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Double Standards in Global Health: Medicine, Human Rights Law and Multidrug-Resistant TB Treatment Policy

Thomas Nicholson, Catherine Admay, Aaron Shakow, and Salmaan Keshavjee

Abstract

The human rights arguments that underpinned the fight against HIV over the last three decades were poised, but ultimately failed, to provide a similar foundation for success against multidrug-resistant TB (MDR-TB) and other diseases of the poor. With more than 1.5 million deaths since 2000 attributed to strains of MDR-TB, and with half a million new, and mostly untreated, MDR-TB cases in the world each year, the stakes could not be higher. The World Health Organization (WHO), whose mandate is to champion the attainment by all peoples of the highest possible level of health, recommended unsound medical treatment for MDR-TB patients in resource-poor settings from 1993-2002. Citing cost considerations, WHO did not recommend the available standard of care that had been successfully used to contain and defeat MDR-TB in rich countries. By acting as a strategic gatekeeper in its technical advisory role to donor agencies and countries, it also facilitated the global implementation of a double standard for TB care in low- and middle-income countries (LMICs), upending important legal and scientific priorities. This raises serious questions about whether the organization violated international human rights standards and those established in its own constitution. While calling for additional analysis and discussion on this topic, the authors propose that policymakers should reject double standards of this kind and instead embrace the challenge of implementing the highest standard of care on a global level.

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Introduction

Between the late 1990s and the present, human rights activists successfully institutionalized the principle that the highest standard of clinical care for HIV is a public good. Although much remains to be accomplished in the treatment and prevention of HIV, this moral and pragmatic orientation enabled more than 15 million individuals out of an estimated 36.9 million people living with HIV to access antiretroviral therapy in 2015. AIDS-related deaths dropped by 42% between 2004 and 2014; new HIV infections in adults fell by 35% after 2000 and by 58% in children.[1]

Gains against HIV have not been replicated against TB, despite the fact that it remains the biggest killer of people living with HIV and is now the top infectious killer of adults in the world.[2] This airborne bacterial disease has been treatable and preventable since the 1950s, yet kills 1.5 million annually—4,000 people each day.[2] Although an estimated 9 million people are thought to become sick with TB each year, only 6 million are diagnosed and given some form of treatment. Of the 1 million children sickened by TB each year, a very small fraction receives care.[3] Rates of TB have dropped a mere 1.65% per year despite a two-decade international effort led by the World Health Organization (WHO) to control the disease.[4]

Despite the reduction in deaths from TB since 1990, a worrisome aspect of the disease remains largely unaddressed in practice: drug resistance.[5] Between 2000 and 2009, an estimated 5 million people were infected with multidrug-resistant TB (MDR-TB): strains of *Mycobacterium tuberculosis* resistant to isoniazid and rifampin, the backbone of first-line anti-TB therapy. Of these, an estimated 1.5 million died.[6] According to WHO, 190,000 people died of MDR-TB and an estimated 480,000 cases occurred in 2014 alone; of these, only 123,000 were detected and reported; even fewer received appropriate treatment; and only half of those treated were cured.[7] Almost 10% of these individuals were infected with extensively drug-resistant TB (XDR-TB), difficult-to-cure strains of TB resistant not only to isoniazid and rifampin but also the drugs that form the backbone of the second-line anti-TB regimen (fluoroquinolones and parenteral agents).[8] Without treatment, most people sick with any form of TB will infect people in their families and communities, and will eventually die from the disease.

Despite the dangers of this airborne killer, for most of the 1990s, international donors, non-profit organizations, and national governments were advised by WHO not to treat patients infected with MDR-TB, but rather to focus on preventing the emergence of drug resistance.[9] There were rationalizations for this policy: weak health systems in poor countries; lack of capacity to implement complex health interventions; even scientifically disproven ideas that drug-resistant strains would not be as transmissible. However, the driving force was a concern over cost.[10] These MDR-TB policies from WHO were emblematic of a long-standing conflict between principles of cost-effectiveness and sound epidemic control strategies for TB in low- and middle-income countries (LMICs).[11]

The juxtaposition of arguments for equal treatment of those sick with epidemic HIV against the simultaneous failure of those arguments for global solidarity in relation to epidemic MDR-TB highlights significant gaps in human rights-based decision-making in global health. As rates of MDR-TB shot up in the 1990s, policymakers were able to shroud substandard care in a discourse of cost that overrode the best available clinical judgment for a decade. The scientific standards of care which would otherwise have been appropriate to treat MDR-TB were thus systematically excluded in resource-poor settings.

In this article, we discuss how a series of MDR-TB diagnostic and treatment policies—driven primarily by economistic considerations and propagated by WHO from 1993 to 2002 may have led to hundreds of thousands of avoidable deaths, and set the stage for increased transmission of drug-resistant strains. In endorsing double standards, excusing—and even mandating—failing to care for the sick living in low-resource settings, this approach simultaneously violated bedrock principles of scientific medicine and of human rights law. Our purpose is to advocate for accountability, oriented towards prospective policy transformation rather

than retrospective legal liability.[12] Where contemporary decisions in favor of double standards are driven by similar cost considerations, we hope our analysis will give policymakers due cause to reject this approach.[13]

Multidrug-resistant TB and short-course chemotherapy

Rifampin, an oral medication, is one of the most potent anti-TB drugs found in the 70 years since antibiotics first came into use.[14] Before rifampin was introduced in the 1960s, the full course of treatment for TB took a year or more, often involving daily injections and hospitalization.[15] Rifampin made it possible to cure TB in six to nine months. In wealthy countries, it became the cornerstone of short-course chemotherapy (SCC). Elsewhere, rifampin's cost was considered prohibitive until years after the US patent expired in 1987. Before then, many public health experts advocated more toxic, less effective drugs for use in poor countries.[16]

It was eventually shown that a multidrug SCC regimen based on isoniazid and rifampin, supplemented with pyrazinamide and ethambutol, cured almost all patients who adhered to treatment—unless they were infected with a rifampin-resistant strain of TB.[17] This regimen was soon regarded as the gold standard of empirical first-line care.[18] Other studies had already demonstrated that home-based treatment was safe and highly effective when appropriately supervised.[19] The reduced cost of drugs and clinicians for outpatient SCC made it attractive in settings with limited resources and infrastructure.

Yet the well-known ability of disease-causing microorganisms to develop resistance during chemotherapy remained a challenge.[20] It was soon established that monotherapy allows some *M. tuberculosis* organisms to evolve into drug-resistant forms, and anti-TB medications had to be taken in combination.[21] Still, some people undergoing therapy were either not cured or suffered a relapse post-cure, often indicating that the infecting strain of TB was resistant to one or more of the medicines from the beginning—primary drug resistance—or that it developed resistance during treatment. Care

providers turned to second-line anti-TB drugs, many of which cause a variety of treatable adverse events. Drug-resistant strains—which, like all forms of TB, are transmitted in families, communities, health facilities, and places of work, when appropriate treatment is not provided—require up to two years of treatment.[22]

In the late 1980s, outbreaks of MDR-TB were reported all over the US, most notably in New York City. Deploying clinical knowledge from national reference centers, the US dealt with the epidemic decisively. The treatment strategy, pioneered in the 1950s and 60s, included active case-finding, diagnosis using mycobacterial cell culture and drug sensitivity testing, second-line drugs, infection control, and delivery of care under direct observation and with patient supports. Health officials reined in the epidemic. Such comprehensive public health strategies, along with the use of second-line drugs, became the standard of care.[23] As noted in one report from New York City in the early 1990s, clinicians found it "easy to prevent transmission by ensuring that patients with recently acquired disease are treated promptly, appropriately, and completely—ideally, with directly observed therapy (DOT)."[24]

The US outbreaks of MDR-TB foreshadowed a global problem. DR-TB was observed around the world, making it clear that SCC alone would not suffice.[25] An "amplifier effect" of improperly applied SCC—where resistance to most drugs in a treatment cocktail allowed for the evolution of resistance to the other drugs in the cocktail—had been proposed in the mid-1980s.[26] In 1995, the NGO Partners In Health (PIH) encountered an outbreak of MDR-TB in a slum area of Lima, Peru, and published evidence that that seemed to suggest such "amplification."[27]

The Peruvian National Tuberculosis Program maintained a close working relationship with the WHO Global Tuberculosis Program, receiving extensive technical support from Geneva, and providing operational feedback for WHO recommendations.[28] In 1995, Peru revised its guideline regimens under WHO supervision to include a standardized eight-month retreatment regimen

which added the antibiotic streptomycin to the default regimen of four first-line drugs (isoniazid, rifampin, pyrazinamide, and ethambutol); the following year, WHO named Peru a "model DOTS program."[29] Yet retrospective analysis of laboratory samples makes clear that by adding a single drug to failing regimens, the retreatment protocol was promoting further resistance.[30]

In 1997, WHO published global guidelines for the treatment of DR-TB, advising countries to divide patients into ranked priority categories.[31] The first category regarded new cases presumed to be infected with drug-susceptible TB strains. The next category included retreatment cases for whom six months of SCC had already proven unsuccessful; as in Peru, they were to receive the four drugs of SCC plus streptomycin. The third category included patients with extra-pulmonary TB or those whose sputum otherwise tested negative for TB. The last category included "chronic" patients who had failed the retreatment regimen.[32]

As these guidelines were being drawn up, the WHO Global Tuberculosis Program recommended a course of action to the Peruvian Ministry of Health following these categories, including a standardized retreatment regimen for so-called *crónicos*, the cost of which was less than one-fifth that of the regimen for MDR-TB patients being suggested to European countries.[33] Instead of turning to the successful approach from New York City and elsewhere, Peru was advised to implement an untested standardized therapy.[34] Although this involved 18 months of treatment with second-line drugs (at sub-therapeutic doses), it still included ethambutol and pyrazinamide. Because it did not involve drug sensitivity testing, a hallmark of the strategy used in New York, patients received second-line drugs to which they were already resistant. Unsurprisingly, the outcomes of this approach were poor: only 48% achieved cure and a significant number died.[35] Many acquired further drug resistance.[36]

Echoing arguments of HIV activists, PIH rejected this double standard of care that triaged patients by their location in the global economy. Using outside resources, the organization demonstrated that the approach used to stem the New York epidemic—modified for community-based care in Lima's slums—could achieve higher cure rates (83% probable cure for patients who received at least four months of treatment, and 66.3% validated cure for all enrolled MDR patients) and prevent death.[37]

DOTS and the political economy of MDR-TB

On what was WHO advice to Peru based? A 1993 address by then-Director-General Hiroshi Nakajima gives some insight. Speaking to the World Health Assembly, Nakajima spoke of increasingly strong "working relationships with the World Bank (WB) and regional development banks," adding that the agency "has been closely associated with the WB in preparing its 1993 report *Investing in Health*."[38]

Three years later, armed with the published outcomes of TB treatment with the WB-funded medicines, Nakajima proclaimed "a new approach to improve compliance with treatment of TB (DOTS), first tested in Africa and China," which he asserted were "successfully applied later in New York to overcome episodes of drug resistance."[39] The DOTS brand name (as it was called in subsequent WHO publications) was a portmanteau of DOT and SCC.[40]

Despite claims in the press, DOTS was mostly touted for its low cost rather than scientific rigor.[41] While health officials in New York used DOT to monitor adverse events and increase treatment compliance, they did not rely on SCC to stop the spread of MDR-TB. The international response to the MDR-TB epidemic, however, focused on cost. Nakajima argued that treatment for a single patient in developed countries was "up to US$250,000," which assumed two years of continuous hospitalization and was explicitly contradicted by government sources.[42] A year after this claim, a cost analysis based on US data produced a figure of US$6,000-$8,000, assuming precisely the ambulatory treatment model adopted by PIH in Peru two years later.[43] Meanwhile, the inflated figure of US$250,000 was used to imply that if DOTS and SCC were supplemented by the longer regimens that could cure MDR-TB patients, the cost-effectiveness of TB treatment, touted by both WHO and

the WB, would be undermined.[44]

WHO's alliance with donors, including the WB, made it difficult for countries to reject WHO advice without putting national TB programs in financial jeopardy. For example, in approving loan funding for TB control, the WB relied on WHO as a gatekeeper in two key areas: (1) standardized global treatment protocols that were compared for conformity to country-level documents and practices; (2) the Model List of Essential Drugs (EDL) which, after its inception in 1977, formed the basis for standard formularies of international procurement agencies accepted by WB country-level staff in project planning.[45] Not only did most health ministries rely on WHO's EDL to compile their own formularies, they were often limited by law to these essential drugs in procurement for WB-funded projects.[46]

Even when WHO literature acknowledged that second-line drugs were the only way to treat MDR-TB, the contradiction with DOTS and the EDL on which it was based was resolved by an even more explicitly discriminatory and economistic rationale. For example, guidelines issued in 1997 by the Southeast Asian WHO Regional Office stated only second-line drugs could be effective against MDR-TB. However, the authors continued: "In many high-TB-prevalence countries, second-line drugs are prohibitively expensive and unavailable," and thus: "Multi-drug resistant TB is… often untreatable."[47] It was not that patients with MDR-TB in poor countries were not being treated, or that a choice should be made not to treat them, but rather that, due to costs, they could not be treated at all.

Even toward the end of the 1993-2002 period, this approach was pervasive. It informed the 2002-2003 editions of the EDL which include comparative cost-effectiveness, rather than simply effectiveness, as a criterion for inclusion of a drug, despite the fact that the stated purpose of the list is to make effective drugs more affordable.[48] This circular approach prohibits, on the basis of cost, the inclusion of certain drugs whose pricing could be reduced through negotiation with manufacturers or other market mechanisms (for example, through an advance-purchase option or bulk purchases).

It also shifts the focus away from clinical needs to an economistic rationalization of double standards based on one's place in the global economy. This discrimination was and is compounded on a national level by the economic and political marginalization experienced by TB patients in general.

WHO Director-General Nakajima stated that because of the high expense (again: "up to US$ 250,000 per case"), the conditions of treatment for MDR-TB "can be met only in the industrialized countries and in sophisticated hospital settings," concluding that "for those who develop the disease in the developing world MDR is a virtual death sentence."[49] This pessimism was self-fulfilling. First, it was contradicted by price reductions in rifampin that had made the DOTS strategy itself possible. Second, it legitimated a crude application of cost-effectiveness criteria that neglected long-term epidemiological and fiscal impact. The pessimism also proved unrealistic. After a multi-national group of stakeholders convened to form a Green Light Committee for MDR-TB treatment—exchanging stringent programmatic oversight for lower drug prices from manufacturers concerned about the misuse of second-line anti-TB drugs—many programs successfully treated MDR-TB in resource-limited settings.[50] Countries like Russia and Turkey, with some capacity to support TB treatment without donor financing, refused initially during this period to adopt DOTS protocols.[51] The Russian national program head went so far as to call it "soup-kitchen medicine," but ultimately did accept DOTS protocols during the post-Soviet period.[52]

For many countries, the MDR-TB epidemic worsened from 1995 to 2005.[53] For example, six years after Belarus adopted DOTS-based WHO treatment protocols almost identical to the ones rejected in the 1990s by PIH and others (including the United States Centers for Disease Control and Prevention), nearly half of diagnosed TB patients had either MDR- or XDR-TB.[54] WHO's persistence in choosing to recommend sub-standard treatment regimens due to cost for treatment of DR-TB in these countries clearly had deadly stakes. In the circumstances, were human rights standards violated?

Violation of WHO's Constitution and ICESCR standards

We proceed along two broad lines of policy-directed legal argument: one concerned with cost considerations and sound medical care; the other with the predictable elusiveness of equality—touchstone of a human rights regime—for vulnerable people. As to the first line: perhaps the most decisive factual consideration is the biomedical one. The standard of care, to which so many patients were subjected, did not actually meet the biomedical threshold for care. Re-treating TB patients with first-line drugs after they failed to respond, without any attempt to determine their sensitivity to those drugs, is not, properly speaking, providing patients with care. It is even less so when low-income countries are guided to ignore patients infected with MDR–TB. WHO has a distinctive constitutional burden and policy imperative to uphold the international human rights regime that drives towards the highest standard of health for everyone without allowing socioeconomic realities to invert medically sound care. Although a high-stakes debate exists among commentators about the legal acceptability of different standards of medical care for proven therapies—where some maintain that standards may vary according to state resource level—few would embrace WHO's brand of cost-effective non-care as justified. As to the second line: we need to understand that WHO's treatment protocol harmed the most vulnerable of TB patients with legally protected interests. The reason to recognize this harm—and its unacceptability within the human rights regime—is to help foster transformative accountability, moving away from double standards.[55]

Our policy-oriented legal analysis follows. At the threshold, we account for the relevance to the actors of the sources of law. Next, we identify relevant legal standards from WHO's Constitution and the International Covenant on ESCR (ICESCR). Finally, we discuss those standards in light of our two broad lines of policy concern, taking into account anticipatable legal counter-argument.

Thresholds

WHO's Constitution is binding on WHO. ICESCR directly binds States parties, and a push is underway for international organizations like WHO to acknowledge a measure of responsibility or accountability to the standards of the ICESCR as well.[56]

WHO is a creature of its constituent act. As "has often been emphasized, [these acts] have a dual character: contractual (since the vast majority…are international treaties), as well as constitutional (since they represent the backbone of the organization's legal order)."[57] We invoke WHO's Constitution because of the constitutional (rather than international) character of its internal rules, which directly bind the organization. The Constitution leads with many preambular purposes, a sole objective, and a list of functions to achieve its objective.[58] Article 75 explains "any question or dispute concerning the interpretation of application of this Constitution"—that is, any legal question about the constitutional sufficiency of the organization's actions—will be settled by the World Health Assembly (WHA), the International Court of Justice (ICJ), or another mechanism agreed upon by States parties and WHO.[59]

Our purpose is not adjudicatory. Instead we draw attention to the legal standards upon which WHO is founded as organizational policy benchmarks to be kept front and center at the point of policy choice. A constitution that champions the rights of "all peoples" and "every human being" creates a legitimate expectation on the part of these people, including the millions around the world who are suffering from TB, that WHO policies will hew to constitutional commitments.[60]

WHO should have no quarrel with our account of their constitutional obligations and their significance to its policymaking. Its publicly posted Fact Sheet 323 opens with "Key fact[]: The WHO Constitution enshrines '…the highest attainable standard of health as a fundamental right of every human being.'" "Health policies and programmes," it recognizes, "have the ability to either promote or violate human rights, including the right to health, depending on the way they are designed or implemented."[61] In this and other publications, WHO reinforces the principle that its Constitution bears directly on its policy decisions, encouraging

our claim that the public has legitimate legally grounded expectations for the conduct of WHO and its policymaking partners.[62] The expectation is that enshrined constitutional standards will also be embedded in the content of WHO protocols. Along with others, we attach a policy imperative to its legal scaffolding: "The WHO has the constitutional responsibility to lead the way in developing the [global health] roadmap—and mobilizing countries to follow."[63]

ICESCR directly binds state parties.[64] Some 164 countries are parties, including many of the countries (Belarus, India, Peru) where the WHO protocol was deployed. But what of WHO? Here the legal line of obligation is much less clear than in the case of its Constitution. Several commentators have argued that the International Monetary Fund (IMF) and the WB "are governed by human rights instruments" and "have obligations concerning the international law of human rights."[65] A central element of the legal argument against such an interpretation has been that it would require an international organization like the IMF to "disregard its own legal structure for the sake of pursuing goals that are not its mandated purposes."[66] To the contrary, WHO's Constitution "explicitly… include[s] the promotion of human rights."[67] It also fundamentally laid the normative foundation for the ICESCR's right to health.[68] While not unanimous, "it appears … widely accepted that, in principle, international organizations are bound by customary international law" (CIL)[69] and "general rules of international law"[70] and that these sources of obligation contribute to General Comment No. 14 (GC14) attaching both "obligation" and "responsibility" to WHO.[71] GC14 explains: "While only States are parties to the Covenant…, all members of society—[including] intergovernmental …organizations…—have responsibilities regarding the realization of the right to health."[72]

As a matter of policy, there seems little question that WHO has reason to operate in conformance with international human rights law. In 2003, it adopted the UN Statement of Common Understanding. The aim was to provide a "coherent definition on the Human-Rights-Based Approach …and operational guidance in applying a HRBA in their work."[73] Indeed, as the leading institution for the human rights-based health regime, WHO would lose significant institutional legitimacy if it denies the relevance of that law for its policy.

Standards

We turn to the standards against which this episode in WHO history may be assessed, and more importantly, reassessed for the future. On their face, these standards are concerned with the substantive components of population-level right of health for all and the relevance of socioeconomic considerations of resources in relationship to that right.[74]

Substantive standards constituting the right to health for everyone

Sweepingly, WHO's Constitution preamble explains "Health is a state of complete physical, mental and social well-being," and "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition."[75] "[A]ll peoples," should be extended "the benefits of medical, psychological, and related knowledge…essential to the fullest attainment of health." Article 1 announces the sole objective of WHO "shall be the attainment by all peoples of the highest possible level of health."[76] The ICESCR reinforces the big vision: recognizing "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health;" (Article 12(1)) pledging parties to take steps to "achieve the full realization of this right;" (Article 12(2)) explicitly focusing on measures necessary for "prevention, treatment and control of epidemic, endemic…diseases." (Article 12(2)(c)) The rights attach to everyone (Article 12(1)) and all peoples (Preamble/WHO). And "complete wellbeing" (Preamble/WHO) is grounded in what is "possible" (Article 1/WHO) and "attainable" (Article 12/ICESCR) in the world we live in.[77]

According to GC14, "the right to health must be understood as a right to the enjoyment of a variety of facilities, goods, services and conditions necessary for the realization of the highest attain-

able standard of health."[78] In a formulaic framework it sets out essential elements of the right, minimum core obligations, and priority obligations.[79] It anticipates that securing whole population-level health—a right of everyone—will encounter "formidable structural…obstacles."[80] Accordingly, it calls for sustained attention to equality (and non-discrimination) and to those it is easy to predict might not be attended to at all: the "vulnerable and marginalized."[81] We will return to this concern in our discussion. Beforehand, we set out one more category of standards: those that are to guide states and WHO as they negotiate the realities of their places in the global economy.

Standards structuring the legal relevance of socioeconomic realities

Neither WHO's Constitution, nor the ICESCR, is blind to the fact that substantive goals for global health are to be fielded by actors with varied levels of resources and power. When WHO's Constitution calls for the highest attainable standard of health, it notes that this standard must be maintained "without distinction…of economic or social condition." The ICESCR, too, does not dilute its highest standard. It is still the case that everyone is to enjoy the highest attainable standard of health, but a measure of realism is necessary as to timing and solidarity. The entire Covenant is modified by what is known as the progressive realization clause. It reads:

> 2.1 Each State Party… undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized…by all appropriate means, including particularly the adoption of legislative measures.[82]

GC14 explains this clause gives duty bearers a due amount of time to operationalize the range of social and economic rights. Anticipating costs, it creates an explicit obligation of solidarity among States parties and "other actors in a position to assist," like WHO, to help low-income states more quickly and fully implement the gold-standard right to health.[83]

Even though this nod to reality could be misread as a license to move slowly if at all, authoritative commentators, including CESCR, argue such a reading violates the clause.[84] "The progressive realization of the right to health over a period of time should not be interpreted as depriving States parties' obligations of all meaningful content."[85] "A strong presumption" attaches: "retrogressive measures taken in relation to the right to health are not permissible."[86] The point is to achieve full realization of health for all the people of the world.

These instruments reveal that reality-conscious law is not static: it does not validate our being stuck in the very conditions that the law is seeking to change. Instead it contemplates a series of dynamic processes, engaged with by many actors, to see to it that the highest attainable standard is made real over time.[87] Even if states bear the first responsibility to provide for their people, they are not alone. The duties of progressive realization fall on many shoulders, including WHO, which must mutually "contribute to the effective progressive implementation of the… Covenant."[88] On its face, this progressive realization clause imposes direct legal obligations on parties to adopt legislation, provide economic and technical assistance, take steps, and use all appropriate means. Structurally, the combination of these two health standards—the highest attainable clauses of WHO's Constitution and the ICESCR, which set forth the content of the right to health, and the progressive realization clause, which takes account of disparate socioeconomic realities—form a strong legal framework of mutual responsibility.[89]

We turn now to a discussion of the two broad lines of policy-directed legal argument; first, with how cost considerations, sound medical care, and the human rights regime interact; second, with how visions of the highest standards for everyone prove predictably elusive, especially for the most vulnerable and marginalized.

Discussion: Costs and standards

We argue WHO's conduct in this period fell far short of its legal obligations. While championing the cost-sensitivity of its standard protocol for low-resource settings, it was insufficiently sensitive

to the protocol's fundamental biomedical adequacy for large groups of patients. TB patients in the second priority category tumbled to the bottom of the priority list, dismissed as *crónicos,* when they could have been treated with second-line drugs shown to be effective for many other patients. Far from an ambitious program to stop TB using the drugs known to combat the disease and improve patient health, the protocol arguably set up millions to miss the boat of effective treatment. Ineffective treatment in a context of high risk for MDR-TB not only kills TB sufferers but amplifies TB incidence, killing many more. This is not "soup- kitchen medicine."[90] The critical failing here is that WHO knew, or should have known, at some point earlier than when the protocol was no longer pursued, that it was medically unsound. Medically and economically, it is a category error to call systematic non-medical care cost-effective. It is ineffective and costly in human and economic terms. A regimen of such unsound medical mooring, in our view, violates WHO's constitutional commitment to a highest attainable standard of health.

How might defenders of WHO's protocol respond to the hard questions we've raised? We anticipate a distinctively legal line of defense through the progressive realization clause of the ICESCR. To avoid confusion: this is the same clause that we and others have pointed to as providing a temporal extension and a mutually responsible vision of when and how—not whether—states can be expected to achieve gold-standard legal health rights.[91]

But leading international lawyers of health and human rights interpret it differently. Meier and Mori state simply: "As a positive right, the right to health is resource-dependent."[92] They cite Fidler who maintains "the principle of progressive realization stands, therefore, for two propositions: (1) the ability of States to fulfill the right to health differs because their economic resources differ; and (2) the different levels of economic development . . . mean that not all countries will enjoy an equivalent standard of health."[93] As far as it goes, we might understand these propositions as counsels of realism: even if more affluent states (and "other actors in a position to assist") are obliged to help low-resource states meet obligations to fulfill the right to health, we can expect that it will be much harder for these states to translate the universal right in their own settings.[94]

Fidler ultimately suggests a harder legal line: he writes "people …argue that the right to health cannot be a 'universal human right.' A person's right to health is relative to his or her country's level of economic development."[95] This is a very different legal proposition. In this version of a legal framework, the question is not when (in time) and how (in solidarity) will we collectively achieve a gold standard of the highest achievable standard of health (singular), but rather, how will some 200 countries individually achieve multiple standards of health (plural) that are the highest for them given their place in the global economy.

If this is the law, one can anticipate the argument that WHO's DOTS strategy did the best that could be done for first-priority TB sufferers, but then lacked the resources to do much better for lower-priority sufferers. The second-line drugs were deemed to be so expensive that sufferers were "often untreatable."[96] Not because there was no treatment, but because the medically appropriate treatment was too expensive. In the face of lack of resources, goes the argument, it is legally fully contemplatable that there be one treatment protocol for people who will live or die on the basis of the protocol in Lima, and another for people who will live or die on the basis of it in New York City.

Paradoxically, progressive realization—an explicitly dynamic principle aiming to achieve full realization for everyone—is invoked to legitimate the status quo.[97] And yet, the clause itself makes clear that low-resource countries are entitled to depend on the solidarity of other states, and on other forms of "international assistance and co-operation," to make up the gap between what they can bring to the table and what their people need to achieve the gold standard of health.

Such an interpretation also means that the notion of a human rights-based standard of health, indexed to what humans need for dignity and well-being, is transformed into a structure of plural standards, indexed to what national economies can support, not for humans, but for Americans, Rus-

sians, Belarusians, Indians, or Peruvians.[98] If we come to hold such a nationality-dependent understanding of Article 12's health right, why does the clause refer to everyone's right of enjoyment? Why does it refer to a single standard? Were this the aim, it would have been easy for the drafters of Article 12 to refer to plural standards which nationals of party states could expect to enjoy.

This is not to say that health initiatives should look the same in each community setting.[99] But in situations like this, where the components of a successful, comprehensive program against MDR-TB are known, the medical regimen used should be reasonably clinically effective for humans, not falsely cost-effective for Belarusians, Indians, or Peruvians. Put slightly differently, what matters is that care afforded to people with TB, in accordance with a legal right to "complete wellbeing and the highest attainable standard of ... health," must have a reasonable chance to be effective in addressing their disease. If second-line drugs are what it takes biologically to address TB, giving patients first-line drugs shown not to work for them is not a reasonable standard of care. Even if it is possible to argue that, pending a stronger global responsibility legal regime, "soup-kitchen medicine" is contemplatable as a first step by the progressive realization clause, the law gives no license to faux medicine under cover of cost-effectiveness, as laid out by WHO.[100]

Discussion: Vulnerability and standards

Returning to our second contention that WHO's protocol unacceptably harmed among the most vulnerable of TB patients, we start with the clarity the ICESCR brings to prioritizing the health of TB sufferers. It specifically provides:

> 12.2 The steps to be taken by the States Parties... to achieve the full realization of this right shall include those necessary for:...
> (c) The prevention, treatment and control of epidemic, endemic, ...diseases;

It puts TB, in whatever socioeconomic setting it is found, on the treaty's shortlist of what necessarily must be addressed as part of a population's right to health.[101] If the basic facts of TB—transmitted as

it is through the air—aren't enough to compel the application of gold-standard medical care, the law adds more reason for particularly attending to all who suffer from TB.

GC14's framework is highly salient. Active case-finding, treatment of TB infection (so-called latent disease), treatment of children and other populations suffering disproportionately from non-respiratory TB, treatment of all TB forms (including those requiring second-line medicines), appropriate diagnostics use including drug-sensitivity testing, infection control, appropriate delivery of care with required patient supports: all involve a mix of the lifeline of facilities, goods, and services.

Moreover, these resources need to be available to TB sufferers, accessible, acceptable, and of "scientifically and medically appropriate" and good quality.[102] The treatment protocol on which we have focused made the policy decision to withhold treatment from a large number of TB sufferers in low-resource settings. In the most basic sense, options, in principle, available to everyone located in New York City were not available to everyone in Lima. To be sure, GC14 notes the nature of services, goods, and facilities available will vary from high- to low-resource setting. We can interpret this characterization as a static snapshot—taking realistic account of the variable resources available in the United States versus Peru—but not precluding the dynamic possibilities of building, in a highly cost-effective way, a much better matrix of available services, goods, and facilities.

And what of the accessibility prong of GC14's framework? For many people with TB, gold-standard treatment is not accessible. WHO's protocol collides with the non-discrimination requirement of accessibility, and the first and fifth obligation of the minimum core. GC14 explains that "facilities, goods and services have to be accessible to all, especially the most vulnerable or marginalized sections of the population, in law and in fact, without discrimination on any of the prohibited grounds... [including]...property or health status which has the intention or the effect of nullifying or impairing the equal enjoyment or exercise of the right to health."[103] Among the minimum core are the obli-

gations "(a) to ensure the right of access to health facilities, goods and services, on a non-discriminatory basis" and "(e) to ensure equitable distribution of all health facilities, goods and services."[104]

This strong stand taken by the ESCR Committee (and other authoritative interpreters) against inequality produced and reproduced by discrimination goes to the very core of our concern about double standards.[105] The protocol deployed in Peru (and elsewhere) reveals two policy decisions. The first to treat TB sufferers in low- and high-resource settings under different protocols. The second to discriminate within the population of TB sufferers in low-resource settings so that some (those who were undiscoverable with poor DOTS-mandated diagnostic tools) and many others (those who failed initial treatment due to being given the wrong drugs for their strain of TB) effectively get no care. Our quarrel is not with the principle of triage: it is an operational feature of medicine and public health. Rather, we object to the inappropriate, global use of this principle by policymakers for TB control. Instead of prioritizing those most in need, WHO treatment protocols advised national health authorities to restrict treatment to patients who could best demonstrate the cost-effectiveness of treatment with particular drugs and diagnostics, while ignoring patients that did not.

Perversely, given the rhetoric of cost-savings, money was wasted on the ineffective retreatment regimens mandated by WHO recommendations for MDR-TB. Had those resources been spent on second-line medicines and comprehensive care, health outcomes would likely have been far better (again, 83% probable cure for MDR-TB patients who received at least four months of treatment, 66.3% validated cure for all MDR-TB patients), in contrast to a global MDR-TB cure rate around 50% today).[106] Since ineffective retreatment regimens also amplified the proportion of MDR-TB within national and regional populations, WHO rhetoric of cost-savings implied a further analytic error (on its own terms) of discounting future effectiveness in relation to present-day outcomes.

More to the point of our analysis, such policies were discriminatory. In our Lima case, those people with TB health status who were poor, already the most vulnerable and marginalized in the population, were also the ones for whom access was structurally elusive.

This brings us again to the affordability of second-line medicines. Our argument has been that WHO was quintessentially "an actor in a position to assist."[107] Had WHO's committee making decisions about what drugs should be on the EDL included the second-line medicines, their cost may have come down much more quickly due to improved market conditions.[108] Thus the cost profile of any protocol is not a static fact to be used as a justification for discrimination. Instead what WHO does or does not do bears greatly on the dynamic process of needed medicines *becoming* affordable.[109] Many LMICs follow WHO's cue—expecting optimal guidance from it—and structure their own programs/procurement around WHO guidance. WHO judges what, medically and scientifically, should be on that list; the WB helps states finance purchases from it. If states are failing this minimum-core obligation associated with their IC health undertakings, the failure is a shared one.[110] To be clear, in our mutual responsibility analysis, we do not argue that states are relieved of their obligations to contribute a maximum of available resources: only that they should not be understood as standing alone.

The *mutuality* of responsibility is delineated in the CESCR's account of the phrase "maximum available resources" in GC14[111] and its more recent "Evaluation of the Obligation to Take Steps to the 'Maximum of Available Resources' Under an Optional Protocol to the Covenant" (Evaluation). In the Evaluation, it explains:

> [t]he undertaking by a State party to use "the maximum" of its available resources towards fully realizing the provisions of the Covenant entitles it to receive resources offered by the international community. In this regard, the phrase "to the maximum of its available resources" refers to both the resources existing within a State as well as those available from the international community through international cooperation and assistance.[112]

Here the committee suggests a direct relationship between textual clauses of Article 2(1): "maximum available resources" and "international assistance and cooperation." The latter is a critical subpart of the former.

WHO forms a vital part of this international community. Paragraph 45 of GC14 makes clear that "actors in a position to assist" like WHO will bring their own distinctive forms of assistance as part of a strong legal framework of mutual responsibility. In our analysis we have emphasized the distinctive gatekeeping role the WHO has in relationship to the EDL (where clinically effective high-priced medicines may be listed as the first step to bringing down the price) and its distinctive role in shaping the protocols, by which states will care for all patients amongst their populations (where WHO must take care not to put states—effectively required to follow WHO protocol in order to qualify for international assistance—into a position where it is highly unlikely that they will be able to care for their most vulnerable people). So for example, as already noted, in a coordinated approach towards protection arguably contemplated by the ICESCR (Article 22) and GC14 (paragraphs 63 and 64), states are more likely to be able to "provide essential drugs" (paragraph 43d) that might be expensive *because* WHO lists them. Also in a coordinated approach, states should not have to fight against the protocols in order to protect their most vulnerable people—and lose (as the Russians and Peruvians did). The CESCR Evaluation explains that in the CESCR process for determining "alleged failure" by a state party in relationship to individual communications it will consider "[w]hether the steps [pursued by the state party] had taken into account the precarious situation of disadvantaged and marginalized individuals or groups and, whether they were nondiscriminatory, and whether they prioritized grave situations or situations of risk."[113] If we regard the Peru case as a failure, the failure arguably is more reasonably attributed to the protocols recommended by WHO,

than to the state relying—medically, and as a matter of political economy—on the protocols.

GC14 is at particular pains to connect the drive for everyone's enjoyment of the highest attainable health with concrete protections for those we must anticipate will be marginalized.[114] Frequently, the stipulation of gold-standard health for all is immediately followed by the specification, "especially for the most vulnerable or marginalized sections of the population."[115] Two of six minimum-core obligations seek to secure "access… especially for vulnerable and marginalized groups" and the adoption of a "national public health strategy…addressing the health concerns of the whole population…[giving] particular attention to all vulnerable or marginalized groups."[116] The message is that equality is hard to build in a real world where, however equal people may be in dignity and worth, they are not equal in their ability to secure attention or care. Many are vulnerable, with a degree of risk appreciably different from everyone else, to dying. And so, the principles of non-discrimination and special protection for the most vulnerable take on decisive significance for people with TB and for our argument that medical regimens and legal interpretations should not reproduce or reinforce the very realities they claim to be trying to change. As the Special Rapporteur has put it: "A State has a legal obligation to ensure that a health system is accessible to all without discrimination, including those living in poverty…children, slum and rural dwellers…The twin human rights principles of equality and non-discrimination mean that outreach (and other) programs must be in place to ensure that disadvantaged individuals and communities enjoy, in practice, *the same* access as those who are more advantaged."[117] In this we hear echoes of WHO's Constitution, which states "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of …economic or social condition."[118] Double standards in treatment regimens or in the legal understanding of what rights a group of people hold in relationship to life-saving (life-denying) treatments—on grounds of affordability—are facially incompatible with this law.

We have concentrated on the legal standards of the Constitution and the ICESCR to help us evaluate a treatment strategy that was—and, in some places still is—WHO-mandated strategy.[119] As noted, while WHO receives most of our attention, other global and national policymakers share in the mutual responsibility of forging a workable set of policies to implement these instruments. The point of deploying a legal analysis is to make certain legal principles more salient at the point of policy choice. What if WHO were to rely on its own medical moorings as well as its Constitution to reject double standards in low-resource settings? What if all actors in the global health space came to understand that there is strong legal reason to abandon a system of triage that compounds the vulnerability of the vulnerable while purporting to attend to it? These are the mixed law-and-policy questions we wish to raise. The status quo—in which high-minded principles enshrined in Constitutions and the like are violated in everyday operations—expresses a contradiction that must not easily persist.

Conclusion: Human rights and global health

The global response to TB has been inadequate. With 1.5 million people continuing to die from a treatable preventable disease every year, the response to the TB epidemic, and particularly MDR-TB, pales by any standard, both in intensity and outcome, next to the efforts to increase access to antiretroviral treatment for people living with HIV.

We have argued that international public health authorities prioritized cost considerations over clinical evidence when dealing with MDR-TB. The DOTS strategy provided a suboptimal path to treatment for MDR-TB as well as for all forms of pediatric TB, people living with HIV, individuals unable to be diagnosed by the century-old low-sensitivity sputum smear test. In the process, WHO recommended to countries a scientifically unsound approach—and as technical advisor to donor agencies and countries, facilitated the implementation of a double standard in care. While this approach may be consistent with certain arguments regarding progressive realization

of the highest attainable level of health across disparate economies, we hold that such interpretations rely on an upended reading of the legal text and are not supported by data showing successes for HIV treatment in the same settings.

Historically and today, a TB outbreak in affluent health systems is handled with urgency, using a comprehensive strategy based on sound epidemic-control principles that prevent avoidable mortality and morbidity. This strategy includes patient support and diagnosis, active case-finding, and treatment for all forms of the disease. This same sound epidemic control strategy should be implemented, and encouraged, in poorer health systems.

The arguments presented here may prove relevant to current and future guidelines for many other diseases. A critical part of the moral and pragmatic orientation required to move forward is the adoption of a more robust reading of the right to the highest attainable standard of health, understanding the progressive realization language of human rights and health law to be working in tandem, and not against it. Recognition of this harmony may drive policymakers today and in the future to reject double standards in global health, and instead embrace the difficult work ahead, on a solid legal and scientific foundation.

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