Pharmaceuticals Reconsidered: Current Situation and Implications for Access to Medicines." *Global Public Health* 13 (10): 1430–1440.
- Stephens, Peter, Dennis Ross-Degnan, and Anita K. Wagner. 2013. "Does Access to Medicines Differ by Gender? Evidence from 15 Low and Middle Income Countries." *Health Policy* 110 (1): 60–66.
- Sweet, Cassandra M., Dalibor Sacha, and Eterovic Maggio. 2015. "Do Stronger Intellectual Property Rights Increase Innovation?" *World Development* 66: 665–677.
- 't Hoen, Ellen F.M. 2009. *The Global Politics* of Pharmaceutical Monopoly Power: Drug Patents, Access, Innovation and the Application of the WTO Doha Declaration on TRIPS and Public Health. The Netherlands: AMB Publishers.
- Tay-Teo, K., A. Ilbawi, and S.R. Hill. 2019. "Comparison of Sales Income and Research

170 | GLOBAL HEALTH WATCH 6

and Development Costs for FDA-Approved Cancer Drugs Sold by Originator Drug Companies." *JAMA Network Open* 2 (1): e186875-e186875.

- The Straits Times. 2021. "Ignoring WHO Call, Major Nations Stick to Vaccine Booster Plans." *The Straits Times*. August 27. https:// www.straitstimes.com/world/ignoring-whocall-major-nations-stick-to-vaccine-boosterplans.
- Third World Network. 2021."Strong Support for TRIPS Waiver Amidst Opposition by Big Pharma." March 12. https://www.twn.my/ title2/health.info/2021/hi210306.htm.
- Timmermans, Karin. 2004. "Harmonization, Regulation, and Trade: Interactions in the Pharmaceutical Field." *International Journal of Health Services* 34 (4): 651–661.
- https://www.hhs.gov/about/news/2020/06/29/ trump-administration-secures-new-suppliesremdesivir-united-states.html.
- UAEM. 2015. "Coalition Calls on Johns Hopkins University to Ensure Accessibility of Tuberculosis Drug – Universities Allied for Essential Medicines." https://uaem.nl/news/ coalition-calls-on-johns-hopkins-universityto-ensure-accessibility-of-tuberculosis-drug/.
- UAEM. 2020. "Tools Equitable Technology Access Framework (ETAF)." https://www. uaem.org/etaf.
- UAEM UK. 2020. "Ensuring UK University Licensing and Patenting Practices Maximises Equitable Access to COVID-19 Technologies – Briefing for Backbench Business Committee Debate on 5/11/2020." https:// studentsforglobalhealth.org/universitiesallied-of-essential-medicines-uaem-2/.
- UAEM. 2021. Public Medicines for COVID-19 Dashboard. https://publicmeds4covid.org/ dashboard.
- UNICEF. n.d. COVID-19 Vaccine Market Dashboard: COVID-19 Vaccine Deliveries. https://app.powerbi.com/ view?r=eyJrIjoiNmEoYjZiNZUtZj k2OSooZTg4LThIMzMtNTRhNzEo NZA4YmZIIiwidCl6Ijc3NDEwMTk1 LTEoZTEtNGZiOCo5MDRiLWFiM Tg5MjAyMzY2NyIsImMiOjh9& pageName=ReportSectiona329 b3eafd86o59a947b. Last accessed August 31, 2021.
- United Nations Conference on Trade and Development. 2020. *Global Trade Update: October 2020*. Geneva: UNCTAD.

- United Nations Secretary-General's High Level Panel on Access to Medicines. 2016. *Report* of the United Nations Secretary General's High Level Panel on Access to Medicines: Promoting Innovation and Access to Health Technologies. Geneva: United Nations.
- United Nations. 2015. "Sustainable Development Goals." In *Transforming Our World: The 2030 Agenda for Sustainable Development*. A/RES/70/1. https://www. un.org/ga/search/view_doc.asp?symbol=A/ RES/70/1&Lang=E.
- U.S. Department of Health & Human Services. 2020. "Trump Administration Secures New Supplies of Remdesivir for the United States." June 29. https://www.legistorm. com/stormfeed/view_rss/1855790/ organization/69541/title/trumpadministration-secures-new-supplies-ofremdesivir-for-the-united-states.html.
- Vialle-Valentin, Catherine E., Dennis Ross-Degnan, Joseph Ntaganira, and Anita K. Wagner. 2008. "Medicines Coverage and Community-based Health Insurance in Lowincome Countries." *Health Research Policy and Systems* 6.
- Washburn, Jennifer. 2005. University Inc. The Corporate Corruption of Higher Education. New York: Basic Books.
- Watkins, Morgan. 2020. "Kentucky Gov. Andy Beshear Calls on 3M to Release Patent for N95 Respirator Amid Pandemic." Courier Journal. https://www.courier-journal.com/ story/news/2020/04/03/beshear-calls-3m-release-patent-n-95-respirator-amidpandemic/5112729002/.
- Who Profits from the Occupation. 2012. "Captive Economy the Pharmaceutical Industry and the Israeli Occupation." https://bit. ly/2PScpWo 2012.
- Wirtz, Veronika J., Hans V. Hogerzeil, et al. 2017. "Essential Medicines for Universal Health Coverage." *The Lancet* 389 (10067): 403-476.
- World Health Organization. 2002. The Impact of Implementation of ICH Guidelines in Non-ICH Countries: Report of a WHO Meeting, Geneva, 13–15 September 2001. Geneva: World Health Organization.
- World Health Organization. 2004. WHO Medicines Strategy: Countries at the Core 2004–2007. Geneva: World Health Organization.
- World Health Organization. 2009. *Guidelines* on Evaluation of Similar Biotherapeutic

Products (SBPs). Geneva: World Health Organization.

- World Health Organization. 2012. "Consultative Expert Working Group on Research and Development: Financing and Coordination." Provisional Agenda Item 13.14. Sixty-Fifth World Health Assembly.
- World Health Organization. 2014a. "Regulatory System Strengthening for Medical Products." EB134.R17. Geneva: World Health Organization.
- World Health Organization. 2014b. Access to Biotherapeutic Products Including Similar Biotherapeutic Products and Ensuring their Quality, Safety and Efficacy. WHA 67.21. Geneva: World Health Organization.
- World Health Organization. 2016. Framework of Engagement with Non-State Actors. Geneva: World Health Organization. https:// apps.who.int/gb/ebwha/pdf_files/WHA69/ A69_R10-en.pdf?ua=1.
- World Health Organization. 2017. WHO Expert Committee on Specifications for Pharmaceutical Preparations: Fifty-First Report. WHO Technical Report Series 1003. Geneva: WHO.
- World Health Organization. 2018. *Global Vaccine Market Report*. Geneva: World Health Organization.
- World Health Organization. 2020a. "COVID-19 Technology Access Pool." https:// www.who.int/emergencies/diseases/ novel-coronavirus-2019/global-researchon-novel-coronavirus-2019-ncov/covid-19technology-access-pool.
- World Health Organization. 2020b. "WHO Recommends Against the Use of Remdesivir in COVID-19 Patients." https://www.who. int/news-room/feature-stories/detail/whorecommends-against-the-use-of-remdesivirin-covid-19-patients.

- World Health Organization. 2020c. "Main Outcomes of the Meeting of the WHO Expert Committee on Biological Standardization held on 9 and 10 December 2020." https://www.who.int/publications/m/ item/ECBS-Executive-Summary.IF.IK.TW-15_Dec_2020.
- World Health Organization. 2021. WHO Director-General's Opening Remarks at the Media Briefing on COVID-19 – 4 August 2021. https://www.who.int/director-general/ speeches/detail/who-director-general-sopening-remarks-at-the-media-briefing-oncovid-4-august-2021.
- World Health Organization and International
 Bank for Reconstruction and Development.
 2020. Global Monitoring Report on Financial
 Protection in Health 2019. Switzerland:
 World Health Organization and World Bank.
- World Health Organization and World Bank. 2015. Tracking Universal Health Coverage: First Global Monitoring Report. Geneva: World Health Organization and the World Bank.
- World Trade Organization. 2001. *Declaration on the TRIPS Agreement and Public Health.* Geneva: World Trade Organization.
- World Trade Organization. 2020a. Trade in Medical Goods in the Context of Tackling COVID-19. Geneva: World Trade Organization.
- World Trade Organization. 2020b. "Waiver from Certain Provisions of the TRIPS Agreement for the Prevention, Containment and Treatment of COVID-19: Communication from India and South Africa. Council for Trade-Related Aspects of Intellectual Property Rights." IC/C/W/669. October 2. Geneva: World Trade Organization.