

REVISITING THE LEGALITY OF TRAVEL RESTRICTIONS UNDER INTERNATIONAL LAW DURING COVID-19

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Abstract Under the International Health Regulations (IHR), States must consider decision-making criteria in applying travel restrictions during a public health emergency of international concern. Interpretation on the legal parameters of such restrictions varies widely. This article considers whether and how the permissibility of travel restrictions under the IHR may have changed given recent developments, including evolving scientific evidence about their efficacy and shifting World Health Organization (WHO) advice. It is argued that such determinations must conform to the principles of necessity and proportionality as articulated by the IHR, and must also be accompanied by the correlative IHR duties of collaboration and assistance rooted substantively in global solidarity.

Keywords: travel restrictions, COVID-19 pandemic, International Health Regulations, restrictive measures, international human rights law.

I. INTRODUCTION

On 25 November 2021, South African scientists alerted the world to the identification of a new COVID-19 variant.¹ The next day, the World Health Organization (WHO) designated the strain as a variant of concern and named it Omicron.² Within hours, governments began to impose travel bans on South Africa and other African States. Within days, over 30 countries had restricted travel to and from South Africa and other African States.³ The South African government strongly criticized these bans as ‘akin to punishing South Africa for its advanced genomic sequencing and the ability to detect new variants quicker’.⁴ These bans imposed significant individual, economic and social harms, and will very likely serve to disincentivize other

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¹ E Calloway, ‘Heavily mutated Omicron variant puts scientists on alert’ (Nature, 25 November 2021) <<https://www.nature.com/articles/d41586-021-03552-w>>. ² *ibid.*

³ ‘Map: Tracking global Omicron travel restrictions’ (*Al Jazeera*, 30 November 2021) <<https://www.aljazeera.com/news/2021/11/30/omicron-variant-countries-who-have-imposed-travel-restrictions-interactive>>.

⁴ ‘Covid: South Africa “punished” for detecting new Omicron variant’ (BBC News, 28 November 2021) <<https://www.bbc.com/news/world-59442129>>.

countries from reporting new variants or novel disease threats. The efficacy of these particular bans also appears to be limited given evidence that the variant was in Europe before South African scientists detected it, and given identification of the variant more broadly around the world.⁵ In contrast, the WHO urged countries not to impose travel bans and to instead ‘take a risk-based and scientific approach’.⁶

Restrictions of this nature are addressed in the International Health Regulations (IHR), the central instrument of international law for mitigating the transnational spread of disease which binds all 196 Member States of the WHO. Indeed, the IHR’s express purpose is to stem the international spread of disease and ‘avoid unnecessary interference with international traffic and trade’.⁷ As the global response to South Africa’s notification of Omicron illustrates, these purposes are intimately connected since needless measures that harm people also ‘disincentivize countries from reporting new risks to international public health authorities’.⁸ The IHR specifically outlines the legal framework for adopting travel restrictions in Article 43, which requires that health measures adopted by States in response to public health risks or public health emergencies of international concern (PHEIC) ‘not be more restrictive of international traffic and not more invasive or intrusive to persons than reasonably available alternatives that would achieve the appropriate level of health protection’.⁹

When news of the spread of a novel coronavirus emerged in late 2019, and even as the WHO Director-General declared the outbreak a PHEIC, the WHO continued to discourage international travel and trade restrictions. The WHO Director-General instead called for the global community ‘to demonstrate solidarity and cooperation, in compliance with Article 44 of the IHR (2005)’.¹⁰ Yet by 15 February 2020, nearly all States Parties in the Asia Pacific had restricted international travel from high-risk regions.¹¹ A little over a month later, these measures and even more stringent bans on travel

⁵ ‘Omicron COVID variant was in Europe before South African scientists detected and flagged it to the world’ (CBS News, 30 November 2021) <<https://www.cbsnews.com/news/omicron-variant-covid-in-europe-netherlands-before-alert-raised/>>.

⁶ ‘WHO criticizes travel bans on southern African countries over Omicron variant concerns’ (CBS News, 29 November 2021) <<https://www.cbsnews.com/news/covid-omicron-variant-travel-bans-world-health-organization-response/>>.

⁷ International Health Regulations (adopted 23 May 2005, entered into force 15 June 2007) 2509 UNTS 79 (IHR) art 2.

⁸ R Habibi et al, ‘Do not violate the International Health Regulations during the COVID-19 outbreak’ (2020) 395 *Lancet* 664.

⁹ See IHR (n 7) art 43(1).

¹⁰ ‘Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV)’ (World Health Organization, 30 January 2020) <[https://www.who.int/news/item/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-\(2019-ncov\)](https://www.who.int/news/item/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov))>.

¹¹ M Roser et al, ‘Coronavirus Pandemic (COVID-19)’ (Our World In Data) <<https://ourworldindata.org/coronavirus>>.

would be adopted by nearly every country in the world. Even up to early 2022, most countries continued to impose partially restrictive travel regulations, with some countries maintaining total restrictions on traveller entry.¹²

Despite their prevalence, legal opinion is considerably divided on the permissibility of these restrictions under the IHR, and such debates predate COVID-19. The emergence of SARS-CoV-2 variants of concern, like the Omicron variant described above, have only lent greater urgency to this issue. Given ongoing experience with COVID-19, we consider whether, and in what circumstances, travel restrictions are legally permissible under IHR Article 43 in light of emerging scientific evidence and shifting WHO guidance. More precisely, we assess the legality of these measures from the perspective of the international law criteria of necessity and proportionality which we argue are implicitly embedded within Article 43.

To do so, we first outline previous scholarly debates over the legality of travel restrictions under IHR Article 43, including the *Stellenbosch Consensus on Legal National Responses to Public Health Risks* ('Stellenbosch Consensus'), a consensus interpretation of the Article 43 adopted by 16 legal academics. The Stellenbosch Consensus is the first in-depth and consensus-based international legal analysis of this provision and the framework it offers for policy decisions.¹³ We then consider this framework given emerging evidence of the efficacy of travel restrictions during COVID-19 and evolving WHO guidance. Finally, we consider the broader legal context of the IHR and of international law in which the legality of travel restrictions should be assessed, including the correlative legal duties that the IHR places on States and the WHO with regard to cooperative and proportionate actions rooted in global solidarity.

II. DEBATING THE LEGALITY OF TRAVEL RESTRICTIONS

Prior to COVID-19, general legal opinion was that immediate resort to travel restrictions to control the international spread of disease was unlawful under the IHR given the inconclusive nature of scientific evidence on the public health benefits of travel restrictions and the historically chilling impact of travel restrictions on good faith reporting of subsequent disease outbreaks of international concern (further discussed in Section IV).¹⁴

In early 2020, 16 global health law scholars (including the current authors) argued that many COVID-related travel restrictions violated international law because they lacked the support of scientific evidence or WHO advice as required by the IHR. They further argued that travel restrictions flouted

¹² 'COVID-19 Travel Regulations Map' (IATA Travel Centre) <<https://www.iatatravelcentre.com/world.php>>.

¹³ R Habibi et al, 'The Stellenbosch Consensus on Legal National Responses to Public Health Risks Clarifying Article 43 of the International Health Regulations' (2020) IOLR.

¹⁴ A Tejpar and SJ Hoffman, 'Canada's Violation of International Law during the 2014–16 Ebola Outbreak' (2017) 54 CanYIL 366; Habibi et al (n 8).

widely accepted international human rights norms and principles including those articulated under the *Siracusa Principles on the Limitation and Derogations Provisions in the International Covenant on Civil and Political Rights* ('Siracusa Principles') which require that restrictions of human rights be strictly limited to measures that are necessary (as determined by their legitimate, non-arbitrary and non-discriminatory nature), legal and proportionate.¹⁵ Travel restrictions were deemed unlawful given their potential to cause significant violations of rights to health and non-discrimination, including the potential targeting of migrants and racial and ethnic minorities.¹⁶ It was argued that in this context, travel restrictions should be weighed against less restrictive alternatives with high public health efficacy, including social distancing and robust contact tracing measures.¹⁷

Other scholars disputed this interpretation, arguing that IHR Article 43 afforded States a margin of appreciation in taking actions (including travel restrictions) beyond those recommended by WHO, consistent with their sovereign rights articulated elsewhere in the instrument.¹⁸ Article 43's obligations were characterized as "contingent" in nature ... [and] highly dependent on the circumstances' given the abstract formulation of the provision.¹⁹ Others argued that the unprecedented situation of COVID-19 meant that 'we should not assume that all travel restrictions violated international law', and that 'some travel restrictions were more likely to be justified than others ... depending on ... how they [were] designed and local capacity to implement less restrictive measures'.²⁰ It was argued that under the IHR, the WHO has a key role in identifying justifiable travel restrictions and that it should be combining its 'formal recommendations, informal guidance and the text of the IHR [to] provide guidance to Member States on how to continue or modify travel restrictions in compliance with their international obligations'.²¹

¹⁵ Habibi et al (n 8); American Association for the International Commission of Jurists, 'The Siracusa Principles on the Limitation and Derogation Provisions in the International Covenant on Civil and Political Rights' (1985) 7 HRQ 3.

¹⁶ W Yu and J Keralis, 'Controlling COVID-19: The Folly of International Travel Restrictions' (Health and Human Rights Journal, 6 April 2020) <<https://www.hhrjournal.org/2020/04/controlling-covid-19-the-folly-of-international-travel-restrictions/>>.

¹⁷ BM Meier, R Habibi and YT Yang, 'Travel restrictions violate international law' (2020) 367 Science 1436.

¹⁸ C Foster, 'Justified Border Closures do not violate the International Health Regulations 2005' (EJIL: Talk!, 11 June 2020) <<https://www.ejiltalk.org/justified-border-closures-do-not-violate-the-international-health-regulations-2005/>>.

¹⁹ PA Villarreal, 'COVID-19 Symposium: "Can They Really Do That?" States' Obligations Under the International Health Regulations in Light of COVID-19 (Part I)' (Opinio Juris, 31 March 2020) <<http://opiniojuris.org/2020/03/31/covid-19-symposium-can-they-really-do-that-states-obligations-under-the-international-health-regulations-in-light-of-covid-19-part-i/>>.

²⁰ BJV Tigerstrom and K Wilson, 'COVID-19 travel restrictions and the International Health Regulations (2005)' (2020) 5 BMJ Global Health e002629.

²¹ BJV Tigerstrom, SF Halabi and KR Wilson, 'The International Health Regulations (2005) and the re-establishment of international travel amidst the COVID-19 pandemic' (2020) 27 Journal of Travel Medicine 1, 127.

These legal debates have not been resolved. This article picks up this thread and argues that an in-depth legal analysis of Article 43 can guide States on the procedures (if not the outcomes) to be followed when considering travel restrictions. This argument follows on the in-depth analysis of Article 43 published in the *Stellenbosch Consensus*,²² which sought to clarify the permissibility of measures such as travel restrictions during a PHEIC, and the obligations incumbent on States once additional health measures are implemented.²³ The *Stellenbosch Consensus* is guided by the interpretive framework of the 1969 *Vienna Convention on the Law of Treaties* ('Vienna Convention'),²⁴ now widely regarded as customary international law. Under the Vienna Convention, treaties must be interpreted by having recourse to the ordinary meaning given to treaty terms in their context and in light of the treaty's object and purpose (in other words, a textual interpretation guided by the intentions of the Parties); as well as contextual variables including any relevant rules of international law applicable in the relations between the Parties.

Per the Vienna Convention, the legal interpretation of Article 43 thus relies on the 'ordinary meaning' of IHR terms read in the broader context of the IHR and in light of its overarching 'object and purpose'.²⁵ To restate Article 43's requirements: States can implement additional health measures in response to a specific public health risk or to a PHEIC, but only if they achieve the same or greater levels of health protection than recommendations issued by the WHO,²⁶ or health measures otherwise prohibited by specific Articles of the IHR,²⁷ and only provided certain preconditions are met. These preconditions include (1) that the health measure is in accordance with 'the relevant national law' of the State, and their 'obligations under international law'²⁸—including their obligations under international human rights law; and (2) that the measure 'shall not be more restrictive of international traffic and not more invasive or intrusive to persons than reasonably available alternatives that would achieve the *appropriate* level of health protection' [emphasis added].²⁹

The foregoing demonstrates that Article 43(1) embeds a proportionality clause rooted both within its immediate text and by reference to States' obligations under general international law, including international human rights law. This proportionality analysis considers what constitutes reasonably available alternative health measures that are less restrictive of

²² Habibi et al (n 13).

²³ Under arts 43(3)–(5), States parties are required to report additional health measures that interfere significantly with international traffic, and under arts 43(6)–43(7), States parties are required to periodically review and re-evaluate additional health measures taken pursuant to art 43. These provisions of art 43 are not the focus of this literature review and update.

²⁴ Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331 (Vienna Convention).

²⁶ IHR (n 7) art 43(1)(a).

²⁵ *ibid*, art 31(1).

²⁷ *ibid*, art 43(1)(b).

²⁸ *ibid*, art 43(1). On the IHR's reference to obligations under international law, see also art 57(1) and (2).

²⁹ *ibid*, art 43(1).

international traffic, and less invasive or intrusive to persons than travel restrictions. This analysis is central to determining the legality of travel restrictions under the IHR, as is the process of determining what constitutes an ‘appropriate level of health protection’.

The proportionality analysis is further informed by a risk assessment exercise prescribed under Article 43(2), which details that States must assess the appropriateness of an additional health measure in relation to the risks to public health according to scientific principles, available scientific evidence or where such evidence is insufficient, available information from WHO or other relevant intergovernmental organizations or international bodies, and any available specific guidance or advice from WHO.³⁰ This list must be read as cumulative elements that must factor into the State’s decision to implement additional health measures, and not as a menu of options. The fact that Article 43(2) employs the term ‘shall’ (as opposed to ‘should’ or ‘may’) indicates that the risk assessment exercise is a mandatory precursor to the implementation of additional health measures, including travel restrictions.

A textual interpretation of Article 43 thus suggests that both a proportionality analysis and risk assessment are central to its operation. To determine the least restrictive health measures for achieving the ‘appropriate level of health protection,’ policymakers must evaluate the scientific evidence behind their proposed measures, and consider the evidence behind alternative measures. A contextual analysis of Article 43 in relation to the IHR’s purpose and other aspects of international law— as warranted by both the Vienna Convention and the IHR³¹—provides further grounding for how to undertake the proportionality analysis and risk assessment.

Considering the above, the next section examines how the interpretation of Article 43 may have changed over the course of COVID-19, particularly given Article 43(2)’s risk assessment in light of evolving scientific evidence and WHO guidance, and the proportionality analysis embedded within Article 43(1).

III. ASSESSING RISK IN LIGHT OF EVOLVING SCIENCE AND WHO GUIDANCE

Inasmuch as the Stellenbosch Consensus provides a framework for assessing the legality of travel restrictions within international law broadly (and not simply the IHR), the pandemic has rendered evident the need for interpretive clarifications to reflect several outbreak characteristics distinct to COVID-19 and that directly influence the risk assessment States must undertake under Article 43. These characteristics include: the evolving nature of scientific evidence of the effectiveness of travel restrictions and WHO guidance on the specific circumstances in which travel restrictions may be warranted.

³⁰ *ibid.*, art 43(2).

³¹ *ibid.*, arts 43(1) and 57.

A. *Scientific Evidence for the Effectiveness of Travel Restrictions during COVID-19*

IHR Article 43(2) requires States to base decisions to implement additional health measures on scientific principles and scientific evidence, or where scientific evidence is insufficient, on ‘information from WHO or other relevant intergovernmental organizations and international bodies’. The provision vaguely outlines the sources and standards of evidence that States should consider when deciding to implement additional health measures, noting under IHR Article 1 that ‘scientific principles’ are ‘the accepted fundamental laws and facts of nature known through the methods of science’, and ‘scientific evidence’ comprises ‘information furnishing a level of proof based on the *established* and *accepted* methods of science [emphasis added]’.³² The provision offers no further guidance on the threshold level of evidence and/or proof that might constitute ‘sufficient’ scientific evidence, nor how such evidence may be identified.

While this definition leaves much to the interpretation of individual States, several factors are omitted as bases of State decision-making, including public perceptions, media characterizations of risk, religious or cultural tenets and socio-political considerations. Such variables contrast sharply with science, where risk can be understood in terms of the ‘probability that a harmful event will occur, and the severity of its effects’.³³ The definition also tends to reject the precautionary principle which would permit States to take pre-emptive action to protect public health risks in the absence of scientific evidence of the nature of the public health threat or of the action in question.

Studies of past outbreaks and epidemics underscore that travel restrictions delay the spread of a disease by a few days to a few weeks, at most,³⁴ and may also divert resources and public attention from other necessary interventions and disrupt the supply of aid and technical support to other

³² *ibid*, art 1.

³³ LO Gostin and LF Wiley, *Public Health Law: Power, Duty, Restraint* (3rd edn, University of California Press 2016) 56; See also AE Yamin, S Negri and R Habibi, ‘On Sea Monsters and Sandcastles: Revisiting the International Legal Frameworks regarding Public Health and Human Rights in Global Health Emergencies’ (2022) 3 *Yearbook of International Disaster Law* 186.

³⁴ NA Errett, LM Sauer and L Rutkow, ‘An integrative review of the limited evidence on international travel bans as an emerging infectious disease disaster control measure’ (2020) 18 *Journal of Emergency Management* 7; ALP Mateus et al, ‘Effectiveness of travel restrictions in the rapid containment of human influenza: a systematic review’ (2014) 92 *Bulletin of the World Health Organization* 868; P Bajardi et al, ‘Human Mobility Networks, Travel Restrictions, and the Global Spread of 2009 H1N1 Pandemic’ (2011) 6 *PLoS ONE* e16591; S Ryu et al, ‘Nonpharmaceutical Measures for Pandemic Influenza in Nonhealthcare Settings—International Travel-Related Measures’ (CDC, 6 February 2020) <https://wwwnc.cdc.gov/eid/Article/26/5/19-0993_Article>; TC Germann et al, ‘Mitigation strategies for pandemic influenza in the United States, Proceedings of the National Academy of Sciences of the United States of America’ (2006) 103 *PNAS* 5935; JS Brownstein, CJ Wolfe and KD Mandl, ‘Empirical Evidence for the Effect of Airline Travel on Inter-Regional Influenza Spread in the United States’ (2006) 3 *PLoS Medicine* e401.

countries.³⁵ Yet Article 43(2) could still be interpreted to support travel restrictions depending on scientific evidence available for a novel pathogen at the time of policy assessment. Currently evidence to support the efficacy of COVID-19 related travel restrictions remains mixed, in part due to a preponderance of modelling studies in the scientific literature, a paucity of real-world data and inconsistencies in the reporting of methodological details between studies.³⁶

Studies of travel restrictions during COVID-19 support evidence from past outbreaks: international travel restrictions largely delayed but did not curtail international spread.³⁷ For example, China's cordon sanitaire on Wuhan City on 23 January 2020—expanded to a wider range of cities in Hubei province the following day—is estimated to have averted exporting approximately 77 per cent of cases and bought the world crucial time to ready public health responses to the virus.³⁸ However, by then the virus had spread to several continents—making it impossible to limit the outbreak to China alone. Lacking prior experience, many governments failed to presage (and prepare for) the scale of the public health threat that lay ahead.³⁹

Similarly, Grépin et al's rapid systematic review of 29 studies of the effectiveness of travel measures during the early phase of COVID-19 found a high level of agreement that adopting travel measures 'led to important changes in the dynamics of the early phases of the COVID-19 pandemic', albeit that most studies investigated the initial export of cases out of Wuhan, suggesting both that early implementation was an important determinant of effectiveness and that this effectiveness was short-lived.⁴⁰ They conclude that 'travel measures alone are unlikely to significantly change the trajectory of the outbreak unless commensurate domestic measures [like testing, contact tracing and physical distancing] are also implemented'.⁴¹ A rapid systematic review of 62 studies led by Burns et al found that reducing or stopping cross-border travel led to varied beneficial effects and delays in outbreak spread for up to 85 days. The authors also concluded, however, that the quality of evidence remained weak, and that the effectiveness of travel restrictions depended on a range of factors, including 'levels of community transmission, travel volumes and duration, other public health measures in place and the exact specification and timing of the measure'.⁴²

³⁵ 'Updated WHO recommendations for international traffic in relation to COVID-19 outbreak' (WHO, 29 February 2020) <<https://www.who.int/news-room/Articles-detail/updated-who-recommendations-for-international-traffic-in-relation-to-covid-19-outbreak>>.

³⁶ J Burns et al, 'International travel-related control measures to contain the COVID-19 pandemic: a rapid review' (Cochrane Library, 25 March 2021) <<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD013717.pub2/full>>.

³⁷ M Chinazzi et al, 'The effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak' (2020) 368 *Science* 395. ³⁸ *ibid.*

³⁹ CR Wells et al, 'Impact of international travel and border control measures on the global spread of the novel 2019 coronavirus outbreak' (2020) 117 *PNAS* 7504.

⁴⁰ KA Grépin et al, 'Evidence of the effectiveness of travel-related measures during the early phase of the COVID-19 pandemic: a rapid systematic review' (2021) 6 *BMJ Global Health* e004537, 1. ⁴¹ *ibid* 19–20. ⁴² Burns et al (n 36).

Similar findings come from a 2021 mathematical modelling study by Russell et al, which found that while in May 2020 imported cases were likely to have accounted for a high proportion of cases in many countries (more than 10 per cent of total incidence), by September 2020 imported cases would have accounted for far less total incidence. They argue that these findings suggest that ‘strict untargeted travel restrictions are probably unjustified in many countries, other than those that have both good international travel connections and very low local COVID-19 incidence’,⁴³ or ‘where epidemics are close to tipping points for exponential growth’.⁴⁴ In keeping with Burns et al, the authors suggest that ‘[c]ountries should consider local COVID-19 incidence, local epidemic growth and travel volumes before implementing such restrictions’.⁴⁵ As we explain below, WHO guidance has also changed rapidly to reflect the growing body of evidence applicable to travel restrictions in the context of COVID-19.

B. Progression of Guidance on Travel Restrictions under Auspices of WHO

In tandem with accumulating scientific evidence, travel advice issued by the WHO has evolved through the course of the COVID-19 pandemic as evidenced in its recommendations issued through both the IHR Emergency Committee (EC) and the Secretariat. The EC’s initial recommendations even as COVID-19 was declared a PHEIC on 30 January 2020 were that travel restrictions not be implemented.⁴⁶ In its May 2020 statement, the EC continued to advise against trade restrictions,⁴⁷ and further advised States to ‘review travel and trade measures based on regular risk assessments, transmission patterns at origin and destination, cost-benefit analysis, evolution of the pandemic and new knowledge of COVID-19’.⁴⁸ These latter recommendations arguably were efforts to assure greater proportionality in the impact of these restrictions insofar as they impacted on individual human rights and public health responses to COVID-19, and insofar as less restrictive public health measures like screening, contact tracing and quarantine could be used instead.

In July 2020, the WHO recommendations clarified that the risk of case importation from international travel depends on, inter alia, the intensity of SARS-CoV-2 virus transmission between the country of arrival and the country of departure. Where two countries share a similar profile of SARS-

⁴³ TW Russell et al, ‘Effect of internationally imported cases on internal spread of COVID-19: a mathematical modelling study’ (2020) 6 *Lancet Public Health* e12, e19. ⁴⁴ *ibid* e12.

⁴⁵ *ibid*.

⁴⁶ World Health Organization (n 10).

⁴⁷ ‘Statement on the third meeting of the IHR (2005) Emergency Committee regarding the outbreak of coronavirus disease (COVID-19), World Health Organization’ (World Health Organization, 1 May 2020) <[https://www.who.int/news/item/01-05-2020-statement-on-the-third-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-outbreak-of-coronavirus-disease-\(covid-19\)](https://www.who.int/news/item/01-05-2020-statement-on-the-third-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-coronavirus-disease-(covid-19))>. ⁴⁸ *ibid*.

CoV-2 virus transmission, for instance, the WHO has said there is ‘no substantial risk of potential impact’ on the country of arrival’s epidemiological situation.⁴⁹ This WHO advice marked a break from advice issued in past PHEICs—changing the narrative of the Organization from one of recommending against travel restrictions to one of advising Member States to exercise caution in lifting them. The advice notably omits mention of IHR Article 43. In December 2020, the WHO offered further detail on the criteria and steps necessary to assess a risk-based approach to international travel in relation to COVID-19, recommending that such risk assessments be conducted ‘systematically and regularly (ideally every two weeks)’.⁵⁰ The WHO further recommended making such assessments on the basis of detailed information regarding

the local epidemiology ... in departure and destination countries; travel volumes between countries; the public health and health services capacity and performance to detect and care for cases and their contacts, including among travellers, in the destination country; public health and social measures implemented to control the spread of COVID-19 in departure and destination countries and available evidence on adherence and effectiveness of such measures in reducing transmission; [and] contextual factors, including economic impact, human rights and feasibility of applying measures, among others.⁵¹

Here the WHO specifically indicated the permissibility of implementing travel restrictions ‘in accordance with their national legislation, and as per relevant provisions of the International Health Regulations ... as long as such measures are risk-based, evidence-based, coherent, proportionate to the public health risk, and, therefore, do not constitute an unnecessary interference with international traffic and trade’.⁵²

In its January 2021 Statement, as evidence of the emergence of SARS-CoV-2 variants emerged, the EC recommended that States

Implement coordinated, time-limited, risk-based, and evidence-based approaches for health measures in relation to international traffic in line with WHO guidance and IHR provisions. Careful consideration should be given to when and if travel bans should or should not be used as tools to reduce spread. Such decisions should be based on the best available evidence.⁵³

⁴⁹ ‘Public health considerations while resuming international travel’ (World Health Organization, 30 July 2020) <<https://www.who.int/news-room/articles-detail/public-health-considerations-while-resuming-international-travel>>.

⁵⁰ ‘Considerations for implementing a risk-based approach to international travel in the context of COVID-19’ (World Health Organization, 16 December 2020) <https://apps.who.int/iris/bitstream/handle/10665/337858/WHO-2019-nCoV-Risk-based_international_travel-2020.1-eng.pdf?sequence=1&isAllowed=y>.

⁵¹ *ibid.*

⁵² *ibid.*

⁵³ ‘Statement on the sixth meeting of the International Health Regulations (2005) Emergency Committee regarding the coronavirus disease (COVID-19) pandemic’ (World Health Organization, 15 January 2021) <[https://www.who.int/news/item/15-01-2021-statement-on-the-sixth-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-coronavirus-disease-\(covid-19\)-pandemic](https://www.who.int/news/item/15-01-2021-statement-on-the-sixth-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-coronavirus-disease-(covid-19)-pandemic)>.

On 2 July 2021, the WHO issued further guidance to address the dramatic emergence of virus variants of concern and the spectre of new forms of discrimination against travellers from countries with few or no vaccines, or travellers from countries that have rolled out unfavoured (per the destination country) vaccines. The WHO recommended that countries without adequate capacities to respond to emerging variants of concern ‘adopt a precautionary approach and implement time-limited, more stringent travel restrictions ... subject to the *principle of proportionality* [citing the IHR; emphasis added]’.⁵⁴

Despite tacitly approving travel restrictions in limited circumstances in mid-2021, by January 2022 the flurry of Omicron-related travel restrictions targeting travellers from South Africa and other African States (including several with limited access to vaccines) prompted the EC and the Secretariat to urge lifting travel restrictions, as these ‘[contributed] to the economic and social stress’⁵⁵ experienced by States. The Secretariat instead urged States to implement measures commensurate with ‘travellers’ dignity, human rights and fundamental freedom, as outlined in the IHR’ and to show ‘global solidarity in rapid and transparent information sharing’.⁵⁶

The foregoing illustrates how the WHO’s travel guidance has evolved from strictly endorsing the futility of travel restrictions to gradually promoting a ‘risk-based approach to international travel’, while still denouncing discriminatory manifestations of travel restrictions insufficiently rooted in public health evidence. Importantly, such guidance has evolved under the shadow of the pandemic to emphasize the correlative contribution of global solidarity, further discussed in Section V. This progression in WHO’s COVID-19-related guidance on international traffic is a key case study of the dynamic, high-stakes and fast-changing nature of scientific evidence during an evolving PHEIC, and therefore of the measures that may be justified as necessary on public health grounds under international law.

C. The Precautionary Principle and the Risk of COVID-19 Transmission through Travel

Overall, the emergence and shift in scientific evidence regarding travel restrictions, along with the WHO’s efforts to adapt public health advice and

⁵⁴ ‘Policy considerations for implementing a risk-based approach to international travel in the context of COVID-19’ (World Health Organization, 15 January 2021) <<https://www.who.int/publications/item/WHO-2019-nCoV-Policy-Brief-Risk-based-international-travel-2021.1>> 3.

⁵⁵ ‘Statement on the tenth meeting of the International Health Regulations (2005) Emergency Committee regarding the coronavirus disease (COVID-19) pandemic’ (World Health Organization, 15 January 2021) <[https://www.who.int/news/item/19-01-2022-statement-on-the-tenth-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-coronavirus-disease-\(covid-19\)-pandemic](https://www.who.int/news/item/19-01-2022-statement-on-the-tenth-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-coronavirus-disease-(covid-19)-pandemic)>.

⁵⁶ ‘WHO advice for international traffic in relation to the SARS-CoV-2 Omicron variant (B.1.1.529)’ (World Health Organization, 30 November 2021) <<https://www.who.int/news-room/articles-detail/who-advice-for-international-traffic-in-relation-to-the-sars-cov-2-omicron-variant>>.

recommendations issued to Member States in light of evolving knowledge, illustrate the dynamic and mutable nature of Article 43(2). Measures deemed to be least restrictive are bound to change depending on the nature of the outbreak, and the state of clinical knowledge about its direct causative agent.

A key point bears mentioning at this stage: several binding treaties in international law, particularly in environmental law, generally refer to (but seldom define) the ‘precautionary principle’, or a ‘precautionary approach’.⁵⁷ Other agreements, such as the Protocol to the 1992 Framework Convention on Climate Change (or the Kyoto Protocol) serve precautionary functions but never explicitly mention either term. The fact that the IHR seeks, among other objectives, to prevent the international spread of disease suggests that the instrument may fall into the latter category. Without a single reference to ‘precaution’ in its entire text, it would be tenuous to suggest that the IHR belong to the former grouping of treaties.

Expert interpretations have clarified the parameters of the precautionary principle including the 1998 Wingspread Statement which states that ‘when an activity raises the threats of harm to human health or the environment, precautionary measures should be taken even if some cause-and-effect relationships are not fully scientifically established’.⁵⁸ UNESCO’s World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) further refined this definition of the precautionary principle by introducing thresholds for unacceptable harm:

When human activities may lead to *morally unacceptable* [emphasis added] harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. Morally unacceptable harm refers to harm to humans or the environment that is:

- threatening to human life or health;
- serious and effectively irreversible;
- inequitable to present or future generations; or
- imposed without adequate consideration of the human rights of those affected.⁵⁹

The precautionary principle thus has different meanings across legal instruments, venues and international organizations, with some adopting a more refined definition than others. In the face of incomplete or inconclusive scientific evidence, States may legitimately be motivated to adopt travel

⁵⁷ J Zander, ‘The Precautionary Principle in International Law’ in J Zander (ed), *The Application of the Precautionary Principle in Practice: Comparative Dimensions* (CUP 2010) 33.

⁵⁸ C Raffensperger et al, ‘Science & Environmental Health Network, *Wingspread Statement on the Precautionary Principle*, The Science and Environmental Health Network’ (Science & Environmental Health Network, 5 August 2013) <<https://www.sehn.org/sehn/the-precautionary-principle-march-1998>>.

⁵⁹ UNESCO World Commission on the Ethics of Scientific Knowledge and Technology (2005) *The Precautionary Principle* 52 (2005) 14.

restrictions for a variety of reasons—some underpinned by public health rationales but not by direct and overwhelming epidemiological evidence of their utility. For example, even where marginally effective travel restrictions offer citizens the perception that their government is looking out for their best interests, such restrictions may help foster public trust and compliance with other crucial non-pharmaceutical interventions mandated by the government, such as the use of face masks and vaccine certificates. As Gostin and Wiley write, ‘the difficult balance between science and values in risk regulation is thrown into sharp relief when full information is unavailable, yet public concern is high’.⁶⁰ In this light, travel restrictions that serve limited public health purposes other than quelling public concern must be considered too in relation to their public health, social, economic and human rights related costs.

Without further clarifying the threshold of scientific evidence that must underpin States’ public health decisions under Article 43(2), the exercise of assessing risks involved with implementing measures like travel restrictions remains vague and inconsistently understood and implemented. So too is the proportionality analysis that should necessarily accompany such assessments.

IV. DETERMINING PROPORTIONALITY UNDER ARTICLE 43(1)

Historically, global cooperation and consensus in applying health measures commensurate with public health risks has proven elusive. Feared losses in trade, tourism and reputation disincentivized national governments from reporting disease surveillance information to WHO under the IHR (1969). Peru, for instance, suffered estimated losses of approximately USD700 million after its 1991 cholera outbreak given far-reaching trade restrictions imposed on Peruvian imports.⁶¹ Similarly, despite WHO’s advice, States reacted to the 1994 plague outbreak in Surat, India with flight cancellations and border closures which more broadly led to ‘a stigma on India that took months to fade’.⁶² Truthfully reporting the plague outbreak to the international community cost India upwards of USD2 billion.⁶³

Experiences like these provided the impetus for revising the 1969 IHR to try to mitigate the economic consequences of public health risks and encourage States parties to report unusual outbreaks to the WHO. This imperative is reflected in the purpose of the IHR to ‘provide a public health response to the international spread of disease in ways that are *commensurate with* and

⁶⁰ LO Gostin and LF Wiley, *Public Health Law and Ethics* (3rd edn, University of California Press 2018) 81.

⁶¹ DP Fidler, ‘Return of the Fourth Horseman: Emerging Infectious Diseases and International Law’ (1997) 81 *MinnLRev* 771, 815–816.

⁶² RA Cash and V Narasimhan, ‘Impediments to global surveillance of infectious diseases: consequences of open reporting in a global economy’ 78 *Bulletin of the World Health Organization* 1358, 1361. ⁶³ *ibid* 1362.

restricted to public health risks, and which avoid *unnecessary interference* with international traffic and trade [emphasis added].⁶⁴

Yet even under the current IHR, delays in disease outbreak reporting have hampered a timely global response; China, for instance, is reported to have delayed the notification of COVID-19 outbreaks in Wuhan in late 2019.⁶⁵ Given the historical and ongoing need for proportionate responses to disease outbreaks, it would be legally problematic to suggest that the COVID-19 experience has fully shifted the normative interpretation of Article 43 to allow for unqualified travel restrictions in any future disease outbreak. If potential institutional and treaty reforms leave WHO without independent authority to investigate outbreaks, States will continue to rely on one another to respond to disease outbreaks proportionately and in a manner that incentivizes each State to be forthright about potential disease threats arising within their borders.

Yet even where travel restrictions may be scientifically supported in a given public health crisis, their use is only justified under Article 43(1) in a manner that helps achieve ‘an appropriate level of health protection’. As several COVID related studies have now shown, travel restrictions were only useful when combined with complementary ‘non-pharmaceutical interventions’⁶⁶ including contact tracing, physical distancing and diagnostics,⁶⁷ as well as government assistance to enable citizens to follow public health guidelines. Moreover, how travel restrictions are implemented matters. Sudden border closure announcements, for instance, may induce a rapid inflow of travellers, inadvertently becoming super-spreader events, and achieve the exact opposite of public health protection.⁶⁸ Such closures may also disproportionately harm tenuously employed migrant workers who are left stranded without employment or assistance.⁶⁹ While the IHR leave it largely up to individual

⁶⁴ IHR (n 7),art 2.

⁶⁵ T Lin, ‘The Forgotten Role of WHO/IHR in Trade Responses to 2009 A/H1N1 Influenza Outbreak’ (2010) 44 *JWT* 519; LO Gostin and R Katz, ‘The International Health Regulations: The Governing Framework for Global Health Security’ (2016) 92 *Milbank Quarterly* 264, 267; MM Kavanagh, ‘Authoritarianism, outbreaks, and information politics’ (2020) 5 *Lancet Public Health* e135.

⁶⁶ G Kessler, ‘Trump’s claim that he imposed the first “China ban”’ (*The Washington Post*, 7 April 2020) <<https://www.washingtonpost.com/politics/2020/04/07/trumps-claim-that-he-imposed-first-china-ban/>>; A Nowrasteh and AC Forrester, ‘How US Travel Restrictions on China Affected the Spread of COVID-19 in the United States’ (World Health Organization, 2020) <<https://search.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/en/grc-740552>>.

⁶⁷ Y Liu et al, ‘The impact of non-pharmaceutical interventions on SARS-CoV-2 transmission across 130 countries and territories’ (2021) 19 *BMC Medicine* 40; S Flaxman et al, ‘Estimating the effects of non-pharmaceutical interventions on COVID-19 in Europe’ (2020) 584 *Nature* 257.

⁶⁸ D Saunders, ‘Why Travel Bans Fail to Stop Pandemics’ (*Foreign Affairs*, 15 May 2020) <<https://www.foreignaffairs.com/Articles/canada/2020-05-15/why-travel-bans-fail-stop-pandemics>>.

⁶⁹ ‘Migrants left stranded and without assistance by COVID-19 lockdowns’ (*UN News*, 8 April 2021) <<https://news.un.org/en/story/2021/04/1089302>>; O Sachedina and R Flanagan, ‘Hundreds of migrant workers expect to be stranded in Canada over Christmas’ (*CTV News*, 22 December

States to determine what constitutes an *appropriate* level of health protection, it is certain that a measure that offers no health protection, or worse aggravates the public health crisis, would be in non-compliance with Article 43(1).

Recognizing the nuanced case for travel restrictions, the WHO noted as early as February 2020 that travel measures ‘may have a public health rationale at the beginning of ... an outbreak, as they may allow affected countries to implement sustained response measures, and non-affected countries to gain time to initiate and implement effective preparedness measures’. Nevertheless, it reaffirmed that restrictions must be ‘short in duration, proportionate to the public health risks and be reconsidered regularly as the situation evolves’.⁷⁰

With few alternatives to controlling the international spread of the SARS-CoV-2 virus beyond travel restrictions, we consider solidarity, collaboration and assistance as essential correlative duties in achieving the purpose of the IHR, giving full effect to the proportionality analysis under Article 43(1), and ultimately, ending the COVID-19 pandemic everywhere.

V. COLLABORATION, ASSISTANCE AND SOLIDARITY: INTERPRETING ARTICLE 43 IN A POST COVID-19 ERA

Under the Vienna Convention, the text of a provision must be read ‘in accordance with the ordinary meaning to be given to the terms of the treaty in their *context* [emphasis added]’. It defines ‘context’ as inter alia the whole text of the treaty, and ‘any agreement relating to the treaty which was made between all parties in connexion with the conclusion of the treaty’.⁷¹ On this basis, Article 43 must be read in conjunction with States’ duty to collaborate under Article 44, and given imperatives for collaboration indicated in World Health Assembly (WHA) Resolution 58.3 (which constitutes an agreement in connexion with the conclusion of the treaty).

Article 44 of the IHR codifies the State duty to ‘undertake to collaborate with each other, to the extent possible’ in ‘... the detection and assessment of, and response to’ PHEICs, the ‘provision or facilitation of technical cooperation and logistical support, particularly in the development, strengthening and maintenance of the public health capacities’, and ‘the mobilization of financial resources’ to facilitate the implementation of obligations under the IHR.⁷²

Resolutions and decisions adopted by consensus under the auspices of an international organization may in some cases serve as a supplementary means

2020) <<https://www.ctvnews.ca/canada/hundreds-of-migrant-workers-expect-to-be-stranded-in-canada-over-christmas-1.5242287>>.

⁷⁰ ‘Key considerations for repatriation and quarantine of travellers in relation to the outbreak of novel coronavirus 2019-nCoV’ (World Health Organization, 11 February 2020) <<https://www.who.int/news-room/articles-detail/key-considerations-for-repatriation-and-quarantine-of-travellers-in-relation-to-the-outbreak-of-novel-coronavirus-2019-ncov>>.

⁷¹ Vienna Convention (n 24) art 31(2).

⁷² IHR (n 7) art 44.

of interpretation, and as evidence of subsequent agreement to the treaty.⁷³ The obligations enshrined in Article 44 are strengthened by key statements under WHA Resolution 58.3, which calls on States:

to collaborate actively with each other in accordance with the relevant provisions of the International Health Regulations (2005) ... to provide support to developing countries and countries with economies in transition ... in the building, strengthening and maintenance of required public health capacities ... and to take all appropriate measures ... for furthering the purpose and eventual implementation of the IHR.⁷⁴

The term ‘solidarity’ never appears in the text of the IHR nor in WHA Resolution 58.3, and yet it has been cited as a common point of reference in an ever-expanding list of recent resolutions and statements of the WHA, WHO’s Executive Committee and other multilateral decision-making fora since the beginning of COVID.⁷⁵ Solidarity has otherwise been considered a principle of international law by the Human Rights Council, the 2000 UN Millennium Declaration,⁷⁶ and by successive UN Independent Experts on Human Rights and International Solidarity.

Rudi Muhammad Rizki, for instance, noted in his 2010 report that international solidarity is ‘essential to the international community’s pursuit of peace, sustainable development and the eradication of poverty’.⁷⁷ His successor, Virginia Dandan, characterized international solidarity as a ‘foundational principle underpinning contemporary international law’⁷⁸ which included (1) preventive solidarity (collective actions to safeguard and ensure all human rights); (2) reactive solidarity (collective actions to respond to the adverse impacts of natural disasters, health emergencies, epidemic diseases and armed conflict, with the goals of alleviating human suffering, mitigating further damage and ensuring compliance with States’ obligations); and (3) international cooperation since some States may lack resources or

⁷³ International Law Commission, ‘Draft conclusions on subsequent agreements and subsequent practice in relation to the interpretation of treaties, with commentaries’ (2018) 109.

⁷⁴ WHO (Resolution of the World Health Assembly) ‘Revision of the International Health Regulations’ (25 May 2005) WHA58.3, para 5.

⁷⁵ WHO (Agenda item of the World Health Assembly) ‘COVID-19 response’ (19 May 2020) WHA73.1; ‘G20 Leaders’ Statement: Extraordinary G20 Leaders’ Summit Statement on COVID-19’ (G20 Leaders) <[https://g20.org/en/media/Documents/G20_Extraordinary%20G20%20Leaders%E2%80%99%20Summit_Statement_EN%20\(3\).pdf](https://g20.org/en/media/Documents/G20_Extraordinary%20G20%20Leaders%E2%80%99%20Summit_Statement_EN%20(3).pdf)>; United Nations General Assembly (Agenda Item) ‘United response against global health threats: combating COVID-19’ (14 April 2020) A/74/L.57.

⁷⁶ RM Rizki, ‘Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development’ (Human Rights Council, 2016) <<https://primarysources.brillonline.com/browse/human-rights-documents-online/promotion-and-protection-of-all-human-rights-civil-political-economic-social-and-cultural-rights-including-the-right-to-development;hrdhrd99702016149>> paras 14-16; UNGA Res 55/2 (18 September 2000) UN Doc A/RES/55/2, para 6.

⁷⁷ Rizki (n 76) para 6.8.

⁷⁸ UNGA ‘Report of the Independent Expert on human rights and international solidarity’ (25 April 2017) A/HRC/35/35, Annex, art 1(2).

capacity necessary to fully realize international human rights treaties and States 'in a position to do so should provide international assistance, acting separately or jointly, to contribute to the fulfillment of human rights in other States'.⁷⁹

Taken together, these pronouncements provide useful context for States that decide to implement travel restrictions despite risks to disrupting an international public health response, and to do so in ways that interfere minimally with international traffic and trade under the IHR. They place the onus on States to ensure that travel restrictions do not jeopardize the present and future enjoyment of all States and their citizens, to an IHR that is effective and properly implemented. To minimize the risk that prolonged travel restrictions might disincentivize future disease outbreak reporting to WHO, the context of Article 43 arguably requires implementing States to support the economies and public health response of countries that are disadvantaged by such restrictions (for example, States whose economy relies solely on tourism).

This interpretation proves all the more imperative given the unbridled hoarding of essential medical countermeasures (such as vaccines and diagnostics) exhibited by high income countries during COVID-19 and is borne out in the latest advice issued by the WHO itself.⁸⁰ As people in wealthy countries have gained increased protection from the virus, how might international travel reflect imbalances in access to such medical countermeasures? Villarreal and Renne have usefully drawn upon the themes above in discussing the issue of vaccine nationalism in international law, and in positing that access to medical countermeasures in times of a global health emergency can be framed as a 'community interest', that is, 'a series of goals (based on shared fundamental values) pursued by all or a sufficiently large group of states'.⁸¹ In this regard, the authors note that immunization against COVID-19 was deemed a global public good without objection in a resolution adopted by the World Health Assembly in May 2020.⁸² While acknowledging that this resolution could represent an 'embryonic articulation of a community interest',⁸³ Villarreal and Renne go further, arguing that a more robust operationalization of the community interest of global immunization

⁷⁹ *ibid.*, art 2.

⁸⁰ In a statement issued on 19 January 2022, the EC denounced travel restrictions as having no 'added value' and contributing to 'economic and social stress'. The statement focused much more centrally on equitable access to vaccines, therapeutics and diagnostics. See 'Statement on the tenth meeting of the International Health Regulations (2005) Emergency Committee regarding the coronavirus disease (COVID-19) pandemic' (World Health Organization, 19 January 2022) <[https://www.who.int/news/item/19-01-2022-statement-on-the-tenth-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-coronavirus-disease-\(covid-19\)-pandemic](https://www.who.int/news/item/19-01-2022-statement-on-the-tenth-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-coronavirus-disease-(covid-19)-pandemic)>.

⁸¹ PA Villarreal and G Renne, 'Medical Countermeasures for Pandemic Response and Intellectual Property Rights: Articulating and Enabling Community Interests under International Law' (2022) 24 *International Community Law Review* 233.

⁸² WHO, *COVID-19 response*, World Health Assembly Resolution WHA73.1 (19 May 2020).

⁸³ Villarreal and Renne (n 81) 238.

should not only include the obligations of States to adopt waivers of intellectual property barriers to equitable vaccine distribution, but also ‘obligations under international law for taking active steps in providing the necessary transfers of technology and know-how to face acute crises’.⁸⁴

Article 43, read in its context within the IHR and international law more broadly, would support a rapid end to the pandemic through the equitable sharing of knowledge, establishment of manufacturing capacity and distribution of effective vaccines, therapeutics and diagnostics. Such decisively solidaristic action would not only be the most scientifically justifiable course of action to stem the international spread of disease and represent the least restrictive health measure that would achieve an appropriate level of health protection. Rather, where access to vaccines and other medical countermeasures becomes entrenched as a prerequisite for international travel, with dramatic implications for global equity and the human rights of people from low- and middle-income countries, it would represent the necessary course of action to uphold the IHR’s promise of serving as the ‘key *global* instrument for protection against the international spread of disease [emphasis added]’.⁸⁵

VI. CONCLUSION

Debates over the legality of travel restrictions under IHR Article 43 have gained vehemence over the course of the pandemic. There are, however, relatively clear analytical steps States must take in implementing such measures during the current global health emergency and future disease outbreaks. Article 43, read in the context of the IHR as a whole and in relation to State duties under international human rights law, requires States to implement less restrictive measures than travel restrictions where these would achieve the same level of appropriate health protection. Where WHO advice has shifted to accommodate the imposition of travel restrictions, it has been primarily to acknowledge evidence of their utility in the earliest phase of a novel disease outbreak. Moreover, where travel restrictions are imposed, both the IHR and international human rights law requires that their negative impacts be mitigated by cooperative actions. Where international travel increasingly becomes dependent on access to effective medical countermeasures, the imperative to advance equitable access in low- and middle-income countries will become a critical component of the spirit of global cooperation and solidarity inherent to the IHR, and must be understood as the correlative duty accompanying the margin of appreciation afforded to States under Article 43’s risk assessment and proportionality analysis.

⁸⁴ *ibid* 254.

⁸⁵ IHR (n 7) Preamble.