CLOSING THE DIGITAL DIVIDE AS A PUBLIC HEALTH MECHANISM: EXPLORING TECHNOLOGY INFRASTRUCTURE REGULATIONS AND TRENDS IN THE WESTERN PACIFIC AND SOUTH-EAST ASIA

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TABLE OF CONTENTS

INTRODUCTION 602
I. UNCOVERING THE ROOT OF THE PROBLEM 608
A. Tackling the Social Determinants of Health 608
B. Telehealth is an Emerging Solution 611
C. Telehealth Is Not Perfect 616
II. EXISTING TELEHEALTH INFRASTRUCTURE AND DEVELOPMENT EFFORTS 619
A. The Reality of Modern Technology Infrastructure 620
B. International Technology & Telehealth Cooperatives ... 622
1. The International Telecommunications Union 622
2. The World Health Organization 626
C. Regional Technology, Economic, and Political Cooperatives 629
1. The South Asian Association for Regional Cooperation 630
2. The Association of Southeast Asian Nations 631
D. National Support for Technology Infrastructure 633
1. India 633
2. Malaysia 635
3. Other Emerging Countries in Telehealth 636

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III. CLOSING THE DIGITAL DIVIDE 638
A. Distilling the Problem..... 638
B. Recommendations & Potential Future Directions..... 641
CONCLUSION 645

INTRODUCTION

News media extensively describes the global COVID-19 pandemic using the same buzzwords people are tired of hearing: disruption, challenging times, and the new normal. However, "unprecedented" is the most problematic one of all. While the virus itself (severe acute respiratory syndrome coronavirus 2, or "SARS-CoV-2") and the coronavirus disease it causes ("COVID-19")[1] are certainly novel, its resulting consequences are not. Throughout history, there have been countless disease outbreaks,[2] most of which dissipated before they developed into epidemics, but a select few have ballooned into international pandemics.[3] Recent mass disease outbreaks are the harsh and disparate consequences of insufficient preparation and response.[4] These outbreaks also

1. For more details on the naming scheme, see *Naming the Coronavirus Disease (COVID-19) and the Virus that Causes It*, WORLD HEALTH ORG., https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it (last visited Feb. 27, 2023).

2. Jocelyne Piret & Guy Boivin, *Pandemics Throughout History*, FRONTIERS MICROBIOLOGY, Jan. 15, 2021, at 1.

3. *Id.* The terms outbreak, epidemic, and pandemic each refer to a different extent of infectious disease spread. For this Comment, the technical distinctions are not critical but are nevertheless worth noting. *Lesson 1: Introduction to Epidemiology*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/csels/dsepd/ss1978/lesson1/section11.html (last updated May 18, 2012).

4. Piero Olliara & Els Torreele, *Global Challenges in Preparedness and Response to Epidemic Infectious Diseases*, 30 MOLECULAR THERAPY 1801, 1807 (2022). For context, as of March 3, 2024, there have been over 774 million confirmed COVID-19 cases and approximately 7 million deaths worldwide. *WHO Coronavirus (COVID-19) Dashboard*, WORLD HEALTH ORG., https://covid19.who.int/ (last visited Mar. 17, 2024). The 2009 H1N1 (swine flu) pandemic is estimated to have caused between 700 million and 1.4 billion cases worldwide (based on a global population cumulative incidence rate of 11–21%). Sarika Zala et al., *Impact of COVID-19 Pandemic on Maternal and Neonatal Outcomes: A Narrative Review and Evidence from the PregCovid Registry*, J. REPROD. HEALTHCARE & MED., Jan. 2023, at 2; Heath Kelly et al., *The Age-Specific Cumulative Incidence of Infection with Pandemic*

indicate that similar crises will inevitably arise in the future.[5] Recklessly labeling COVID-19 as unprecedented disregards history and overlooks how society can improve existing health-related systems and strategies moving forward. If nothing else, the COVID-19 pandemic taught two crucial lessons that the world should remember.

First, health disparities, a long-standing issue in public health, are festering wounds. Disadvantaged populations suffer due to a wide variety of healthcare issues. For example, within Western Pacific ("W.P.") and South-East Asian ("S.E.A.") countries,[6] rural and

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Influenza H1N1 2009 Was Similar in Various Countries Prior to Vaccination, 6 PLoS ONE, Aug. 2011, at 1. The CDC estimates there were between 151,700 and 575,400 deaths worldwide therefrom. *2009 H1N1 Pandemic (H1N1pdm09 virus)*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://archive.cdc.gov/#/details?url=https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html (last updated June 11, 2019). Another study estimated that 51% of respiratory and cardiovascular deaths related to the H1N1 strain occurred in Southeast Asia and Africa. Fatimah S. Dawood et al., *Estimated Global Mortality Associated with the First 12 Months of 2009 Pandemic Influenza A H1N1 Virus Circulation: A Modelling Study*, 12 LANCET INFECTIOUS DISEASES 687, 687 (2012). The Joint United Nations Program on HIV/AIDS ("UNAIDS") estimates 85.6 million HIV infections and 40.4 million AIDS-related deaths since 1981. *Global HIV & AIDS Statistics — Fact Sheet*, UNAIDS, https://www.unaids.org/en/resources/fact-sheet (last visited Feb. 15, 2024). Although each outbreak mentioned has distinct timelines, characteristics, and impacts, their unifying feature is their tendency to cause extreme loss of life. *See* discussion and sources cited *supra* note 4.

5. Stephen S. Morse, *Factors in the Emergence of Infectious Diseases*, 1 EMERGING INFECTIOUS DISEASES 7, 7 (1995). The spread of pathogens that humans have not previously been exposed to and for which there are no existing immunity is inevitable, but that also makes it highly predictable. *Id.* The emergence of infectious diseases is a complex process involving the intersection of numerous factors, including changes in human demographics and behavior (e.g., globalization, travel, and trade), microbial adaptation and evolution, and changes in the environment. *Id.* at 7–8. Note that these trends not only facilitate the emergence of new diseases but also the re-emergence and evolution of historical, and even "ancient," diseases. David M. Morens & Anthony S. Fauci, *Emerging Infectious Diseases: Threats to Human Health and Global Stability*, PLOS PATHOGENS, July 2013, at 1. This Comment focuses on access to quality healthcare, but it is important to contextualize and realize the existence of other contributors to the causal chain.

6. *See Where We Work: Western Pacific*, WORLD HEALTH ORG., https://www.who.int/westernpacific/about/where-we-work (last visited Apr. 27, 2023) [hereinafter WHO *Western Pacific Work*]; *Where We Work: South-East Asia*, WORLD HEALTH ORG., https://www.who.int/southeastasia/about/where-we-work (last visited Apr. 27, 2023) [hereinafter WHO *South-East Asia Work*]. There are various geopolitical, economic, and other methods of categorizing countries, but this Comment

low-income populations (which often overlap) have limited access to healthcare.[7] Limited access stems from inadequate infrastructure, high costs, and long travel distances to providers and facilities,[8] which leads to worse outcomes.[9] These trends are not merely intranational; compared to the wealthier W.P. countries, S.E.A. countries have a higher burden of communicable diseases (such as dengue fever,[10] malaria,[11] and tuberculosis[12]) and non-communicable diseases (such as diabetes and hypertension[13]).

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primarily utilizes the World Health Organization's ("WHO's") methodology of dividing the world into six regions. Although these categories were created for the WHO's administrative and reporting purposes, they provide a helpful guide for understanding what countries this Comment focuses on.

7. *See generally* Bart Jacobs et al., *Addressing Access Barriers to Health Services: An Analytical Framework for Selecting Appropriate Interventions in Low-Income Asian Countries*, 27 HEALTH POL'Y & PLAN. 288, 289, 298 (2012).

8. *Id.* at 289–91.

9. Worse outcomes are particularly true for specialist issues like maternal and child health. *See generally* Cesar G. Victora et al., *Applying an Equity Lens to Child Health and Mortality: More of the Same Is Not Enough*, 362 THE LANCET 233 (2003).

10. *Dengue and Severe Dengue*, WORLD HEALTH ORG. [WHO] (Mar. 17, 2023), https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue ("The Americas, South-East Asia and Western Pacific regions are the most seriously affected, with Asia representing around 70% of the global disease burden. . . . A high number of cases were reported in Bangladesh (101 000), Malaysia (131 000) Philippines (420 000), Vietnam (320 000) in Asia.").

11. *World Malaria Report 2022*, WORLD HEALTH ORG. [WHO] at 20–25 (Dec. 8, 2022), https://www.who.int/teams/global-malaria-programme/reports/world-malaria-report-2022.

12. *Global Tuberculosis Report 2022*, WORLD HEALTH ORG. [WHO] at 5–7 (Oct. 27, 2022), https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2022. Note, however, that while the S.E.A. and W.P. are the most affected by tuberculosis, they are the two regions that account for most of the global reductions in tuberculosis cases. *Id.* at 5.

13. Viswanathan Mohan et al., *The Rising Burden of Diabetes and Hypertension in Southeast Asian and African Regions: Need for Effective Strategies for Prevention and Control in Primary Health Care Settings*, 2013 INT'L J. HYPERTENSION 1, 2, 6 (2013). W.P. nations have a higher prevalence of diabetes and hypertension, but S.E.A. and African countries have seen gradually higher increases in recent years. *Id.* at 1–2. Diabetes, for example, is a unique phenomenon because it tends to more severely affects countries in the process of globalizing and urbanizing; most countries' diabetes diagnoses peak after there is a drastic shift away from rural

The COVID-19 pandemic exacerbated many of these healthcare problems, putting them on full display. For instance, preexisting access issues extended to COVID-19 treatment and vaccines.[14] This caused a severe accessibility gap for low-income populations and migrant workers worldwide.[15] In India, people living in poverty,[16] rural areas,[17] and overcrowded urban slums[18] suffer a higher risk of COVID-19 infections and death.[19] Furthermore, disruptions in healthcare services proved fatal for non-COVID-19 reasons; additional stressors added onto an already overburdened system created spillover effects on other healthcare specializations, severely reducing access to immunizations and care for tuberculosis and other non-communicable chronic diseases.[20] Further international studies indicated similar compounding challenges with cancer[21] and mental health.[22]

This grim phenomenon is not limited to a specific geopolitical or economic region.[23] In Brazil, Indigenous communities have experienced higher COVID-19 infection and death rates than the general population,

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agrarian lifestyles. Ambady Ramachandran et al., *Trends in Prevalence of Diabetes in Asian Countries*, 3 WORLD J. DIABETES 110, 110 (2012).

14. Olivier J. Wouters et al., *Challenges in Ensuring Global Access to COVID-19 Vaccines: Production, Affordability, Allocation, and Deployment*, 397 THE LANCET 1023, 1023 (2021).

15. *Id.* at 1025.

16. *See* Ramila Bisht et al., *COVID-19 and the Burden of Ill-Health: A Double Crisis of Disruptions and Inequalities*, 23 J. SOC. & ECON. DEV. 342 (2020).

17. *See* Prafulla Kumar Sahoo et al., *Urban to Rural Covid-19 Progression in India: The Role of Massive Migration and the Challenge to India's Traditional Labour Force Policies*, 37 INT'L J. HEALTH PLAN. & MGMT. 528 (2021).

18. *See* Arunava Bhadra et al., *Impact of Population Density on Covid-19 Infected and Mortality Rate in India*, 7 MODELING EARTH SYS. & ENV'T 623 (2021).

19. *Id.* at 624.

20. Bisht et al., *supra* note 16, at 346–52.

21. *See* Roselle De Guzman & Monica Malik, *Dual challenge of Cancer and Covid-19: Impact on Health Care and Socioeconomic Systems in Asia Pacific*, 6 JCO GLOB. ONCOLOGY 906 (2020).

22. *See* Lola Kola et al., *Covid-19 Mental Health Impact and Responses in Low-Income and Middle-Income Countries: Reimagining Global Mental Health*, 8 LANCET PSYCHIATRY 535 (2021).

23. *See generally* Clare Bambra et al., *The COVID-19 Pandemic and Health Inequalities*, 74 J. EPIDEMIOLOGY & CMTY. HEALTH 964 (2020).

reflecting national historical trends during disease outbreaks.[24] In the United Kingdom ("U.K."), people of South Asian and Black ethnicities have disproportionate COVID-19 hospitalization and mortality rates.[25] As of May 2023, the United States ("U.S.") shows Hispanic, Black, and Indigenous populations are all more likely to be infected, hospitalized, and killed by COVID-19 compared to White, non-Hispanic persons.[26] Individuals with underlying medical conditions are more likely to be hospitalized.[27] This means adult patients in the U.S. with underlying conditions, which includes approximately 58% of adult patients who are hypertensive and 45% who are obese, have a higher likelihood of being hospitalized.[28] Simultaneously, these conditions are more common among certain groups: hypertension is present in 56% of Black adults,[29] and obesity is present in approximately 50% of Black adults and 46% of Hispanic adults.[30]

A second important takeaway from the COVID-19 pandemic is that technology is an effective and heavily utilized blanket solution for increasing access—whether in education, work, healthcare, or even

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24. *See* Graziela Almeida Cupertino et al., *COVID-19 and Brazilian Indigenous Populations*, 103 AM. J. TROPICAL MED. & HYGIENE 609 (2020). *See also* Martha Fellows et al., *Under-Reporting of COVID-19 Cases Among Indigenous Peoples in Brazil: A New Expression of Old Inequalities*, FRONTIERS PSYCHIATRY, Apr. 2021, at 1 (explaining that as the number of indigenous COVID-19 cases are underreported, the true extent of the inequity is unknown).

25. Claire L. Niedzwiedz et al., *Ethnic and Socioeconomic Differences in SARS-CoV-2 Infection: Prospective Cohort Study Using UK Biobank*, BMC MED., May 2020, at 1.

26. *Risk for Covid-19 Infection, Hospitalization, and Death by Race/ Ethnicity*, CTRS. DISEASE CONTROL & PREVENTION, https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html (last updated May 25, 2023) [https://archive.cdc.gov/www_cdc_gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html].

27. Lyudmyla Kompaniyets et al., *Underlying Medical Conditions and Severe Illness Among 540,667 Adults Hospitalized with Covid-19, March 2020–March 2021*, PREVENTING CHRONIC DISEASE, July 2021, at 1, 2.

28. *COVID-NET Dashboard*, CTRS. DISEASE CONTROL & PREVENTION, https://gis.cdc.gov/grasp/COVIDNet/COVID19_5.html (Mar. 20, 2023).

29. *Facts About Hypertension*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/bloodpressure/facts.htm (last updated July 6, 2023).

30. *Adult Obesity Facts*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/obesity/data/adult.html (last updated May 17, 2022).

social interaction.[31] When the world shut down, businesses, schools, and other institutions—especially essential ones—had to find ways to operate remotely or significantly minimize face-to-face contact.[32] As a result, everyday life transitioned to online and digital mediums, and the use of various technological hardware and software skyrocketed.[33] Work and education from home became the norm, as did pastimes such as online shopping and home entertainment.[34] Higher use led to tighter regulatory scrutiny amidst concerns about whether technologies were accessible, safe, and effective.[35] In the healthcare context, these developments created a real-life laboratory for understanding the effectiveness and limitations of various technological solutions and their bearing on health outcomes.[36] Higher use also highlighted gaps in technological access.[37] While access to technology is a global problem, it is most readily apparent in the W.P. and S.E.A. regions.[38]

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31. *See* Deedra Vargo et al., *Digital Technology Use During COVID-19 Pandemic: A Rapid Review*, 3 HUM. BEHAV. & EMERGING TECHS. 13, 19 (2020).

32. *Id.*

33. *Id.* at 15–19.

34. *Id.* at 13.

35. *See, e.g.*, *FTC Proposes Blanket Prohibition Preventing Facebook from Monetizing Youth Data*, FED. TRADE COMM'N [FTC] (May 3, 2023), https://www.ftc.gov/news-events/news/press-releases/2023/05/ftc-proposes-blanket-prohibition-preventing-facebook-monetizing-youth-data (addressing concerns related to data privacy and children's usage of social media).

36. *See* S. Alghamdi & Saeed M. Alghamdi, *The Role of Digital Technology in Curbing COVID-19*, 19 INT'L J. ENV'T RSCH. & PUB. HEALTH (Special Issue) 3–8 (2022).

37. *Id.* at 3 ("One important determinant is ensuring easy access to basic and advanced communication technologies and/or digital health platforms for individuals.")

38. These regions are particularly vulnerable to intra- and inter-national disparities in technological access due to economic limitations (e.g., the GDP of Japan or Singapore relative to Laos or Myanmar); rural-urban divides (all countries have significant populations living in hard-to-reach areas, but the wealthier countries are better able to reach such populations); environmental conditions (susceptibility to natural disasters, poor weather, and climate change may prevent expansion); education (on digital literacy); and government policies and priorities (resource availability, feasibility, political mechanisms, political instability, or general lack of focus). *See generally* Debbra Toria Nipo et al., *Global Digital Divide: Determinants of Cross-Country ICT Development with Special Reference to Southeast Asia*, 2 INT'L J. BUS. & ECON. DEV. 83 (2014); Poh-Kam Wong, *ICT Production and Diffusion in Asia: Digital Dividends or Digital Divide?*, 14 INFO. ECON. & POL'Y 167 (2002).

With health disparities and technological innovations rising, the COVID-19 pandemic created a ripe opportunity to assess potential solutions within the intersection of health and technology. Thus, this Comment assesses whether improving technology infrastructure and promoting telehealth can improve health outcomes. More specifically, this Comment explores the W.P. and S.E.A. regions—home to an abundance of culturally and socioeconomically diverse countries. The lessons learned from these volatile regions at this critical breaking point can inform future global regulatory and policy oversight as the unrelenting digitalization of goods and services continues transforming the playing field.

First, Section II provides essential background on how health and technology are intertwined. Armed with this knowledge, Section III provides an overview of technological infrastructure and accompanying developmental mechanisms at the international, regional, and national levels. Section IV recommends various policy and procedural modifications worldwide to develop technological infrastructure to increase healthcare access and reduce disparate health outcomes.

I. UNCOVERING THE ROOT OF THE PROBLEM

The logical nexus between health disparities and technological solutions is not readily apparent. Like trees, health disparities are deeply rooted and often survive in the face of adversity, barring a scorched earth approach. It is difficult to uproot the problem when you cannot see how far it has spread. This section explores the complicated, two-sided relationship between health and technology that sets the stage for potential solutions.

A. Tackling the Social Determinants of Health

Health disparities are widely understood to be created and perpetuated by social underpinnings. Health disparities are avoidable differences in health outcomes driven by the intersection between socioeconomic factors and health.[39] These variables, such as poverty,

39. *Social Determinants of Health*, WORLD HEALTH ORG. [WHO], https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1 (last visited Mar. 18, 2024) [hereinafter WHO *Social Determinants of Health*]; *What is Health Equity?*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/

discrimination, and unequal access to public resources, are also known as the "social determinants of health."[40] For example, disproportionate representation in essential workforces and a higher likelihood of living in multigenerational or high-density housing may explain the higher incidence of COVID-19 in Black, Hispanic, and Indigenous communities within the U.S.[41] The World Health Organization ("WHO") notes these differences are observable across a range of health indicators, including disease incidence, mortality rates, and life expectancy.[42] Sociological and epidemiological research corroborates these "conditions in which people are born, grow, live, work and age" have a compounding effect on health outcomes.[43] These social determinants of health unveil a social gradient in health: as one's socioeconomic standing improves, so does one's health.[44] This explains why individuals with fewer resources—like many in the S.E.A. and W.P.—struggle with overcoming COVID-19 and other health issues.

Healthcare organizations and institutions worldwide already dedicate resources to address these underlying causes of health disparities, but there are still ripe opportunities.[45] For their work to be impactful, such entities require holistic support from governmental bodies and society.[46] These macro-level contributors directly shape healthcare services and people's social standing, which in turn dictate health

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healthequity/whatis/index.html (last updated July 1, 2022) [hereinafter CDC *What is Health Equity?*].

40. WHO *Social Determinants of Health*, *supra* note 39; CDC *What is Health Equity?*, *supra* note 39.

41. CDC *What is Health Equity?*, *supra* note 39.

42. WHO *Social Determinants of Health*, *supra* note 39.

43. *Id.*

44. WHO *Social Determinants of Health*, *supra* note 39. *See also* Bruce G. Link & Jo Phelan, *Social Conditions As Fundamental Causes of Disease*, 35 J. HEALTH & SOC. BEHAV. 80, 81 (1995).

45. *See generally* WHO *Social Determinants of Health*, *supra* note 39; CDC *What is Health Equity?*, *supra* note 39; *Health Inequities and Their Causes*, WORLD HEALTH ORG. (Feb. 22, 2018), https://www.who.int/news-room/facts-in-pictures/detail/health-inequities-and-their-causes; *See The Equality and Health Inequalities Hub*, NHS ENGLAND, https://www.england.nhs.uk/about/equality/equality-hub/ (last visited Mar. 18, 2024).

46. *See, e.g.*, *Grants*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/grants/index.html (last reviewed Jan. 30, 2024).

outcomes.[47] In other words, there is only so much an individual patient or healthcare provider can do without broader governmental or societal support.[48] A policy plan to temper the next global health crisis must take an innovative approach to redress the underlying social gradient to mitigate and prevent disparate health outcomes.

Governmental policies can creatively and holistically improve healthcare access, which international trends indicate is a growing problem.[49] A 2023 joint report by the WHO and World Bank concluded persistent financial hardship and inequalities in healthcare service coverage limit healthcare access.[50] Catastrophic health spending has steadily increased in recent years and doubled since 2000.[51] In 2019, 1.3 billion people incurred impoverishing out-of-pocket healthcare costs, compared to 752 million in 2000.[52] African, W.P., and S.E.A. regions have high concentrations of populations pushed into extreme poverty by such spending.[53] Service coverage and public spending have increased, but have nonetheless fallen short of addressing these expenditure problems,[54] and COVID-19 halted all progress.[55] The question remains: what can governments do to change the trajectory of this global crisis?

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47. *Social Determinants of Health*, PAN AM. HEALTH ORG. [PAHO], https://www.paho.org/en/topics/social-determinants-health (last visited Mar. 17, 2023).

48. *See, e.g.*, *HHS Provider Relief Fund*, TAGGS, https://taggs.hhs.gov/Coronavirus/Providers (last visited Mar. 25, 2024) (tracking over $186 billion in COVID-19 relief funds distributed to providers).

49. World Health Organization [WHO] & World Bank Group [WBG], *Tracking Universal Health Coverage: 2023 Global Monitoring Report*, at 1 (2023), https://www.who.int/publications/i/item/9789240080379.

50. *Id.*; World Health Organization [WHO] & World Bank Group [WBG], *Tracking Universal Health Coverage: 2021 Global Monitoring Report*, at ii (2021), https://www.who.int/publications/i/item/9789240040618.

51. *Tracking Universal Health Coverage: 2023 Global Monitoring Report*, supra note 49, at xv.

52. *Id.* at xvi–xvii.

53. *Id.* at 12. However, intraregional improvements were observed in the S.E.A. and African regions. *Id.* at 11.

54. *Id.* at xii–xiii.

55. *Id.* at xvii.

B. Telehealth is an Emerging Solution

At first blush, telehealth may appear to be a luxury—the term itself typically evokes the image of an online physician consultation. However, telehealth is far more expansive.[56] Telehealth is described as "the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, health administration, and public health."[57] The broader umbrella of telehealth encompasses non-clinical health and wellness services, electronic prescriptions, remotely controlled or monitored medical devices, electronic health data storage, and more.[58] Since countless essential services fall under this broad definition, improving technological access can open the door to telehealth for more populations and create better health outcomes.[59] Telehealth is necessary in an increasingly interconnected and digitalized world that remains physically divided. Faced with advancements in technology, changing demographics, and increasing healthcare costs, experts have gradually recognized the potential benefits of telehealth, which include (1) increased access to care; (2) reduced care costs; (3) and better health education, all cumulating in improved patient outcomes.[60]

First, telehealth significantly enhances access to care for patients who face challenges in reaching healthcare facilities for various

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56. *What is Telehealth?*, HEALTH RES. & SERVS. ADMIN., https://www.hrsa.gov/telehealth/what-is-telehealth (last visited Mar. 19, 2024) [hereinafter HRSA *What is Telehealth?*]. *See also What is Telehealth?*, NEJM CATALYST (Feb. 1, 2018), https://catalyst.nejm.org/doi/full/10.1056/CAT.18.0268 [hereinafter NEJM *What is Telehealth?*]. While "telehealth" encompasses a larger realm of healthcare services and activities, "telehealth" and "telemedicine" are often used interchangeably. *Id.*

57. HRSA *What is Telehealth?*, *supra* note 56.

58. *What Can be Treated Through Telehealth?*, TELEHEALTH.HHS.GOV, https://telehealth.hhs.gov/patients/what-can-be-treated-through-telehealth (last updated Feb. 29, 2024); NEJM *What is Telehealth?*, supra note 56. *See also WHO Guideline: Recommendations on Digital Interventions for Health System Strengthening*, WORLD HEALTH ORG. [WHO] (Apr. 17, 20190, https://iris.who.int/bitstream/handle/10665/311941/9789241550505-eng.pdf?sequence=31 [hereinafter WHO Guideline].

59. *See* discussion *supra* Section II.A.

60. N. M. Hjelm, *Benefits and Drawbacks of Telemedicine*, 11 J. TELEMEDICINE & TELECARE 60, 60 (2005).

reasons. Individuals with disabilities[61] and those residing in rural areas[62] can receive care that may otherwise be unreasonably distant and inaccessible, such as specialist care.[63] By establishing a direct connection, telehealth also effectively bypasses numerous time-consuming administrative procedures, which reduces wait times[64] and may potentially save lives in emergencies.[65] Furthermore, professionals can closely monitor patients with chronic conditions using remote devices like blood pressure monitors, heart rate monitors, and glucose meters.[66] This minimizes the risks associated with patient self-reporting, fostering patient involvement, and early detection.[67] Overall, the ease of access provided by telehealth encourages utilization by lowering actual and perceived barriers, which paves the way for better health outcomes.

Second, for related reasons, telehealth reduces costs for patients, professionals, and the healthcare system itself. A more limited need for in-person healthcare visits reduces time and monetary expenses associated with patient travel and accommodation.[68] Virtual services also aid in streamlining administrative processes by reducing burdensome

61. Gloria L. Krahn et al., *Persons with Disabilities as an Unrecognized Health Disparity Population*, 105 AM. J. PUB. HEALTH at S198 (2015).

62. *See, e.g.*, James P. Marcin, Ulfat Shaikh & Robin H. Steinhorn, *Addressing Health Disparities in Rural Communities Using Telehealth*, 79 PEDIATRIC RSCH. 169, 169 (2015); Roxanne Nelson, *Telemedicine and Telehealth: The Potential to Improve Rural Access to Care*, 117 AM. J. NURSING 17 (2017).

63. Liam J. Caffery et al., *Telehealth Interventions for Reducing Waiting Lists and Waiting Times for Specialist Outpatient Services: A Scoping Review*, 22 J. TELEMEDICINE & TELECARE 504, 504 (2016).

64. *Id.*

65. James Langabeer et al., *Telehealth-Enabled Emergency Medical Services Program Reduces Ambulance Transport to Urban Emergency Departments*, 17 W. J. EMERGENCY MED. 713, 714 (2016). Mobile technology-driven emergency medical response services reduce unnecessary ambulance transport, increasing availability and productivity for those needing emergency services. *Id.* at 713–14.

66. Rachael C. Walker et al., *Patient Expectations and Experiences of Remote Monitoring for Chronic Diseases: Systematic Review and Thematic Synthesis of Qualitative Studies*, INT'L J. MED. INFORMATICS, Apr. 2019, at 78, 81–83.

67. *Id.* at 84.

68. Centaine L. Snoswell et al., *Determining if Telehealth Can Reduce Health System Costs: Scoping Review*, J. MED. INTERNET RSCH., Oct. 2020, at 6, 15.

paperwork and long waiting times.[69] This shift in incentive calculation creates another significant benefit: long wait times are universally cited as primary reasons for delaying, forgoing, or being unable to access healthcare.[70] At the same time, encouraging patients to see a professional promotes preventative care and intervention before costly procedures and hospitalizations are needed.[71] For patients who have already run the gauntlet through the system, telehealth may enable better post-discharge care and monitoring, mitigating complications and possible readmission.[72] Most importantly, telehealth improves internal communication and collaboration among providers, creating more efficient resource allocation and reducing redundant services, which lowers costs and facilitates better care.[73]

Third, telehealth is a helpful tool for health education as it transcends beyond primary care's classic diagnosis and treatment model. Online sources may appear helpful, but they are unreliable because a patient's situation may differ from whatever general advice such sources can offer.[74] On the other hand, telehealth enables a patient to connect with providers who can speak precisely to the patient's

69. Caffery, *supra* note 63.

70. *See generally* Jae Kennedy et al., *Access to Emergency Care: Restricted by Long Waiting Times and Cost and Coverage Concerns*, 43 ANNALS EMERGENCY MED. 567 (2004); Girish S. Kulkarni et al., *Longer Wait Times Increase Overall Mortality in Patients with Bladder Cancer*, 182 J. UROLOGY 1318 (2009); Ingela Johansson et al., *Factors Related to Delay Times in Patients with Suspected Acute Myocardial Infarction*, 33 HEART & LUNG 291 (2004).

71. Helen C. Noel et al., *Home Telehealth Reduces Healthcare Costs*, 10 TELEMEDICINE J. & E-HEALTH 170, 171–72 (2004).

72. *See generally* Albeir Y. Mousa et al., *Results of Telehealth Electronic Monitoring for Post Discharge Complications and Surgical Site Infections Following Arterial Revascularization with Groin Incision*, 57 ANNALS VASCULAR SURGERY 160 (2019); V. L. Phillips et al., *Using Telehealth Interventions to Prevent Pressure Ulcers in Newly Injured Spinal Cord Injury Patients Post-Discharge: Results from a Pilot Study*, 15 INT'L J. TECH. ASSESSMENT HEALTH CARE 749 (1999).

73. *See* Adam Darkins et al., *Care Coordination/Home Telehealth: The Systematic Implementation of Health Informatics, Home Telehealth, and Disease Management to Support the Care of Veteran Patients with Chronic Conditions*, 14 TELEMEDICINE & E-HEALTH 1118, 1123 (2008).

74. Briony Swire-Thompson & David Lazer, *Public Health and Online Misinformation: Challenges and Recommendations*, 41 ANN. REV. PUB. HEALTH 433, 439–40 (2020).

condition and care options.[75] Credible mediums also create learning opportunities that may be difficult to reproduce in physical settings, such as personalized educational resources[76] and virtual support groups.[77] Telehealth enhances existing methodologies while innovators continue to explore new uses.[78] These evolving opportunities for continuous learning promote health literacy and encourage patients to actively participate in their care and manage their health conditions.

The preceding literature broadly shows telehealth has realizable potential to address social determinants of health and improve patient outcomes. Recognizing this, systems worldwide have increasingly implemented telehealth solutions in recent years.[79] Developed countries like the U.S., Australia, and the U.K. have welcomed telehealth with open arms, especially in rural and remote areas where it is difficult to access healthcare services.[80] International organizations and aid facilitate developing countries through telehealth, which helps address various healthcare challenges, including healthcare

75. *See generally* Kathy L. Rush et al., *The Efficacy of Telehealth Delivered Educational Approaches for Patients with Chronic Diseases: A Systematic Review*, 101 PATIENT EDUC. & COUNSELING 1310 (2018).

76. Jihe Wang et al., *Enabling Real-Time Information Service on Telehealth System Over Cloud-Based Big Data Platform*, 72 J. SYS. ARCHITECTURE 69, 70 (2017) (platforms may offer personalized educational resources, which can be updated frequently and made conveniently accessible).

77. Annie Banbury et al., *Telehealth Interventions Delivering Home-based Support Group Videoconferencing: Systematic Review: Systematic Review*, J. MED. INTERNET RSCH., Feb. 2018, at 10, 12 (explaining how virtual support groups can foster peer-to-peer learning, a sense of community, and emotional support, while an in-person support group may lack broader perspectives, similar attendance numbers, and true anonymity).

78. *See, e.g.*, Calvin Hennick, *Pandemic-Tested Telehealth Technology Expands into Mainstream Care*, FEDTECH (Oct. 18, 2023), https://fedtechmagazine.com/article/2023/10/pandemic-tested-telehealth-technology-expands-mainstream-care (discussing new programs that use of virtual visits and virtual reality by federal healthcare providers post-pandemic).

79. *See generally* E. Ray Dorsey & Eric J. Topol, *State of Telehealth*, 375 NEW ENG. J. MED. 154 (2016).

80. Peter Drury et al., *Global Diffusion of eHealth: Making Universal Health Coverage Achievable*, WORLD HEALTH ORGANIZATION [WHO] (2016) at 56, https://www.who.int/publications/i/item/9789241511780.

provider shortages, limited access to healthcare services, and high rates of chronic disease.[81]

Furthermore, telehealth became a vital tool for safely and effectively delivering healthcare services during the COVID-19 pandemic.[82] With the risk of transmitting COVID-19 in healthcare settings, telehealth emerged as a safe and valuable alternative to in-person care.[83] It ensured professionals could continue to provide care to cautious patients who might have otherwise delayed or avoided seeking care, which is especially significant for conditions that require ongoing care, such as chronic diseases and mental health concerns.[84] Telehealth became recognized as a vital utility; therefore, regulations loosened to satisfy healthcare needs.[85] Market trends responded in kind as large companies began to claim their space in the telehealth sector.[86] In the

81. *Id.* at 67.

82. Elham Monaghesh & Alireza Hajizadeh, *The Role of Telehealth During COVID-19 Outbreak: A Systematic Review Based on Current Evidence*, BMC PUB. HEALTH, Aug. 2020, at 6–8.

83. *Id.*

84. Gates B. Colbert et al., *Utility of Telemedicine in the COVID-19 Era*, 21 REVS. CARDIOVASCULAR MED. 583, 583–84 (2020).

85. *Notification of Enforcement Discretion for Telehealth Remote Communications During the COVID-19 Nationwide Public Health Emergency*, U.S. DEP'T HEALTH & HUM. SERV., https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html (last updated Jan. 20, 2021). For example, in the U.S., the Health Insurance Portability and Accountability Act of 1996 was modified to relax privacy requirements; any audio or video platform could be used for telehealth delivery as long as it was not public facing. *Id.* Additionally, various emergency use authorizations were issued to permit the use of various medical devices, including remote patient monitoring devices. *Remote or Wearable Patient Monitoring Devices EUAs*, U.S. FOOD & DRUG ADMIN., https://www.fda.gov/medical-devices/coronavirus-disease-2019-covid-19-emergency-use-authorizations-medical-devices/remote-or-wearable-patient-monitoring-devices-euas (last updated Nov. 8, 2023).

86. Telehealth is a globally expanding multi-billion-dollar industry, and large corporations like Amazon are stepping into the fray. Bruce Japsen, *One Medical Gives Amazon a First: Relationships with Local Health Systems*, FORBES (Feb. 22, 2023, 1:39 PM), https://www.forbes.com/sites/brucejapsen/2023/02/22/one-medical-gives-amazon-a-first-relationships-with-local-healthcare-systems/?sh=6f5fca026d1c.

end, the availability and usage of telehealth services generally increased worldwide, leaving a wealth of data to explore and study.[87]

C. Telehealth Is Not Perfect

On the surface, telehealth showed up at the perfect time to save the day, headlining its effectiveness. However, this is a façade; reality is not so clear-cut. As a developing and relatively new industry, telehealth still has many problems.[88] For one, it is not a comprehensive solution. Virtual tools typically lack physical connection, which makes it difficult for providers to conduct thorough examinations or provide a "personal touch."[89] Thus, telehealth can currently supplement, but not replace, in-person care. Studies show telehealth can impact the physician-patient relationship,[90] reduce the quality of healthcare and health information,[91] and create administrative issues.[92] It may even increase overhead and care costs in some contexts, defeating some of the core justifications previously described.[93] Furthermore, after overcoming its own set of unique challenges, telehealth faces the same issues other healthcare services encounter: privacy,[94] security,[95] liability,[96] regulatory,[97] and

87. Stefano Omboni et al., *The Worldwide Impact of Telemedicine During COVID-19: Current Evidence and Recommendations for the Future*, 1 CONNECTED HEALTH 7, 27–29 (2022), https://www.oaepublish.com/articles/ch.2021.03.

88. Hjelm, *supra* note 60, at 66–69. *See also* Racha Ftouni et al., *Challenges of Telemedicine During the COVID-19 Pandemic: A Systematic Review*, BMC MED. INFORMATICS & DECISION MAKING, Aug. 3, 2022, at 2.

89. Anna Cox et al., *Cancer Survivors' Experience with Telehealth: A Systematic Review and Thematic Synthesis*, J. MED. INTERNET RSCH., Jan. 2017, at 12.

90. Zia Agha et al., *Patient Satisfaction with Physician-Patient Communication During Telemedicine*, 15 TELEMEDICINE & E-HEALTH 830, 830 (2009).

91. Hjelm, *supra* note 60, at 68.

92. *Id.* at 68–69.

93. Snoswell et al., *supra* note 68, at 15 ("Additionally, the use of remote patient monitoring has been shown to reduce costs and increase costs in different contexts. Many remote monitoring studies did not report overall cost savings . . . .").

94. Joseph L. Hall & Deven McGraw, *For Telehealth to Succeed, Privacy and Security Risks Must Be Identified and Addressed*, 33 HEALTH AFFAIRS 216, 216(2014), https://www.healthaffairs.org/doi/epdf/10.1377/hlthaff.2013.0997 (addressing privacy and security risks associated with telehealth, as well as the role of regulations in shaping liability issues).

95. *Id.* at 217–18.

96. *Id.*

reimbursement[98] concerns. But unlike other specializations, the legal landscape is still developing, uncertain, and more complicated in some respects.[99] These additional burdens and potential liability risks may deter patients and providers alike.

However, even assuming all these efficacy arguments hold, telehealth has proven successful in the proper environments.[100] Still, accessibility concerns remain. If certain populations cannot take advantage of telehealth's potential benefits, it nullifies the tools developed to address health disparities.[101] Those with the technology, knowledge, and other resources to maximize telehealth benefits can catapult themselves further ahead, while under-resourced populations are left even further behind.[102] Accordingly, while telehealth seems to unlock the path toward mitigating health disparities and the underlying social determinants of health, it can exacerbate the problem if not implemented properly.[103] Although strong pushback on telehealth has resulted in widespread uncertainty and fragmentation in implementation efforts, it is precisely these varying and sometimes problematic approaches that highlight potential solutions.[104] Some countries and intergovernmental bodies have embraced telehealth and supporting infrastructure with

97. *Id.*at 218–19.

98. TRACY A. LUSTIG, THE ROLE OF TELEHEALTH IN AN EVOLVING HEALTH CARE ENVIRONMENT 18 (NAT'L ACADS. PRESS, 2012) ("Reimbursement is commonly cited as a major barrier for telemedicine.").

99. *See* Deth Sao et al., *Legal and Regulatory Barriers to Telemedicine in the United States: Public and Private Approaches toward Health Care Reform*, *in* GLOBALIZATION OF HEALTH CARE: LEGAL AND ETHICAL ISSUES 359 (Glenn I. Cohen ed, 2013).

100. *See supra* Section II.B.

101. Ftouni et al., *supra* note 88, at 18–19.

102. Robert P. Pierce & James J. Stevermer, *Disparities in the Use of Telehealth at the Onset of the COVID-19 Public Health Emergency*, 29 J. TELEMEDICINE & TELECARE 3, 3–4 (2023).

103. *Id.* at 6–8.

104. *See* Sonu Bhaskar et al., *Telemedicine Across the Globe-Position Paper From the COVID-19 Pandemic Health System Resilience PROGRAM (REPROGRAM) International Consortium (Part 1)*, FRONTIERS PUB. HEALTH, Oct. 16, 2020, at 10–11.

more enthusiasm and speed than others.[105] Their differences impart important insights.[106]

A combination of availability and opportunity determines access to telehealth.[107] Availability means healthcare systems and underlying policy frameworks support and regulate a service such that there is an adequate and usable supply.[108] If the service is heavily limited or nonexistent in terms of infrastructure or scope, there is no service for patients to utilize in the first place.[109] Opportunity only becomes an issue when a service is generally available.[110] It speaks to a particular patient's ability to take advantage of the service.[111] The social determinants of health affect both dimensions of access.[112] Political, socioeconomic, environmental, and other factors may prevent a service from being available to a patient, or a patient may not have the opportunity to access an available service.[113] Individuals present in areas with available services who can also take advantage of them are the ones who truly benefit.[114] In conjunction with adequate infrastructure, effective healthcare policy frameworks must facilitate both availability and opportunity to be effective.

However, there can be no opportunity without availability. Unlike a regular in-person visit with a healthcare provider, telehealth imposes additional material and knowledge requirements on both the provider and the patient.[115] Both parties must have sufficient access to reliable

105. *Id.*

106. This Comment focuses on the digital infrastructural divide preventing equal access to telehealth and its benefits, as it is the first and foremost obstacle. Other barriers are significant, but are beyond the scope of this Comment. Telehealth and any potential benefits or detriments do not matter at this stage, as it would not actualize if there is no enabling infrastructure to begin with.

107. Martin Gulliford et al., *What Does 'Access to Health Care' Mean?*, 7 J. HEALTH SERV. RSCH. & POL'Y 186–88 (2002).

108. *Id.*

109. *Id.*

110. *Id.*

111. *Id.*

112. *Id.*

113. *Id.*

114. *Id.*

115. Anita Ramsetty & Cristin Adams, *Impact of the Digital Divide in the Age of COVID-19*, 27 J. AM. MED. INFORMATICS ASS'N 1147, 1147 (2020).

internet and devices with video and audio capabilities.[116] Without this technology, telehealth is unusable and inaccessible.[117] Additionally, both parties must have digital and internet literacy.[118] Having the necessary tools is the first step, but knowing how to use those tools is equally as important. An unusable opportunity is functionally equivalent to no opportunity at all. Thus, robust technology infrastructure establishing availability is the first step toward improving access. Telehealth's threat as a double-edged sword must be recognized.

II. EXISTING TELEHEALTH INFRASTRUCTURE AND DEVELOPMENT EFFORTS

In the broadest sense, infrastructure is the underlying systems, structures, and facilities that enable the functioning and development of other "things."[119] Thus, in the technological context, infrastructure refers to the physical and organizational structures that facilitate the development, deployment, and operation of information and communication technologies ("ICTs").[120] Where and how technology is implemented can set hard limits on remote healthcare services.[121] Technology infrastructure also factors into the social determinants of

116. *Id.* at 1147.

117. *Id.* at 1148.

118. *Id.*

119. Brian Larkin, *The Politics and Poetics of Infrastructure*, 42 ANN. REV. ANTHROPOLOGY 327, 328–29 (2013).

120. ICTs consist of several key components: hardware, software, network infrastructure, data centers, and cybersecurity measures. *IT Infrastructure Components and IT Infrastructure Management*, SCALE COMPUTING (June 28, 2023), https://www.scalecomputing.com/resources/it-infrastructure-components. Note that technology infrastructure can consist of varying elements depending on the use and context, but these are some common components that are generally used. See Ole Hanseth & Kalle Lyytinen, *Design Theory for Dynamic Complexity in Information Infrastructures: The Case of Building Internet*, 25 J. INFO. TECH. 1–19 (2010) for more information about specific definitions and matters of infrastructural design.

121. *See* Yosselin Turcios, *Digital Access: A Super Determinant of Health*, SUBSTANCE ABUSE & MENTAL HEALTH SERVS. ADMIN. (Mar. 22, 2023), https://www.samhsa.gov/blog/digital-access-super-determinant-health ("Telehealth has the potential to address gaps in mental health and substance use treatment, make treatment services more accessible and convenient, improve health outcomes, and reduce health disparities. But this is all dependent on broadband access.").

health,[122] so it has an additional compounding, albeit indirect, impact on health outcomes.[123]

A. The Reality of Modern Technology Infrastructure

As with other types of infrastructure, the systems supporting ICTs come in all shapes and sizes; every region and country is unique for various reasons. For one, such ICT infrastructure may not even be on a local or national government's radar when there are more urgent concerns or if local technological development has not yet reached a baseline level for implementation.[124] A country's wealth, or lack thereof, naturally restricts access to resources and development opportunities.[125] Wealthy countries are generally concentrated in North America, Europe, and Central and East Asia,[126] which correlates with the regional averages for fixed (landline) broadband internet subscriptions.[127] Rounded to the nearest tenth, North America has 38.3 subscriptions per 100 people, and Europe & Central Asia have 34.9.[128] Conversely, South Asia only has 2.8 subscriptions per 100 people, and Sub-Saharan Africa has 0.7.[129]

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122. *Id.* (recognizing that digital access has several effects: it directly affects health outcomes by determining access to healthcare services; it indirectly impacts different social determinants of health; and it affects other social determinants of health, which in turn factor into health outcomes).

123. *Id. See generally* Jimmy Phuong, et al., *Telehealth and Digital Health Innovations: A Mixed Landscape of Access*, PLOS DIGITAL HEALTH, Dec. 2023, at 2–3.

124. Stephen L. Parente & Edward C. Prescott, *Barriers to Technology Adoption and Development*, 102 J. POL. ECON. 298, 299 (1994) (There are many barriers to technology infrastructure and adoption, including "regulatory and legal constraints, bribes that must be paid, violence or threat of violence, outright sabotage, and worker strikes. Whatever their form, each has the effect of increasing the cost of technology adoption.")

125. *Id.* at 319.

126. *GDP per Capita, Current Prices,* INT'L MONETARY FUND, https://www.imf.org/external/datamapper/NGDPDPC@WEO/OEMDC/ADVEC/WEOWORLD (last visited Mar. 24, 2024).

127. *Fixed Broadband Subscriptions (per 100 people)*, WORLD BANK GROUP [WBG], https://data.worldbank.org/indicator/IT.NET.BBND.P2 (last visited Mar. 17, 2023).

128. *Id.*

129. *Id.*

Intraregional patterns remain consistent throughout the W.P. and S.E.A. regions. Although countries within those regions are experiencing overall continued growth in ICT infrastructure, access, and use, there are still blatant disparities in advanced economies. Internet usage, for example, is as high as 90% in advanced economies and lower than 15% in the least developed economies.[130] Similar disparities persist for fixed broadband subscriptions,[131] the percentage of individuals using the internet,[132] and the percentage of individuals with basic, intermediate, and advanced ICT skills.[133]

Hauntingly, the current extent of health disparities mirrors technological issues and trends.[134] Telehealth may act as a great equalizer that cuts above various social determinants of health to resolve these disparate conditions that result in worse health outcomes.[135] Telehealth, if available, can bridge the gap between healthcare service providers and underserved populations.[136] Understanding how existing systems function and how countries treat technology can inform actionable change. These lessons help formulate and improve infrastructure in areas where better availability of and opportunity for quality healthcare are most needed.[137]

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130. *Digital Trends in Asia and the Pacific 2021*, Int'l Telecomm. Union [ITU], at 4 (2021), https://www.itu.int/hub/publication/d-ind-dig_trends_asp-01-2021/.

131. *Id.* at 11.

132. *Id.* at 18.

133. *Id.* at 21. However, only select countries were surveyed, so the correlation is weaker.

134. One way the Healthcare Access and Quality Index measures health outcomes is by using "amenable mortality—deaths from causes that should not occur in the presence of effective medical care—to approximate national levels of personal healthcare access and quality has gained greater traction." Nancy Fullman et al., *Measuring Performance on the Healthcare Access and Quality Index for 195 Countries and Territories and Selected Subnational Locations: A Systematic Analysis from the Global Burden of Disease Study 2016*, 391 LANCET 2236, 2238 (2018).

135. *See generally* Mari Millery & Rita Kukafka, *Health Information Technology and Quality of Health Care: Strategies for Reducing Disparities in Underresourced Settings*, 67 MEDICAL CARE RSCH. & REV., 268S (2010).

136. *See* discussion *supra* Section II.B.

137. This Comment is not a holistic review of countries' approaches to healthcare or technology. Nor does it intend to prescribe a so-called ideal solution. A perfect system will vary from country to country based on population-specific goals. However, by analyzing available data and existing systems, it is possible to contextualize the implications of increased technological access and propose general recommendations that can

While these broad generalizations set the stage for geopolitical and socioeconomic variations in technology infrastructure, they do not paint the whole picture. A detailed survey of specific approaches provides a nuanced look into how and why access to telehealth and other healthcare services varies. An overview of the W.P. and S.E.A. regions reveal crucial issues affecting the implementation and growth of technology infrastructure and highlights the need for a uniform technology framework.

B. International Technology & Telehealth Cooperatives

The wide range of efforts and approaches by global policymakers and national legislatures can be reduced and organized into a simple pyramid layout. This structure clearly illustrates the number of players at each level and their relative influence. At the very top of the pyramid is the U.N. The International Telecommunication Union ("ITU") and the WHO are specialized U.N. agencies that provide binding law, guidelines, recommendations, and assistance to member States on various issues, including technology infrastructure and healthcare. Even if a country chooses not to sign and ratify health-related international law, countries often choose to adopt and implement U.N. recommendations into their State policy and regulation.[138] The International Health Regulations, for example, has been ratified and legally binds 196 countries to report disease outbreaks and public health events, as well as create core capacities to detect and respond to such public health threats.[139]

1. The International Telecommunications Union

Established in 1865 and incorporated into the U.N. in 1947,[140] the ITU has long coordinated global telecommunication networks and

theoretically improve health outcomes across the board if countries elect to use telehealth.

138. *But see* Kal Raustiala, *Form and Substance in International Agreements*, 99 AM. J. INT'L L. 581, 589–60 (2005).

139. *International Health Regulations*, WORLD HEALTH ORG., https://www.who.int/health-topics/international-health-regulations#tab=tab_1 (last visited Apr. 29, 2023).

140. Economic and Social Council Res. 1947/90(V), at viii (Aug. 16, 1947); *Overview of ITU's History*, INT'L TELECOMM. UNION [ITU] 1 (2020), https://search.itu.

services with member States and non-State telecommunications industry actors.[141] Its mission is to connect the world by fostering the growth, development, and accessibility of ICTs.[142] The ITU has three main sectors: radiocommunications ("ITU-R"), telecommunication standardization ("ITU-T"), and telecommunication development ("ITU-D").[143] Although all three sectors work toward the ITU's mission,[144] this Comment is only concerned with the ITU-D. As its name suggests, the ITU-D supports development by creating and expanding regulatory frameworks for technology infrastructure, which affects broadband access, mobile networks, and telehealth platforms.[145]

Member States can request ITU-D assistance when attempting to implement the ITU's guidance into their specific contexts.[146] The ITU-D generally helps address disparities in internet access, device access, and digital literacy through technical assistance, capacity-building programs, and the sharing of best practices.[147] The full list of recent and ongoing projects displays the breadth of the ITU-D's impact in the W.P. and S.E.A. regions.[148] Since 2007, ITU-D initiated 90 projects benefitting 40 countries (encompassing virtually every country in those

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int/history/HistoryDigitalCollectionDocLibrary/12.28.71.en.pdf [hereinafter *Overview of ITU's History*].

141. *About International Telecommunication Union (ITU)*, INT'L TELECOMM. UNION [ITU], https://www.itu.int/en/about/Pages/default.aspx (last visited Mar. 11, 2024).

142. Final Acts of the Additional Plenipotentiary Conference, *Constitution and Convention of the International Telecommunication Union*, ch. I, art. 1 (Dec. 22, 1992), https://search.itu.int/history/HistoryDigitalCollectionDocLibrary/5.12.61.en.100.pdf.

143. Helmut Volger, *I.T.U. – International Telecommunication Union, in* A CONCISE ENCYCLOPEDIA OF THE UNITED NATIONS 458, 458–59 (Helmut Volger ed., 2010).

144. *Id.* at 458.

145. *About the ITU-D and the BDT*, INT'L TELECOMM. UNION [ITU], https://www.itu.int/en/ITU-D/Pages/About.aspx (last visited Mar. 18, 2024).

146. *See Enablers of ITU-D Priorities: Membership-driven*, INT'L TELECOMM. UNION [ITU], https://www.itu.int/itu-d/sites/priorities/enablers-of-itu-d-priorities/membership-driven/ (last visited Mar. 18, 2024). *See generally I.T.U. Projects Portfolio – Asia Pacific*, INT'L TELECOMM. UNION [ITU], https://www.itu.int/en/ITU-D/Projects/Pages/Portfolio.aspx?Status=&Theme=&Region=ASP&Country=&YearSigned=&Keyword= (last visited Apr. 27, 2023).

147. *About the ITU-D and the BDT*, *supra* note 145.

148. *I.T.U. Projects Portfolio – Asia Pacific*, *supra* note 146.

regions).[149] This sector plays a crucial role in fostering international cooperation and creating environments for telecommunication and ICT development.[150] These efforts have significant impacts on the policy and regulatory frameworks of member States.

For example, the ITU-D conducted a case study on a recent spectrum management project spearheaded by South Korea and coordinated between the ITU-D and ITU-R.[151] The project involved several countries in the Asia-Pacific region, including Bangladesh, Thailand, Brunei Darussalam, Pakistan, Samoa, Vietnam, and Fiji.[152] The effort aimed to assist those developing countries with assessing, reviewing, and developing new national spectrum management frameworks, building human capital in spectrum management, and developing comprehensive national Spectrum Management Master Plans.[153] These efforts are essential for ensuring efficient use of the radio frequency spectrum, which is a crucial resource for the deployment of modern telecommunication and ICT services.[154] The ensuing study concluded the seven countries involved achieved most of the basic framework goals, such as general, primary spectrum management regulations and harmonization amongst such regulations.[155] However, they were not yet successful in other regards, mostly on issues of more complex organizational matters and collaboration.[156] The ITU-D turned over the primary project and the study to the member States themselves and encouraged follow-up actions.[157]

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149. *I.T.U. Projects: Regional Focus: Asia & Pacific*, INT'L TELECOMM. UNION [ITU], https://www.itu.int/en/ITU-D/Projects/Pages/figures_Geo_Focus.aspx?Region=ASP (last visited Apr. 27, 2023).

150. *See, e.g.*, *I.T.U. Projects Portfolio – Asia Pacific*, *supra* note 146.

151. *Developing Countries in Asia and the Pacific: Master Plans for Spectrum Management (9RAS14047)*, INT'L TELECOMM. UNION [ITU] at 2–3, https://www.itu.int/net4/ITU-D/CDS/PRJ/eBook/CaseStudies/Case_Study_Asia-Pacific_9RAS14047/docs/Case_Study_Asia-Pacific_9RAS14047.pdf (last visited Apr 29, 2023).

152. *Id.* at 7.

153. *Id.* at 12.

154. *Id.* at 2.

155. *Id.* at 25.

156. *Id.*

157. *Id.*

Other ITU-D efforts involve less technical matters and focus on building and reinforcing infrastructure from the ground up. For example, one ongoing project, Connect2Recover, aims to address the COVID-19 pandemic by developing "resilient connectivity," promoting "affordable access to ICTs," and facilitating "safe use of online services."[158] It recognizes the role of technology in mitigating health and socioeconomic problems caused by the pandemic.[159] Recent projects have targeted areas with the least developed technology infrastructure, including island nations[160] and rural villages.[161] Specifically, the GIGA project aims to address underlying inequities in school internet access and connectivity to promote digital skills and learning in disadvantaged and rural communities.[162] There are countless other efforts to promote technology infrastructure,[163] but the developmental goals and assistant role of the ITU-D are clear.

In summary, from an idealistic perspective, the technological and human capital supplied by the ITU-D creates a sufficient foundation for member States to flourish. The interactive nature of the ITU-D initiatives allows member States to engage in decision-making and implementation process.[164] ITU-D actions are focused on development and

158. *Connect2Recover - Digital Infrastructure and Ecosystem Reinforcement Against COVID-19 in Asia-Pacific*, INT'L TELECOMM. UNION [ITU], https://www.itu.int/net4/ITU-D/CDS/projects/display.asp?ProjectNo=9RAS21067 (last visited Apr 29, 2023).

159. *Id.*

160. *See, e.g.*, *Capacity Building and ICT Policy, Regulatory and Legislative Frameworks Support for Pacific Island States*, INT'L TELECOMM. UNION [ITU], https://www.itu.int/net4/ITU-D/CDS/projects/display.asp?ProjectNo=7RAS08025 (last visited Apr 29, 2023); *Development of Satellite Communications Capacity and Emergency Communications Solutions for the Pacific Islands*, INT'L TELECOMM. UNION [ITU], https://www.itu.int/net4/ITU-D/CDS/projects/display.asp?ProjectNo=7RAS14050 (last visited Apr 29, 2023).

161. *Smart Village Pakistan*, INT'L TELECOMM. UNION [ITU], https://www.itu.int/net4/ITU-D/CDS/projects/display.asp?ProjectNo=2PAK22002 (last visited Apr 29, 2023).

162. *Giga: Empowering Communities in Asia and the Pacific Through School Connectivity*, INT'L TELECOMM. UNION [ITU] 4 (2021), https://www.itu.int/dms_pub/itu-d/opb/tnd/D-TND-03-2021-PDF-E.pdf.

163. *I.T.U. Projects: Regional Focus: Asia & Pacific*, *supra* note 149.

164. Patrick S. Ryan, *The ITU and the Internet's* Titanic *Moment*, 2012 STAN. TECH. L. REV. 8, 23 ("[The I.T.U.'s] influence is broad and influential—but it is largely voluntary. . . . [Although] 'any country which ratifies or accedes to the

tailored to the needs of individual member States, which are effective for long-term sustainability.[165] Given the relatively uncontroversial nature of improving technology access and use, there is no reason to oppose ITU-D efforts.[166] ITU-D work is open and transparent, which makes it flexible and easily adaptable for member States.[167] Thus, the continued success of projects, as demonstrated through substantial regional improvements, evidences this developmental approach's viability.

2. The World Health Organization

The WHO recognizes the importance of digital health and the need to improve healthcare access through technology.[168] Although this view is consistent with the ITU-D's efforts, the WHO approaches the technology infrastructure problem from a healthcare perspective. In its global strategy for digital health, the WHO aims "to support countries in strengthening their health systems through the application of digital health technologies and achieve the vision of health for all. The strategy is designed to be fit for use by all Member States, including those with limited access to digital technologies, goods, and services."[169] It has released guidelines for countries to develop and implement digital health interventions.[170] These guidelines provide recommendations for

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Convention must comply with the provisions of the Radio Regulations,' . . . international law arises from the *voluntary consent of nations*. Although the International Court of Justice (ICJ) theoretically provides a remedy for noncompliance with international agreements, it too has a fundamental voluntary character to it.")

165. *About the ITU-D and the BDT*, *supra* note 145. *See generally* Eric Brewer et al., *The Case for Technology in Developing Regions*, 38 COMPUTER 25 (2005), https://people.cs.uchicago.edu/~ftchong/290N-W10/developing-ieee.pdf.

166. Raustiala, *supra* note 138.

167. *Id.*

168. *Digital Health: Overview*, WORLD HEALTH ORGANIZATION [WHO], https://www.who.int/health-topics/digital-health#tab=tab_1 (last visited Mar. 17, 2023).

169. *Digital Health: Global Strategy*, WORLD HEALTH ORG. [WHO], https://www.who.int/health-topics/digital-health#tab=tab_3 (last visited Mar. 17, 2023).

170. *See* WHO Guideline, *supra* note 58; *WHO Releases First Guideline on Digital Health Interventions*, WORLD HEALTH ORG. [WHO] (Apr. 17, 2019), https://www.who.int/news/item/17-04-2019-who-releases-first-guideline-on-digital-health-interventions.

the safe and effective use of digital technologies in healthcare, including telehealth services.[171]

In conjunction with its authoritative role in global health governance and formalistic structure, the WHO—like the ITU-D—fosters an environment of cooperation and collaboration.[172] The WHO offers technical assistance, recommendations, and binding law that aims to support countries in their public health efforts.[173] Its functions can take the form of frontline activities such as providing medical professional support, research and development, disease surveillance and response, and health education and training.[174] It also has bureaucratic capabilities such as setting international health standards, developing health policies, and coordinating international health work and resource distribution.[175]

Apart from the binding nature of some WHO directions, non-binding resolutions created by the WHO, like the ITU-D, create an understanding that member States are encouraged to participate and comply. As an example of a non-binding resolution, the WHO adopted the eHealth Resolution during the World Health Assembly in 2005.[176] This resolution urges—but does not require—member States to develop and implement eHealth strategies and programs in support of health system goals.[177] This resolution marked the beginning of the WHO's more concerted effort to promote digital health technologies

171. *See* WHO Guideline, *supra* note 58, at 48–51.

172. *See* Int'l Health Conf., *Constitution of the World Health Organization* at 1 (July 22, 1946), https://treaties.un.org/doc/Treaties/1948/04/19480407%2010-51%20PM/Ch_IX_01p.pdf ("The health of all peoples is fundamental to the attainment of peace and security and is dependent upon the fullest co-operation of individuals and States.").

173. *Id.* art. 2. *See, e.g.*, *Country Support,* WORLD HEALTH ORG. [WHO], https://www.who.int/westernpacific/about/country-support (last visited Apr. 29, 2023) ("[W]e help countries improve health outcomes through technical cooperation, policy dialogue and advice, developing norms and standards, generating and sharing knowledge, and convening health partners.").

174. Int'l Health Conf., *supra* note 172 at art. 2(d), (g), (n), (q).

175. *Id.* at art. 2(s)–(u), (k), (h)–(j).

176. World Health Assembly [WHA], Res. 58.28, eHealth (May 25, 2005).

177. *Id.*

and their integration into health systems worldwide.[178] Since then, the WHO has reaffirmed its commitment through various efforts,[179] and has resolved to "prioritize, as appropriate, the development, evaluation, implementation, scale-up and greater utilization of digital technologies, as a means of promoting equitable, affordable and universal access to health for all."[180]

One of the WHO's primary technology and telehealth initiatives is the Global Strategy on Digital Health 2020–2025, which provides guidance and recommendations on harnessing digital health technologies to strengthen health systems and achieve universal health coverage.[181] The strategy outlines strategic objectives for the WHO, its member States, and other stakeholders to leverage digital health for improving health outcomes.[182] In addition to the Global Strategy, the WHO has developed a national telehealth strategy toolkit jointly with the ITU to support countries in assessing and planning their digital health systems.[183] The toolkit provides a framework for evaluating digital health interventions and determining their effectiveness, scalability, and sustainability.[184]

In sum, the WHO focuses on providing capacity-building and technical support to countries in the planning, implementation, and evaluation of digital health initiatives. These efforts are akin to those of the ITU-D, although the WHO is less involved in the technical development of technology infrastructure due to its health-oriented focus. To

178. *Id. See also Global Observatory for eHealth*, WORLD HEALTH ORG. [WHO], https://www.who.int/observatories/global-observatory-for-ehealth (last visited Apr. 29, 2023).

179. *See generally Regional Action Agenda on Harnessing e-Health for Improved Health Service Delivery in the Western Pacific*, WORLD HEALTH ORG. [WHO] (Dec. 5, 2019), https://iris.who.int/bitstream/handle/10665/330700/9789290618959-eng.pdf?sequence=1(report on development plans and success stories in the Western Pacific region).

180. World Health Assembly [WHA], Res. 71.7, para. 1(1) (May 26, 2018).

181. *Global Strategy on Digital Health 2020-2025*, WORLD HEALTH ORG. [WHO] 4–5 (Aug. 18, 2021), https://www.who.int/docs/default-source/documents/gs4dhdaa2a9f352b0445bafbc79ca799dce4d.pdf.

182. *Id.* at 19–28.

183. World Health Org. [WHO] & Int'l Telecomm Union [ITU], *National eHealth Strategy Toolkit* (Jan. 1, 2012), https://iris.who.int/bitstream/handle/10665/75211/9789241548465_eng.pdf?sequence=1.

184. *Id.* at 10–11, 82.

this end, the WHO assists in developing national eHealth and digital health strategies, policies, and regulations and provides training and resources to strengthen the skills of health professionals in using digital health technologies.[185] Additionally, the WHO evaluates evidence generated from interventions to gauge their effectiveness.[186] For example, it has conducted systematic reviews, provided guidelines on mHealth interventions,[187] and encouraged the generation of robust evidence to support the expansion of such interventions in various settings.[188] These efforts reflect the WHO's commitment to promoting the widespread, equitable use of technologies to enhance health systems and achieve its vision of universal health access.[189] By providing guidance, resources, and support, the WHO aims to ensure all member States can leverage digital health to improve health outcomes, even in areas with limited access to digital technologies, goods, and services.[190]

C. Regional Technology, Economic, and Political Cooperatives

Due to the political, cultural, and social diversity of the W.P. and S.E.A. regions, there is no common unified regional cooperative besides the UN.[191] The regions are fractured and contain unique microcosms with distinct focuses and internal concerns of their own.[192] Nevertheless,

185. World Health Assembly [WHA], Res. 58.28, eHealth (May 25, 2005).

186. *See generally* WHO Guideline, *supra* note 58.

187. "mHealth," or mobile health, is defined as "medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless devices." *mHealth: New Horizons for Health Through Mobile Technologies*, WHO'S GLOBAL OBSERVATORY FOR EHEALTH (2011), https://apps.who.int/iris/bitstream/handle/10665/44607/9789241564250_eng.pdf.

188. *See generally id.*

189. *Digital Health: Global Strategy*, *supra* note 169.

190. *Id.*

191. *See, e.g.*, Christopher Hemmer & Peter J. Katzenstein, *Why Is There No NATO in Asia? Collective Identity, Regionalism, and the Origins of Multilateralism*, 56 INT'L ORG. 575 (2002) (highlighting that the lack of a collective identity, and underlying racial, historical, political, and cultural factors, poses a significant barrier to the establishing a US-backed, NATO-like entity in Asia). *But see, e.g.*, Natasha Hamilton-Hart, *Asia's New Regionalism: Government Capacity and Cooperation in the Western Pacific*, 10 REV. INT'L. POL. ECON. 222 (2003) (discussing the growing potential for regional cooperation in the Western Pacific).

192. Hemmer & Katzenstein, *supra* note 191, at 581, 591–598.

it is important to briefly highlight two major regional organizations: the South Asian Association for Regional Cooperation ("SAARC") and the Association of Southeast Asian Nations ("ASEAN"). There are others,[193] but these two sufficiently illustrate global forums' limitations at the regional level. Unlike the UN, however, these regional organizations are tailored to local concerns. Yet, such collectives may be too localized; deeply rooted tensions and perverse incentives lie beneath the surface and threaten the carefully woven alliances that may only be held together at the seams.

1. The South Asian Association for Regional Cooperation

SAARC is a regional intergovernmental organization established in 1985, comprised of eight States: Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka.[194] The SAARC's primary objectives are to promote economic and regional integration and enhance cooperation among its member States in various sectors, including technology infrastructure.[195] The SAARC Summit, the highest decision-making authority, convenes every two years to make decisions via declarations.[196] Declarations require unanimous support, [197] which helps accommodate the diverse political, economic, and cultural contexts of the member States. However, reaching a unanimous consensus can create an impasse due to political disagreements. For

193. While the Asia-Pacific Economic Cooperation ("APEC") is prominent, it includes many influential countries that are not located within the S.E.A. or W.P. regions, such as Russia, the United States, and Canada. *See About APEC: What is Asia-Pacific Economic Cooperation?*, ASIA-PACI. ECON. COOP. [APEC], https://www.apec.org/about-us/about-apec (Jan. 2024). Since the focus is on examining the effect of intraregional cooperatives, the inclusion of such countries places APEC beyond the scope of this Comment.

194. *About SAARC*, S. ASIAN ASS'N FOR REG'L COOP. [SAARC] (July 12, 2020), https://www.saarc-sec.org/index.php/about-saarc/about-saarc.

195. *Id.*

196. *SAARC Summits*, S. ASIAN ASS'N FOR REG'L COOP. [SAARC] (July 12, 2020), https://www.saarc-sec.org/index.php/about-saarc/saarc-structure/saarc-summits.

197. S. ASIAN ASS'N FOR REG'L COOP. [SAARC] Charter art. X ("Decisions at all levels shall be taken on the basis of unanimity.").

example, India and Pakistan have strained relations historically and currently, which makes them less likely to agree with one another.[198]

The SAARC has undertaken various initiatives to improve technology infrastructure in the region. For example, the SAARC Framework Agreement for Energy Cooperation aims to enhance cross-border electricity trade and cooperation in energy generation, transmission, and distribution.[199] Additionally, the SAARC Communications Ministers closely work together to improve regional connectivity and promote the development of ICT infrastructure.[200] However, in addition to political disagreements, economic disparities among member States remain an impediment to the effective implementation of regional initiatives.[201]

2. The Association of Southeast Asian Nations

The ASEAN is a regional organization founded in 1967, now consisting of ten States: Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.[202] The ASEAN's primary goal is to promote economic,

198. Siddhant Bajpai, *For Now, India Has a Limited Appetite for Diplomacy with Pakistan*, THE DIPLOMAT (Feb. 23, 2023), https://thediplomat.com/2023/02/for-now-india-has-a-limited-appetite-for-diplomacy-with-pakistan/.

199. SAARC, *SAARC Framework Agreement for Energy Cooperation (Electricity)* (Nov. 27, 2014), https://moewri.gov.np/storage/listies/May2020/saarc-framework-agreement.pdf. In 2020, various public and private stakeholders gathered to discuss ongoing implementation progress and obstacles. SAARC Energy Centre Islamabad, *Video Conference on "Roadmap for the implementation of SAARC Framework Agreement on Energy Cooperation (Electricity)"* 1–2 (Sept. 22, 2020), https://www.saarcenergy.org/wp-content/uploads/2020/10/video-conference-on-"Roadmap-for-the-implementation-of-SAARC-Framework-Agreement-on-Energy-Cooperation-Electricity".pdf (recording the events of the meeting).

200. *Telecommunications and ICT*, S. ASIAN ASS'N FOR REG'L COOP. [SAARC], https://www.saarc-sec.org/images/areas-of-cooperation/IPA/Telecommunications%20and%20ICT.docx (last visited Apr 29, 2023).

201. *See* V.V. Desai, *The Political Economy of Regional Cooperation in South Asia* 28 (Asian Dev. Bank, Working Paper No. 54, 2010), https://www.adb.org/sites/default/files/publication/28528/wp54-political-economy-south-asia.pdf. *See also* discussion *supra* Section III.A.

202. *About us*, ASS'N OF SOUTHEAST ASIAN NATIONS [ASEAN], https://asean.org/about-us/ (last visited Apr 29, 2023).

political, and cultural cooperation among its members.[203] The highest decision-making body is the ASEAN Summit, which is held twice a year and attended by the heads of state or government of the member States.[204] Unlike the SAARC, the ASEAN decision-making process does not strictly require unanimity, but consensus-building and non-interference in member States' internal affairs are nevertheless emphasized.[205] The ASEAN Charter, which took force in 2008, outlines the decision-making process within the organization.[206] Article 20 of the Charter states "decision-making in ASEAN shall be based on consultation and consensus," but it also recognizes that "[w]here consensus cannot be achieved, the ASEAN Summit may decide how a specific decision can be made."[207] This approach respects the diverse political, economic, and cultural backgrounds of the member States.[208] It also considers their respective interests without slowing down or freezing the adoption of policies, which would hinder the organization's ability to respond to emerging challenges.[209]

The ASEAN has undertaken several efforts to improve technology infrastructure in the region. Namely, the ASEAN ICT Masterplan 2020 (AIM 2020) aims to promote the development and use of ICTs to foster economic growth and social development.[210] Key objectives of AIM 2020 include enhancing connectivity, increasing ICT competitiveness, and promoting innovation.[211] As a part of this initiative, 52 projects have been completed, ranging from youth training to substantive infrastructural changes.[212] Once more, the collective faces familiar challenges: disparities in economic development and differences in

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203. *What We Do*, ASS'N OF SOUTHEAST ASIAN NATIONS [ASEAN], https://asean.org/what-we-do/ (last visited Apr 29, 2023).

204. *ASEAN Summit*, ASS'N OF SOUTHEAST ASIAN NATIONS [ASEAN], https://asean.org/about-asean/asean-summit/ (last visited Apr 29, 2023).

205. Ass'n of Southeast Asian Nations [ASEAN] Charter art. 2, para. 2(e).

206. Ass'n of Southeast Asian Nations [ASEAN] Charter ch. VII.

207. *Id.* art. 20.

208. *Id.* art 2, para 2.

209. *See discussion infra* Section IV.B.

210. *Final Review ASEAN ICT Masterplan 2020*, ASS'N OF SOUTHEAST ASIAN NATIONS [ASEAN] 1, 8 (2020), https://asean.org/wp-content/uploads/2021/02/V4.-Final-Draft-_-AIM2020_Review_FInal_Draft_19Nov2020.pdf.

211. *Id.*

212. *Id.* at 46–47.

political priorities all impact the effective implementation of regional initiatives.[213] Although the lack of a unanimity requirement accelerates the adoption and implementation of policies and regulations, these non-procedural issues persist.

D. National Support for Technology Infrastructure

Unlike the actions of global and regional organizations, individual State actions only reflect its respective values and priorities, because such decisions do not need to substantially weigh the interests of other countries.[214] The many States within the W.P. and S.E.A. regions differ from one another in many distinct and fundamental ways.[215] However, most notably, improving technology availability and healthcare access—especially for the populations who need them the most—are universal goals.[216] No matter the sociocultural norms, the extent of economic development, the political system, or any other criteria, every nation strives for development.

1. India

India has made significant strides in enhancing its technology infrastructure by launching the Digital India initiative, which encompasses various programs aimed at increasing digital literacy, providing

213. *See discussion supra* Section III.A.

214. This approach is enshrined within the long-standing concept of state sovereignty. *See generally* Samantha Besson, *Sovereignty*, OXFORD PUB. INT'L L., https://opil.ouplaw.com/display/10.1093/law:epil/9780199231690/law-9780199231690-e1472?print=pdf (last updated Apr. 2011).

215. *See Fostering ASEAN's Cultural Diversity,* VIET. NEWS AGENCY (June 26, 2023), https://vietnam.vnanet.vn/english/long-form/fostering-asean39s-cultural-diversity-334689.html (emphasizing the importance of cultural and ethnic diversity among ASEAN countries). *See generally, e.g.*, M. ANNE BROWN, DEVELOPMENT AND SECURITY IN THE PACIFIC ISLAND REGION ch. 1 (2006), https://www.ipinst.org/wp-content/uploads/publications/ipa_e_report_pacific_151107.pdf (highlighting the geographic, political, ethnic, and cultural differences and similarities within the Pacific islands).

216. Of course, within a country, there is typically no single, unified approach to any given issue. However, an exploration of further political subdivisions is beyond the scope of this Comment.

high-speed internet access, and promoting digital transactions.[217] The BharatNet project, for instance, has laid over 679,000 kilometers of fiber-optic cable to create equitable access to broadband connections in rural and remote areas; thereby providing access to services like telehealth and remote education.[218] Additionally, the National Digital Literacy Mission aims to provide digital literacy training to millions of citizens.[219] Despite these efforts, according to the Telecom Regulatory Authority of India, there was only a "marginal" increase in internet subscribers between March 2022 and March 2023 (from 824.888 million to 881.255 million).[220] However, other challenges contribute to the digital divide. For example, the language barrier is wide, with twenty-two different languages and dialects recognized in the Indian Constitution.[221]

India has also recognized the potential of integrating technological advancements into healthcare. The National Rural Telemedicine Network, established by the Ministry of Health and Family Welfare, aims to provide remote healthcare services to underserved populations, particularly in rural areas by standardizing telemedicine practice guidelines, especially in certain practice specialties such as oncology.[222]

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217. *Digital India*, INDIA BRAND EQUITY FOUND., https://www.ibef.org/government-schemes/digital-india (last visited Mar. 20, 2024).

218. *Bharatnet Project*, UNIVERSAL SERV. OBLIGATION FUND, https://usof.gov.in/en/bharatnet-project (last visited Mar. 20, 2024).

219. To be exact, 52.5 million beneficiaries will be supported by the program. *NDLM*, NAT'L INST. ELECS. & INFO. TECH., https://nielit.gov.in/ajmer/content/national-digital-literacy-mission (last visited Apr 29, 2023).

220. Telecom Regul. Auth. India, TRAI Annual Report 2022–2023 at 9 (Issued on November 2023), https://trai.gov.in/sites/default/files/Annual_Report_20022024_0.pdf.

221. India Const. Eighth Schedule. *See* İsmail Yaman, *Digital Divide Within the Context of Language and Foreign Language Teaching*, 176 PROCEDIA – SOC. & BEHAV. SCIS. 766, 768–69 (2015) ("The use of ICTs almost always requires a language system. On this point the difference between the languages set in the electronic devices or sources and the language the addressees of these ICTs speak pose a problematic situation."). The English language dominates the internet; in a multicultural country such as India, further diversity in languages spoken may widen the digital divide. Ismail Yaman, *Digital Divide within the Context of Language and Foreign Language Teaching*, 176 SOC. & BEHAV. SCIS. 766, 768–769 (2015).

222. *Telemedicine Division*, MINISTRY HEALTH & FAMILY WELFARE, https://www.nhm.gov.in/images/pdf/Telemedicine/Telemedicine.pdf at 5–6 (last visited Apr 2, 2024). Vinoth G. Chellaiyan et al., *Telemedicine in India: Where do We*

Moreover, the government introduced the Ayushman Bharat Digital Mission in 2020, which serves as a framework to create a unified digital health ecosystem connecting practitioners, facilities, technology companies, and citizens.[223] The NDHB includes mobile programs for teleconsultations, e-prescriptions, and health record access, which enhances healthcare delivery and efficient use of resources.[224]

2. Malaysia

In 2022, Malaysia's Multimedia Super Corridor ("MSC") initiative attracted over 5 billion Malaysian ringgit ("RM")[225] in foreign and domestic investment, contributing to the country's rapid growth in the ICT sector.[226] According to the Malaysian Communications and Multimedia Commission, the country's access to high-speed internet infrastructure has greatly expanded.[227] To further address the digital divide, the Malaysian government has launched the Jaringan Prihatin

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Stand?, 8 J. FAM. MED. & PRIMARY CARE 1872, 1873 (2019), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6618173/pdf/JFMPC-8-1872.pdf.

223. Ayushman Bharat Digital Mission, NATIONAL HEALTH AUTHORITY, https://abdm.gov.in/ (last visited Apr. 2. 2024).

224. *Id.*

225. As of writing, roughly $1.062 billion USD.

226. The MSC is a "special economic zone" that provides specific ICT-related businesses with certain incentives, rights, and privileges. Ling Shin Ying & Gabrielle Lim Wai Yee, *Benefits of MSC Status Company for Foreign Investors to Malaysia in Technology*, THE LEGAL 500 (Feb. 1, 2023), https://www.legal500.com/developments/thought-leadership/benefits-of-msc-status-company-for-foreign-investors-to-malaysia-in-technology/; *MSC Malaysia Status*, MALAYSIAN INV. DEV. AUTH., https://www.mida.gov.my/industries/services/other-services/other-services-multimedia-super-corridor-msc/ (last visited Mar. 20, 2024). This initiative has since been superseded by Malaysia Digital, which is an updated approach with the same goals. Malaysian Communication and Multimedia Commission [MCMC], Industry Performance Report 2022 at 180 (2023), https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/MCMC-IPR-2022_ENG_Page.pdf.

227. *Id.* at 180–83. Malaysia also launched the JENDELA initiative, which seeks to, by 2025, achieve fibre connection to "around 9 million premises, 100% internet connectivity for populated areas, and an increase in mobile broadband speed to 100Mbps. Additionally, Phase 2 of the JENDELA initiative will also focus on a quick rollout and wide availability of the 5G network." There's also the PEDi initiative for non-urban entrepreneurs.

program,[228] which provides financial assistance to low-income households for purchasing devices and internet plans.[229] However, the digital divide persists in rural areas, with rural internet users reporting higher rates of issues with speed, coverage, reliability (connection), and quality.[230]

Malaysia also leveraged its technology infrastructure to improve healthcare delivery. The Malaysian Health Data Warehouse ("MyHDW") is a government initiative designed to consolidate health data from various sources, giving healthcare providers and policymakers valuable insights to support decision-making.[231] The Malaysian government has also introduced as early as 1997 its "Telemedicine Flagship Application," which envisions a future with telehealth where patients can access teleconsultations, follow-up appointments, and prescription refills remotely.[232] This prospective plan would be particularly beneficial for rural communities and elderly patients who may have difficulties accessing healthcare facilities.[233]

3. Other Emerging Countries in Telehealth

There are countless other countries in the W.P. and S.E.A. regions at various levels of development. For example, Vietnam has introduced

228. Translated as "Caring Network Program," in reference to the welfare beneficiaries that this program targets.

229. *Program Jaringan Prihatin*, MALAYSIAN COMMUNICATION AND MULTIMEDIA COMMISSION (2021), https://www.mcmc.gov.my/en/belanjawan-2021/program-jaringan-prihatin.

230. Malaysian Communications and Multimedia Commission [MCMC], Internet Users Survey 2022 (2023), https://www.mcmc.gov.my/skmmgovmy/media/General/IUS-2022.pdf at 81–82.

231. *Malaysian Health Data Warehouse (MyHDW)*, MINISTRY OF HEALTH MALAY., https://myhdw.moh.gov.my/public/ (last visited Apr 29, 2023).

232. Malaysian Ministry of Health [MOH], Telemedicine Flagship Application 16 (July 25, 1997), https://www.moh.gov.my/moh/resources/auto%20download%20images/5ca1b20928065.pdf.

233. *See id* at 1–2. *See also* M.H. Mat Som et al., *Telehealth in Malaysia – An Overview*, 2010 IEEE SYMP. ON INDUS. ELECS. & APPLICATIONS 660, 663–64 ("[T]he implementation of telehealth in Malaysia shows that the government is in the right track although having some delayed in the execution. Even though the total expenditure in healthcare industry increasing each year, it is worth to invest big amount of money to get better system in place for the future benefit.").

telehealth initiatives to extend healthcare access to remote regions.[234] Its outlined plans aim to develop digital health infrastructure, electronic health records, telemedicine services, and health data analytics.[235]

Papua New Guinea has made strides in this regard. The government invested in extending mobile internet access to rural areas, which is crucial for telehealth services.[236] While there are no extensive programs, there is at least one collaborative telehealth effort. A partnership with a private telecommunications company connected rural health centers to Port Moresby General Hospital and other regional hospitals, allowing remote consultations and diagnostics for patients in isolated areas.[237]

Fiji, another island nation in the Pacific, has pushed for better technology infrastructure and innovative healthcare solutions. The Fijian government partnered with international organizations, such as the World Bank, to increase internet connectivity, particularly in rural

234. Pritesh Samuel, *Vietnam's Digital Transformation Plan Through 2025,* VIET. BRIEFING (Sept. 16, 2021), https://www.vietnam-briefing.com/news/vietnams-digital-transformation-plan-through-2025.html/. *See generally* DEP'T FOR INT'L TRADE [DIT], DIGITAL HEALTH IN VIETNAM: MARKET INTELLIGENCE REPORT, 2020 (UK), https://assets.kpmg.com/content/dam/kpmg/vn/pdf/publication/2021/digital-health-vietnam-2020-twopage.pdf.

235. DIT, *supra* note 234, at 32–34.

236. *See generally Telecoms, Mobile and Broadband - Statistics and Analyses*, BUDDECOMM, https://www.budde.com.au/Research/Papua-New-Guinea-Telecoms-Mobile-and-Broadband-Statistics-and-Analyses (Jan. 9, 2023).

237. Rayon Lakingu, *Telemedicine the way Forward for Improved Health Services in PNG*, EMTV NEWS (July 29, 2019), https://emtv.com.pg/telemedicine-the-way-forward-for-improved-health-services-in-png/.

areas.[238] Moreover, the Fijian government has implemented its own digital health strategy.[239]

III. CLOSING THE DIGITAL DIVIDE

A. Distilling the Problem

Although international and regional collectives offer a platform for countries to gather, discuss, and collaborate on shared objectives, the responsibility for developing technology infrastructure and implementing telehealth services falls on individual countries.[240] Apart from binding international law, the existing regulatory mechanisms adopted by international organizations that focus on e-health can only induce sovereign countries to act cooperatively. However, some issues regarding e-health might seem trivial in the grander scheme of a country's individual problems. While individual States have already taken substantial actions toward improving their technology infrastructure and innovating health solutions, collaborative international and regional efforts have been lackluster by comparison.[241] In this regard, continued advocacy for international cooperation should not be casually dismissed.

Political considerations are the primary barrier to meaningful collective efforts. Politics in international collectives often revolve around a delicate balance between national self-interests and collec-

238. *See* World Bank Grp. [WBG], *Fiji - Pacific Regional Connectivity Program Project*, at 18, PAD1968 (Nov. 7, 2016), https://documents1.worldbank.org/curated/en/551611480734099685/pdf/FINAL-101116-RVPApproved-PAD-11092016.pdf ("By facilitating more reliable and affordable connectivity to poorer households and rural communities in the Northern Division, the Project is expected to contribute to improved social welfare, access to information and services as well as potential income-earning opportunities."); *see also* World Bank Grp. [WBG], FIJI FACT SHEET (Sep. 14, 2022), https://thedocs.worldbank.org/en/doc/0e1c7b07f12e275406be14c141a1b9da-0070012021/original/Fiji-Country-Insert-A4-DIGITAL.pdf.

239. *Fiji Digital Health Strategy 2023-2027*, MINISTRY OF HEALTH AND MEDICAL SERVICES (Sept. 7, 2023), https://www.yumpu.com/en/document/read/68425187/fiji-digital-health-strategy-2023-2027-final/7.

240. *See* discussion *supra* Sections III.B, III.C, III.D.

241. *Id.*

tive well-being.[242] While such collectives are designed to foster collaboration and joint development efforts to further the latter's end, member States may be more inclined to prioritize their self-interests.[243] A vast literature is dedicated to these competing goals. In the regional context, political tensions can manifest in various ways, including trade protectionism, resource withholding and allocation, and political bargaining.[244]

Some realist scholars posit that States act rationally to maximize their power and secure their interests at the expense of others.[245] In their eyes, cooperation is often only driven by States' desires to gain relative advantages over others, and collective goals may be abandoned if they compromise self-interests.[246] Realists also argue that international cooperation furthers inequalities[247] and acts as an extension of colonialism,[248] which is contrary to the mission statements and purported goals of so-called cooperatives.[249]

Conversely, the liberal view emphasizes the potential for cooperation and greater mutual benefit.[250] Under the liberal view, through cooperation, even if only furthered by the pursuit of marginal self-interest,

242. Randall Schweller & David Priess, *A Tale of Two Realisms: Expanding the Institutions Debate*, 41 MERSHON INT'L STUD. REV. 1, 3–4 (1997).

243. *See* Peter Toft*, John J. Mearsheimer: An Offensive Realist Between Geopolitics and Power*, 8 J. INT'L RELS. & DEV. 381, 383–389 (2005).

244. *See* discussion *supra* Section III.C.

245. Toft, *supra* note 243, at 383 ("Mearsheimer infers that the states soon realize that the most efficient way to guarantee survival in anarchy is to maximize their relative power with the ultimate aim of becoming the strongest power — that is, a hegemon.").

246. *Id.*

247. Ian Hurd, *The Case Against International Cooperation*, 14 INT'L THEORY 264, 264 (2022) (conflating international cooperation with the realization of shared interests misleads inquiries away from the reality of zero-sum games).

248. International organizations have a history of colonialist influences. Some argue that this history persists as neocolonialism in modern times, while others argue that such organizations have been reformed to become successful tools for combating inequality and lifting third world countries. The truth lies somewhere in-between. See generally Eva-Maria Muschik, *Special Issue Introduction: Towards a Global History of International Organizations and Decolonization*, 14 J. GLOB. HIST. 173 (2022) to see these nuances are explored in-depth.

249. *Id* at 173.

250. Andrew Moravcsik, *Taking Preferences Seriously: A Liberal Theory of International Politics*, 51 INT'L ORG. 513, 516–521 (1997).

States can achieve more; collective efforts will always cover more distance than those of a single State.[251] Unlike realism, which views international relations as a zero-sum game where the game of one actor is the loss of another, liberalism argues for an outcome where all parties will benefit.[252] It stresses the importance of international institutions, laws, and norms in facilitating cooperation among States. In theory, these entities would provide frameworks for predictable, stable interactions and mitigate the anarchic tendencies of individual States by encouraging States to adhere to agreed-upon rules and procedures.[253] Liberalists believe countries are dependent on one another, even if they are on the other side of the globe. By establishing common ground and ties to reinforce this reliance, countries are more likely to work with one another and avoid hostilities. Thus, political liberalists believe that institutions can and should work to facilitate cooperation, mitigate conflicts, and promote trust between States.[254]

This philosophical discourse spans centuries, but it is relevant because it demonstrates the political behaviors that undermine possible solutions. Although States' tendencies to cooperate may manifest in different ways, the bottom line of these two schools of thought is that States always work toward their own interests first.[255] The solution, then, is to find a middle ground that accounts for all views.

International entities, including the ITU, WHO, and the UN, avoid being overbearing as a matter of necessity. They appear authoritative and cohesive, but they take a liberal, hands-off approach to problems.[256] If they do too much and appear oppressive, individual member States may withdraw their support because their engagement is largely

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251. *Id.*

252. *Id.* at 525.

253. KENNETH N. WALTZ, THEORY OF INTERNATIONAL POLITICS 88–93 (1979).

254. *7 Components of Liberalism*, NORWICH UNIV., https://online.norwich.edu/7-components-liberalism (last visited Mar. 24, 2024).

255. *Compare* Hurd, *supra* note 247 *with* Moravcsik, *supra* note 250. *See also* W. Julian Korab-Karpowicz, *Political Realism in International Relations*, STANFORD ENCYCLOPEDIATHE STAN. ENCYC. OF PHILOSOPHYPHIL., https://plato.stanford.edu/entries/realism-intl-relations/ (Oct. 9, 2023).

256. Oona A. Hathaway, *Between Power and Principle: An Integrated Theory of International Law*, 72 U. CHI. L. REV. 469, 486–87 (2005).

voluntary.[257] However, if such entities do too little, their influence is conversely weak. Internationally binding agreements with ambiguous, substantive obligations and weak or missing monitoring provisions are less effective due to varying provision interpretations, and compliance may be difficult or impossible to enforce.[258] Contrarily, more relaxed agreements may allow for greater flexibility, adaptability, and a common ground for cooperation.[259] This is because, per realist thinking, precise obligations and strict monitoring of member States may result in no agreement at all.[260] Although it seems paradoxical for all of the above to be true simultaneously, the overall success of each agreement ultimately depends on a variety of situational factors, including political will and the complexity of the issue.[261] To achieve a favorable outcome, all relevant, significant factors must be weighed carefully.

B. Recommendations & Potential Future Directions

As it stands, the structures of intergovernmental bodies are carefully crafted to mitigate political tensions, general distrust, and fears about potential abuses of power.[262] They exist as an unhappy, but tolerable, compromise between the realist and liberal approaches to international relations: strong individual States acting on their own versus powers delegated to larger cooperatives.[263] However, a liberal-leaning middle ground between these two extremes may be achievable. Depending on the issue type, more can be done to create collaborative systems that work for the mutual benefit of all.[264] This is not to suggest

257. *Id.* at 488–91.

258. *See* Raustiala, *supra* note 138, at 588–89.

259. *Id.* at 591–93.

260. *Id.* at 584–85 n. 31 ("Powerful states are likely to be able to shape commitments to their liking. . . . Agreement depth should usually mask the bearing of more depth by weaker states and less depth by stronger states. States whose commitments . . . are especially deep are less likely to participate; those whose commitments are especially shallow are most likely to participate.").

261. Hathaway, *supra* note 256, at 493–497.

262. *See* discussion *supra* Section IV.A.

263. *Id.*

264. *See* Hathaway, *supra* note 256, at 492 (To generate participation in and compliance with international law, there must be "legal enforcement" and "collateral consequences." In other words, there must be both formal and informal incentives

that intergovernmental entities should have unconstrained authority. However, when dealing with uncontroversial matters, they should be afforded greater agency to further shared interests.

There are two paths forward. The first is to continue with the status quo. International and regional entities, as they are currently structured, have not compelled action in the context of telehealth technological development.[265] Regulations may only gently push countries in the right direction and assist in minor, albeit important, projects. By fostering dialogue and sharing best practices, these international and regional organizations already help countries recognize the potential health benefits of investing in technology infrastructure and telehealth services and taking them to the next level.[266] Furthermore, developing technology infrastructure and improving health outcomes are clearly uncontroversial.[267] At every level, decision-makers have taken steps to achieve both goals, even if they do not explicitly make the connection between technology and health.[268] Departing from this position risks scrutiny and resistance, but staying put means more of the same technological and health disparities. Progress is happening, but it is slow.

The second option is to take advantage of the potential breadth of international and regional cooperatives, creating stronger and more binding ties. With a common thread between countries, solutions to intra- and inter-national health disparities may be more effective.[269] Telehealth and technology in general are not critical compared to urgent issues like human rights;[270] existing international and regional actions consist of piecemeal guidelines as opposed to binding regulations.[271] As

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and mechanisms.). Thus, a middle ground can be created by balancing the formality of cooperatives with informal encouragement.

265. *See* discussion *supra* Sections III.B, III.C.

266. *Id.*

267. *See* discussion *supra* Section III.D.

268. *See* discussion *supra* Sections III.B, III.C, III.D.

269. Nason Maani, et al., *Global Health Equity Requires Global Equity*, 7 HEALTH EQUITY 192, 193–94 (2023), https://www.liebertpub.com/doi/epdf/10.1089/heq.2022.0169.

270. Consider the numerous binding international human rights instruments that have been broadly adopted with monitored implementation, see, for example, *The Core International Human Rights Instruments and Their Monitoring Bodies*, U.N., https://www.ohchr.org/en/core-international-human-rights-instruments-and-their-monitoring-bodies (last visited Mar. 11, 2024).

271. *See, e.g.*, *Global Strategy on Digital Health 2020–2025*, *supra* note 181.

discussed, pushing for stronger initiatives would only cause greater resistance. So, facially neutral mechanisms should be the focus. It is possible for there to be "soft laws"—strong, non-binding provisions and unimposing, binding provisions.[272]

Strong, non-binding provisions could include comprehensive guidelines, best practices, and standards.[273] Just as these methods have been employed in the respective realms of technology and healthcare,[274] they can be synthesized to target the integration of technology in healthcare, focusing on telehealth and digital infrastructure. These provisions, while not legally enforceable, would carry moral and political weight,[275] and would encourage countries to align their policies with internationally recognized goals. By providing a clear vision of what is desirable and achievable, these guidelines can motivate countries to invest in technology and healthcare improvements voluntarily. They could be tailored to fit various contexts, allowing countries to adapt the recommendations to their specific needs and capabilities.

Conversely, unimposing, binding provisions could involve minimal but mandatory commitments that all countries agree to uphold.[276] These could include basic standards for technology infrastructural development and minimal levels of investment in healthcare technology. Such provisions would be legally binding but intentionally designed to be achievable for all member States, ensuring no country is left behind due to financial or technological constraints, nor pressured into greater

272. For a detailed analysis of these "hard" and "soft" laws in international governance, and how they complement and clash with one another, see Gregory C. Shaffer & Mark A. Pollack, *Hard Vs. Soft Law: Alternatives, Complements, and Antagonists in International Governance*, 94 MINN. L. REV. 706, 717–21 (2010). For an analysis of preexisting literature on the advantages, disadvantages, and interaction between hard and soft laws, see *id.* at 712–27.

273. Raustiala, *supra* note 138, at 588–89. *See generally* Shaffer & Pollack, *supra* note 272.

274. *See supra* notes 145, 181.

275. *See* Raustiala, *supra* note 138, at 586; Shaffer & Pollack, *supra* note 272, at 713.

276. Shaffer & Pollack, *supra* note 272. *See* Raustiala, *supra* note 138, at 590 (discussing how some legally binding declarations and multilateral conference decisions are "soft laws" because they are designed to influence behavior).

commitments than desired.[277] The aim would be to establish a baseline of commitment to changes (i.e., health technology integration) that could gradually be built upon.[278]

The synthesis of strong, non-binding, and unimposing, binding provisions could provide a flexible yet ambitious framework that accommodates the diverse capacities and priorities of countries.[279] This approach acknowledges the challenges of requiring uniform standards across States with vastly different resources and needs.[280] It recognize the importance of maintaining sovereignty and the right of countries to determine their paths to integrating technology and health.[281]

Thus, international and regional entities should strive to find common ground with strong, non-binding provisions and unimposing, binding provisions. Even if it is not possible to create new provisions, applying this framework to existing initiatives would facilitate greater coordination between global, regional, and national decision-makers.[282] Adopting this approach would also clarify roles and responsibilities and synergize with States' efforts by filling in gaps in existing rules.[283] There is no definitive prescription for achieving these theoretical ideals; the possible combinations are endless and fact-specific. However, consideration of all the above could reveal the full potential of international and regional collectives, ideally leading to meaningful advancements in technology infrastructure, improvements in health outcomes, and developments in other areas of global concern. As it

277. Shaffer & Pollack, *supra* note 272, at 719 (acknowledging that soft laws "impose lower 'sovereignty costs" on States).

278. *Id.* at 720.

279. *Id.* at 721–22.

280. *See* Raustiala, *supra* note 138, at 582 ("[W]idespread preference for contracts often unduly weakens the substance and structure o multilateral agreements when states are uncertain about compliance costs. States often compensate for the risk of their own noncompliance by weakening monitoring or watering down commitments.").

281. *See, e.g.*, Shaffer & Pollack, *supra* note 272, at 770–71 (discussing the various provisions of the Convention on the Protection and Promotion of the Diversity of Cultural Expressions).

282. *Id.* at 709, 719 ("hard" and "soft" laws work together to achieve greater cooperation where it may otherwise fail due to concerns about enforcement, being bound to unfavorable terms, etc.).

283. *See id.* at 721–22; *see also id.* at 788 ("soft" laws can also counteract potential negative effects of "hard laws").

stands, all the players are in a relay race for progress, but no one knows who should hold the baton.

CONCLUSION

COVID-19 has reinvigorated the discussion about widespread health disparities, as well as potential policy solutions. The events of the COVID-19 pandemic demonstrated that technology is an important and effective tool for reducing adverse social determinants of health and increasing healthcare access. However, there must be adequate systems to support its functioning and distribution. Thus, technology infrastructure is a key concern in the aftermath of the COVID-19 pandemic, especially as the digital divide continues disparaging vulnerable populations worldwide. International, regional, and national decision-makers should all strive for better health and technology, but their interests and methodologies do not necessarily align. After analyzing the Western Pacific and South-East Asian regions, it is likely that if countries go down separate paths, they may not fully realize opportunities for better outcomes. Alternatively, collaborative international efforts can successfully create better, more equitable health outcomes. Countries will inevitably prioritize their self-interests, but by considering the greater good along the way, they may improve their status quo, as well as those of other nations. Though unorthodox, countries around the world should consider the importance of technology infrastructure and key takeaways from the legal and political landscape of the Western Pacific and South-East Asian regions to prepare for future health crises.


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