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The World Needs More Asian Leadership in Global Health

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ABSTRACT

In the coming decades, Asia will become even more important to global health. There are five structural reasons for this trend. First, its sheer population size and disease burden make Asia intrinsically important to global health. Second, the 21st century has been called the Asian century, reflecting Asia's dominance in the global economy. This unprecedented wealth creation and prosperity have improved the quality and expectations of healthcare, especially when increasingly affluent citizens demand more social services from their governments. Third, as a consequence of being the world's engine of economic growth, Asian countries have gained increasing geopolitical confidence since the 2000s. Wealthier countries like China and Japan are expanding their sphere of influence. Fourth, Asia is important to global health for historical reasons. But the uneven global governance situation must change to become more balanced, equal, fair and representative. As Asia grows wealthier and more confident, and the world rebalances its global leadership, the role of Asia in global health will become more important. A new global (health) governance architecture must be inclusive and truly global and not focused on a small set of rich countries in Europe and North America. Finally, Asia should increase its involvement in global health governance due to its high burden of disease. Asia is facing rising non-communicable disease rates due to the adoption of Western lifestyles and diets in its higher-income countries. Asia can, should and must play a larger leadership role in that new global health governance architecture. This paper makes the case for more Asian leadership in global health, defines how that leadership can be demonstrated, and proposes a gradualist approach to increasing Asian leadership in global health. This paper demarcates the scope of Asian leadership in global health, unpacking the two large concepts of global health and Asia; describes the recent history of Asian leadership in global health since the 2000s and analyzes its successes and gaps; and provides a framework for Asian countries to provide leadership in five domains of global health.

Keywords

Asia, Covid-19, disease, global health, global governance, pandemic

CONTENTS

1. INTRODUCTION

In the coming decades, Asia will become even more important to global health. There are five structural reasons for this trend.

First, its sheer population size and disease burden make Asia intrinsically important to global health. Asia accounts for nearly 60 percent of the total world population.[1] In comparison, 17 percent of the world's population is in Africa, 10 percent in Europe, 8 percent in Latin America and the Caribbean and only 5 percent in North America. Hence, a healthier Asia is a healthier world.

In epidemiological terms, Asia's high disease burden[2] influences global health. The poorest countries in Asia carry a high burden of malaria and tuberculosis (TB), with Southeast Asia accounting for 43 percent of the global burden of TB in 2020.[3] Additionally, Asia's ageing populations and changing lifestyles are driving a rise in non-communicable diseases (NCDs): China, India and Indonesia have among the highest diabetes rates worldwide,[4] together comprising more than 178 million people with diabetes. This mix of diseases on the world's most populous continent significantly impacts global health.

Second, the 21st century has been called the Asian century,[5] reflecting Asia's dominance in the global economy. According to McKinsey & Company, Asia is likely to generate 50 percent of the world's GDP by 2040 and account for 50 percent of global consumption by 2050.[6] As of 2020, Asia has become home to half of the world's middle class,[7] signaling its transition from low-income to middle-income in only a few decades.

This unprecedented wealth creation and prosperity have improved the quality and expectations of healthcare, especially when increasingly affluent citizens demand more social services from their governments. Increasingly affluent citizens and countries also want to play a larger leadership role in the world, as they set their sights on raising their international profile.

Third, as a consequence of being the world's engine of economic growth, Asian countries have gained increasing geopolitical confidence since the 2000s. Wealthier countries like China and Japan are expanding their sphere of influence[8] within Asia and in the wider world — particularly with China investing in infrastructure across Central Asia, Eastern Europe and the low-and-middle-income countries through its

[1] See https://www.worldometers.info/world-population/population-by-region/
[2] Economist Impact, *Infectious and non-communicable diseases in Asia-Pacific: The need for integrated healthcare*, 2021. See https://impact.economist.com/perspectives/sites/default/files/final_-_infectious_and_non-communicable_diseases_in_asia-pacific_1.pdf
[3] World Health Organization, Tuberculosis fact sheet, October 14, 2021. See https://www.who.int/news-room/fact-sheets/detail/tuberculosis
[4] Lin, X., Xu, Y., Pan, X. et al. Global, regional, and national burden and trend of diabetes in 195 countries and territories: an analysis from 1990 to 2025. Sci Rep 10, 14790 (2020). September 8, 2020. See https://doi.org/10.1038/s41598-020-71908-9
[5] World Economic Forum, "We've entered the Asian Century and there is no turning back", October 11, 2019. See https://www.weforum.org/agenda/2019/10/has-world-entered-asian-century-what-does-it-mean/
[6] McKinsey & Company, McKinsey Global Institute, *Asia's future is now*, July 14, 2019. See https://www.mckinsey.com/featured-insights/asia-pacific/asias-future-is-now
[7] World Economic Forum, "This chart shows the rise of the Asian Middle Class", July 13, 2020. See https://www.weforum.org/agenda/2020/07/the-rise-of-the-asian-middle-class
[8] Ball, D., Béraud-Sudreau, L., Huxley, T., et al., *Asia's New Geopolitics: Military Power and Regional Order*, IISS Adelphi series, September 29, 2021. See https://www.iiss.org/blogs/analysis/2021/09/asias-new-geopolitics-a-region-in-flux

landmark Belt and Road Initiative (BRI). India is becoming increasingly significant[9] in terms of economic output, diplomatic ambition and production of health products. As the influence of Asian powers grows, the relative impact and influence of Europe and United States may decline. This is giving Asia more space to develop on its own terms and to demonstrate its leadership philosophies.

Fourth, Asia is important to global health for historical reasons. Today's global health governance architecture was built from the ashes of World War II, with the birth of the United Nations (UN) and the World Health Organization (WHO). After nearly eight decades, the leadership, decision-making, power dynamics and funding of these international organizations remain largely in control of the victors of WWII, starkly exemplified by the veto power in the Security Council held by five countries: China, France, Russia, the United Kingdom and the United States.

This uneven situation must change to become more balanced, equal, fair and representative. As Asia grows wealthier and more confident, and the world rebalances its global leadership, the role of Asia in global health will become more important.

The global health governance architecture is being severely tested with the triple threats of an ongoing pandemic, accelerating de-globalization and the effects of climate change. These threats demonstrate the need for a new global governance architecture that is future-proofed not only for health, but also for international security, economic growth and development guided by the UN Sustainable Development Goals.

A new global (health) governance architecture must be inclusive and truly global and not focused on a small set of rich countries in Europe and North America. Diversified leadership and collaboration at the regional and global levels are needed to manage future pandemics successfully, deliver healthcare to 8 billion people, and mitigate the impact of pandemics, non-communicable diseases and ageing.

Finally, Asia should increase its involvement in global health governance due to its high burden of disease. Asia faces high rates of infectious diseases such as TB, HIV, malaria and hepatitis, especially in lower-income countries. Asia has also been the epicenter of various disease outbreaks in the past decades — including Covid-19, SARS and avian influenza A (H5N1).

These outbreaks may have been caused by rapid urbanization and resulting environmental changes throughout Asia. Between 2000 and 2010, almost 200 million people migrated to urban areas in East Asia, resulting in areas of high population density and a loss of habitat for animal species. Rapid shifts in population movement, land use, food production and sanitation — all a consequence of Asia's economic and social development — have interacted with environmental factors, such as a tropical climate, and made the region an infectious disease hotbed.

[9] Keynote address, Evans, Gareth, "Asian Geopolitics in transition", Asia Society Australia, November 29, 2017. See https://asiasociety.org/australia/asian-geopolitics-transition

At the same time, Asia is facing rising non-communicable disease rates due to the adoption of Western lifestyles and diets in its higher-income countries. Communicable and non-communicable diseases work together to threaten the region's health systems. Therefore, as Asia finds itself at the center of the world's health challenges, it should become more involved global health governance. This would allow Asian countries to take ownership of health threats within their borders, proving their leadership capability at a time of East-West geopolitical competition.

Asia can, should and must play a larger leadership role in that new global health governance architecture. This paper makes the case for more Asian leadership in global health, defines how that leadership can be demonstrated, and proposes a gradualist approach to increasing Asian leadership in global health. This paper demarcates the scope of Asian leadership in global health, unpacking the two large concepts of global health and Asia; describes the recent history of Asian leadership in global health since the 2000s and analyzes its successes and gaps; and provides a framework for Asian countries to provide leadership in five domains of global health.

2. WHAT IS GLOBAL HEALTH LEADERSHIP

Global health leadership is a broad concept that can be defined, categorized and practiced in many ways. For the purposes of this paper, we will consider five domains of global health and Asian leadership:

1. **Asian countries can strengthen their national health systems.** This encompasses the six building blocks[10] of national health systems, health system reforms and progress towards universal health coverage (UHC). A country's strengthened health system will directly benefit its citizens. Stronger national health systems also contribute to global health, which is the sum total of the health of the world's 195 countries.

   Asia's health systems provide health services for 4.5 billion people — almost 60 percent of the world's population. Asian health systems are incredibly diverse, reflecting varying levels of economic development, post-colonial transitions and forms of government. Asia has provided UHC[11] to millions of its citizens much faster than other regions, making Asian health systems particularly worthy of emulation.

2. **Asian countries can set new and higher global health standards** for public health policy and practice, education and information exchange. Asian leadership in global health standard-setting would define what global health should look like and how specific rules and policies interrelate.

   Such standards would include the minimum reporting standards for pandemic control (as in the International Health Regulations[12]) or tobacco control (such as the Framework Convention on Tobacco Control[13]). This paper considers standard-setting in two dimensions: regulative and discursive. The regulative dimension encompasses how global health rules are developed, agreed and enforced. The discursive dimension considers how ideas are generated and shared.

3. **Asian countries can strengthen their health research and development (R&D) and manufacturing.** R&D and manufacturing are important to delivering accessible, affordable and innovative health products to 8 billion people. Three elements of the medical R&D and manufacturing sectors are pharmaceutical drugs, vaccines and medical devices, which are key in tackling NCDs and infectious disease outbreaks worldwide.

[10] World Health Organization, *Monitoring the Building Blocks of Health Systems: A handbook of indicators and their measurement strategies*, 2010. See https://apps.who.int/iris/bitstream/handle/10665/258734/9789241564052-eng.pdf
[11] Asian Development Bank, "How countries in Asia and the Pacific are working toward universal health coverage and controlling COVID-19", September 15, 2020. See https://www.adb.org/news/features/how-countries-asia-and-pacific-are-working-toward-universal-health-coverage-and
[12] World Health Organization, *International Health Regulations (2005)*, Third Edition, January 1, 2016. See https://www.who.int/publications/i/item/9789241580496
[13] World Health Organization, *WHO Framework Convention on Tobacco Control*, May 25, 2003. See https://fctc.who.int/publications/i/item/9241591013

R&D refers to the translation[14] of a discovery into a product that addresses health needs, like a drug, vaccine or medical device. The health R&D process spans ideation, testing, regulatory approvals and commercialization. R&D is closely tied[15] to the manufacturing industry, responsible for production and ensuring quality standards, supply chain reliability and post-marketing support.

4. **Asian countries can contribute more to global health in financial terms.** A country's financial commitment to advancing health worldwide demonstrates its political commitment to global health. It also defines a country's material place as a world leader, since providing financial assistance to foreign nations and health organizations is an important tool for diplomacy, soft power and reputation-building.

   Monetary contributions include those made by national governments to global health organizations such as WHO, COVAX Facility or the Global Fund. At WHO, monetary contributions may be assessed (calculated based on a country's socioeconomic status) or voluntary (from national governments or foundations, like the Bill and Melinda Gates or Rockefeller Foundations). These financial contributions also include bilateral government-to-government aid through development assistance agencies such as the Japanese International Cooperation Agency (JICA).

5. **Asian countries can lead in emerging global health sectors.** Global health continually adapts to the trends of human society, politics, economics, technology and changing disease patterns. Emerging sectors of global health include innovative health technologies, like digital health, artificial intelligence and the internet of medical things. It also covers a country's regulatory framework and political economy to encourage health innovation and healthcare start-ups, and can include the non-traditional ways a country deals with emerging health issues, such as climate change, an ageing society and the effects of social media on mental health.

These five domains are broad-based and interconnected, and will inevitably overlap. In this paper, each of the five areas are examined at three levels: national, regional and global. This is because global health is the sum total of national and regional health, and global health does not exist in a conceptual or practical vacuum.

National-level leadership reflects domestic performance, advances and reforms in health. Regional leadership describes a country's initiatives that support its close neighbors, with three notable regions on the Asian continent: Northeast Asia, Southeast Asia and South Asia. Finally, global leadership refers to a country taking responsibility for health issues at the international level.

As Asia is a broad geographic, cultural and conceptual entity, this paper narrows the scope of Asia to only East Asia (including China), South Asia (including India) and

[14] As defined by GHTC (Global Health Technologies Coalition). See https://www.ghtcoalition.org/why-research-and-development

[15] OECD (2017), "Research and development in the pharmaceutical sector", in Health at a Glance 2017: OECD Indicators, OECD Publishing, Paris. See https://doi.org/10.1787/health_glance-2017-72-en

Southeast Asia. It does not cover Central Asia, Oceania (including Australia) or the Middle East.

3. A BRIEF HISTORY OF ASIAN LEADERSHIP IN GLOBAL HEALTH

3.1 THREE THEMES OF ASIAN LEADERSHIP

Asia's gradual rise in global health leadership in the post-World War II era can be divided into three themes:

First, Asian countries needed to build their domestic health systems before looking towards regional or global leadership. Asia's rise in global health leadership began at home in the post-independence period. In the beginning, Asian countries started giving economic rights to their citizens. They did so in the form of growing the economy, building labor systems and building the physical, legal, regulatory and financial infrastructure to enable growth. As a result, Asia's journey was defined by rapid economic development in a period known as the Asian Miracle.[16]

Asia's GDP grew significantly[17] in the post-WWII period, with the economies of Japan and the "Four Tigers" of Hong Kong, South Korea, Singapore and Taiwan experiencing particularly high growth rates[18] over a 30-year period. Since the 1980s, China and India have also seen massive growth, with China contributing significantly to global economic growth. This growth was necessary as Asian countries needed to fight poverty and increase standards of living.

However, economic rights soon began to be insufficient for Asia's increasingly affluent citizens. This was because economic rights and financial prosperity alone were not sufficient to meet the demands of an increasingly sophisticated middle class. These more-educated, savvy citizens demanded greater "second-generation" social and political rights beyond the first-generation rights of economic growth and material prosperity.

Asian governments were motivated to consciously build a stronger social infrastructure[19] and to measure the welfare of their citizens beyond mere GDP growth. Health and education were the main components of this social infrastructure, highlighting a government's responsibility not only to grow its economy, but also to protect and develop its population.

Since the 1980s and especially the 2000s, Asian nations have made great strides to providing accessible and high-quality health services to their citizens. Public health has been integrated into countries' development plans, policy priorities and technology, manufacturing and education sectors.

[16] Keynote address, Nakaso, Hiroshi, "Asian Economy: Past, Present, and Future", Securities Analysts Association of Japan International Seminar, April 24, 2015. See https://www.boj.or.jp/en/announcements/press/koen_2015/data/ko150424a1.pdf
[17] Institute for International Economics, See https://www.piie.com/publications/chapters_preview/348/2iie3489.pdf
[18] Sarel, M., "Growth in East Asia What We Can and What We Cannot Infer", International Monetary Fund, September 1996. See https://www.imf.org/external/pubs/ft/issues1/
[19] Asian Development Bank, *Asia's Journey to Prosperity: Policy, Market, and Technology Over 50 Years*, January 2020. See https://www.adb.org/sites/default/files/publication/549191/asias-journey-chapter-11.pdf

Second, and perhaps as a consequence, there was a general absence of Asian participation and leadership in global health governance from the 1950s to the 1980s. This absence of leadership — particularly in the five domains — is understandable because Asian countries were focused on domestic priorities, building their economy and health systems, and training cadres of health workers. Their foreign policy priorities were leaning more towards security, trade and the geopolitics of the Cold War than on health diplomacy, cultural diplomacy or soft power.

This absence is visible in the lack of participation of Asian countries in the UN agencies beyond the minimum expectations, and the relatively low levels of financial contribution to international organizations. Again, this is understandable because these financial contributions usually follow a formula that depends on the economic prosperity of a country, with high-income nations paying more than low- and middle-income nations. In the 1950s through the 1980s, Asian countries were only beginning to emerge into prosperity; therefore, their financial obligations were low.

Low financial obligations by Asian countries may have contributed to their low demand for and access to leadership roles leadership roles in global health in the first few decades after independence. This may be because countries that do not contribute to international organizations may feel or believe that they do not have the moral, political or administrative grounds to demand more seats at the decision-making table, or to take senior decision-making roles.

Third, since the 1990s, Asian awareness of the duty and benefits of leadership in global health has been growing. Asian countries increasingly believe that global health leadership is a duty. This is particularly true of the major powers like China and Japan, which believe that it is the duty of the financially secure and technologically advanced countries to support other nations. The middle powers, like South Korea and Indonesia, believe that it is the duty of successful smaller nations to provide a good example to peer countries. And Asia's smaller economic powers, such as Singapore and Hong Kong, can contribute technical expertise and capacity-building to global health.

It is helpful that Asian countries believe they will benefit from leading in global health, and see it as a situation where everyone benefits rather than just "spending money on other countries". Through such leadership, Asian countries can build stronger political relationships and alliances with other countries, grow a larger market for the medicines and medical devices manufactured by Asian companies, and earn prestige and soft power through health diplomacy.

Asian countries have seen the strengths and desirability of a network of alliances underpinned by common standards and led by Europe and North America, and want to enjoy the same benefits. This enlightened self-interest will help ensure that Asia's leadership is sustainable, durable and reliable.

With this twin realization of their duty to lead and the benefits of leadership, Asian countries have been consciously and deliberately building their capabilities, contributions and stature in global health since the 1990s. Today, Asian countries are both taking on and asking for more leadership roles. In the last section of this

paper, we will discuss five global health domains in which Asian countries can lead in the coming decades.

3.2 TWO STRENGTHS, THREE GAPS AND TWO OPPORTUNITIES

Although Asia's leadership in global health has been relatively limited compared to Western countries, there are visible strengths. First, Asia's health systems are more diverse than the roughly similar systems in the West (with the exception of the United States' unique system). Asian health systems are housed within different political, economic and social constructs, with diverse social contracts, political economies of health, worldviews and governing philosophies.

Western Europe is a collection of mostly wealthy, liberal democracies with high tax regimes and socially insured populations. In contrast, Asia has a range of low- to high-income countries within a variety of political systems — from socialist republics to liberal democracies — that are funding their health systems through ever-decreasing general taxation and slowly increasing social health insurance.

This sheer diversity means more experimentation, more innovation in health policies and health resilience, and greater ability for other countries in Africa, South America, the Middle East and even the Pacific Islands to select the best practices for themselves along different points of their growth trajectory. A wide diversity of health systems is also good for global health because macroeconomic or macropolitical trends may change the health fortunes of many countries at once if these countries all share the same health system.

A second strength of Asia's leadership in global health is that, for the most part, it is considered neutral and independent. The ongoing superpower rivalry of China and the United States carries a lot of political baggage, with many countries unwilling to choose a side. Neutral convenors are therefore needed as a "third option" for many countries, along with the two general options of Europe and the high-income regions of Asia, e.g. Japan, Hong Kong, Singapore, South Korea and Taiwan.

Donations from these economies are likely to be considered neutral, independent and without (obvious) strings attached, and their technical expertise is likely to be considered credible and high quality. Therefore, this neutrality and credibility are important strengths if the world is to accept certain parts of Asian leadership in global health.

However, there are three structural gaps in Asia's leadership in global health. First, most of Asia's foreign policies are security- or trade-related, rather than being related to health, social policies or international development. Foreign policies are a reflection of domestic priorities, and therefore reflect the domestic economic agenda of Asia since the 1960s.

The fact that health is low politics for Asia's foreign policies has two implications: There is not yet a critical mass of Asian diplomats who are familiar with health and social policies in the international stage, nor is there a strong place for Asian development agencies in their countries' foreign policy (compared to trade

agencies); and the world is not yet familiar with Asia's health diplomacy, because networks, trust and reputation in global health leadership take decades to build.

The second structural gap is a relative lack of independent health-related think tanks in Asia. Health-related think-tanks can exist as a stand-alone (like the Kings' Fund[20] in the United Kingdom) or as part of a larger think tank (like the Global Health Program in the Council on Foreign Relations[21]). In Asia, both types are conspicuously missing.

This absence is reflective of think tanks' priorities that reflect the domestic security and trade agendas of their respective countries. This absence must be addressed, because any Asian leadership in global health cannot rely solely on health departments or ministries, which specialize in domestic health*care* (doctors delivering medicines in clinics or performing surgeries in hospitals), not global *public* health (which is more than just healthcare delivery).

Think tanks can provide an important missing link between medical science and the social sciences that are indispensable to global health on topics such as the economics of vaccine patents, the international law of pandemic preparedness, and global policies on antimicrobial resistance.

A third structural gap is that Asia is not united even in regional health. Asia is home to two of six WHO regions: The Western Pacific Region (WPRO)[22] is headquartered in Manila and comprises the large countries of Australia, China, Japan and South Korea (and seven of 10 Southeast Asian countries); and the South-East Asia Regional Office (SEARO)[23] is headquartered in New Delhi and comprises Bangladesh, India, North Korea (and only three of 10 Southeast Asian countries). This semi-arbitrary division may make historical sense, but is not fit-for-purpose for today's realities. It also reduces the number of major forums for Asian-focused discussions and interaction, leaving only ASEAN, ASEAN+3 and APEC.

These structural gaps must be bridged if Asia is to lead in global health. Relevant domestic government agencies must be strengthened where they exist or created where they are absent, especially in the global-health elements of diplomacy and foreign policy. Health-related think tanks must be nurtured, perhaps with intellectual seed capital from the schools or departments of public health in universities. In addition, Asian countries must build stronger communication channels and forums for health discussions in existing multilateral organizations, such as ASEAN and APEC.

There are two important opportunities for Asia to deliver leadership in global health, in two thematic areas: ageing societies and climate change. First, Asian countries must address the risk of "growing old before growing rich". The proportion of elderly in Asia is expected to increase[24] to 27 percent in 2050 from just 7 percent in 1995. This increase is worsened by low birth rates: Taiwan, South Korea,

[20] See https://www.kingsfund.org.uk/
[21] See https://www.cfr.org/programs/global-health-program
[22] See https://www.who.int/westernpacific/about/where-we-work
[23] See https://www.who.int/southeastasia/about
[24] MarshMcLennan, García-Herrero, A., "Asia's Workforce Is Rapidly Aging – And Many Countries Are Not Ready", December 21, 2020. See https://www.brinknews.com/asias-workforce-is-rapidly-aging-and-many-countries-are-not-ready/

Singapore, Macau and Hong Kong have the five lowest birth rates[25] in the world, ranging from 1.07 to 1.22; and Japan follows closely behind at 1.38.

Low birth rates reduce the available number of workers, taxpayers and care-givers for the elderly. As the population ages and the share of working-age residents decreases, these wealthy Asian regions face stress on their health, welfare and labor systems, and could also face a pensions crisis.[26]

Middle-income Asian countries like Thailand and Malaysia are also facing the economic effects of an ageing society, putting them at risk of falling into the "middle-income trap" if they fail to become high-income countries. This would occur if their initial high economic growth in the 1980s through the 2000s due to technology and a demographic dividend does not result in a sophisticated and diversified economy with high productivity in the 2020s and beyond.

Asian countries have an opportunity to lead in the realms of eldercare, health systems sustainability and digital technologies. Several countries have already made ageing part of their public health agenda: this trend could be carried forward in their global health leadership and set an example for other societies across the world.

Second, Asia has been relatively weak in handling climate change until recently. Six Asian countries (Bangladesh, Myanmar, Pakistan, the Philippines, Thailand and Vietnam) are among the world's most vulnerable[27] to climate change. Sea-level rise, floods and cyclones are prevalent in the region and will intensify as climate change progresses. Indonesia has made plans to move its capital[28] from Jakarta to Nusantara on the island of Borneo in response to rising sea levels.

Despite these threats, most Asian nations are failing[29] to meet their climate targets, in part due to a desire to sustain economic growth. While this growth contributes to improved health, the disastrous impacts of climate change could undo progress on both fronts. Asian governments have to find a balance between economic development, climate action and health, bringing together industry, the public sector, multinational organizations and civil society to ensure climate goals are met.

Asian leadership at the intersection of health and climate change will be crucial, as Asia is both a contributor to the problem and the recipient of its disastrous consequences.

[25] Statista, "The 20 countries with the lowest fertility rates in 2021". See https://www.statista.com/statistics/268083/countries-with-the-lowest-fertility-rates
[26] Park, Donghyun, "Ageing Asia's Looming Pension Crisis", ADB Economics Working Paper Series 165, Asian Development Bank, 2009.
[27] Health Care Without Harm Asia, Climate Change and Health Program. See https://noharm-asia.org/content/asia/climate-change-and-health-asia
[28] See https://www.bbc.com/news/world-asia-60037163
[29] DW, "Are Southeast Asian nations meeting their climate commitments?", October 30, 2021. See https://p.dw.com/p/42EVR

4. ASIA CAN LEAD GLOBAL HEALTH IN FIVE DOMAINS

Asian countries can lead global health in five domains: Strengthening their national health systems; setting new and higher standards for global health; strengthening their R&D and manufacturing; increasing their financial contributions to global health; and leading in emerging areas of global health. Each domain is analyzed below in three levels where relevant: national, regional and global.

4.1 STRENGTHEN NATIONAL HEALTH SYSTEMS

National

Asia has some of the most diverse health systems in the world[30] in terms of structure and stage of evolution. This is reflective of the diversity of political systems, political economies, governing philosophies and societal progress. Despite this diversity, there are some overarching best practices from Asia in how to strengthen national health systems.

- Asian countries have learned much since their experience with SARS in 2003, and other countries must not miss the once-in-a-generation opportunity provided by Covid-19 in the 2020s. SARS caused Asian governments to prioritize health by restructuring their health systems, strengthening healthcare financing and integrating public and private care. China, the country most affected by SARS, has grown its healthcare spending per capita[31] from US$42 per person in 2000 to US$535 in 2019.

  The increased prioritization of health in Asia is reflected in its political hierarchy: In 2018, China established a National Health Commission[32] as one of the country's three cabinet-level executive departments. This was replicated in other countries in Northeast Asia, with Japan creating a headquarters for health policies at the cabinet level and South Korea vertically integrating their health system.

- Asian countries have also shown how fragmented health systems can be integrated. For instance, China has a distinctive tripartite[33] health insurance program with different schemes covering urban and rural residents, created in response to the country's demographic makeup in the late 1990s and early 2000s. These schemes are fragmented and provide coverage of varying breadth and depth. The Xi Jinping administration has announced plans[34] to consolidate them, building on previous efforts to integrate different micro-health systems.

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[30] Chongsuvivatwong, V., Kai Hong Phua, Mui Teng Yap, Pocock, N., Hashim, J., Chhem, R. et al., "Health and health-care systems in southeast Asia: diversity and transitions", *The Lancet*, Health in Southeast Asia series, Vol. 377, Issue 9763, pp. 429-437, January 29, 2011. See https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)61507-3/fulltext

[31] World Bank data, "Current health expenditure per capita (current US$) – China", Data retrieved January 30, 2022. See https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD?locations=CN

[32] Project Syndicate, Khor, S.K., "A Health New Deal", July 6, 2021. See https://www.project-syndicate.org/onpoint/health-new-deal-after-covid-by-swee-kheng-khor-1-2021-07

[33] Meng, Q., Fang, H., Liu, X., Yuan, B. and Xu, J., "Consolidating the social health insurance schemes in China: towards an equitable and efficient health system", *The Lancet*, Vol. 386, Issue 10002, pp. 1484-1492, October 10, 2015. See https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)00342-6/fulltext

[34] Li, C., Tang, C. and Wang, H., "Effects of health insurance integration on health care utilization and its equity among the mid-aged and elderly: evidence from China", *International Journal for Equity in Health* 18, 166, October 29, 2019. See https://doi.org/10.1186/s12939-019-1068-1

China can leverage its rising position to provide health systems lessons for lower-middle-income countries with similar urban–rural divides. This integration is also apparent in smaller countries like Singapore, whose fully fledged Agency for Integrated Care[35] is tasked with deepening the integration between primary-secondary-tertiary care for seniors in the country.

- Lower-middle-income Asian countries can set examples of leadership in health systems strengthening. For example, Vietnam has seen an almost tenfold increase in health spending in two decades, from US$19 per capita in 2000 to US$181 per capita in 2019. This commitment to health has allowed it to become a world leader in providing access to essential services[36] for its population, and is partially the reason for Vietnam's excellent performance[37] during the Covid pandemic. Vietnam's investment in health has outpaced that of peer countries, such as the Philippines and Indonesia, due to its decades-long expansion of health infrastructure.

Strengthening health systems does not need to be ideological or politicized. The Vietnam example is illustrative, with a non-ideological public health approach contributing to the country's success in health investment. Although Vietnam is a socialist country, its health investment was split between the private and public sectors, with private health expenditure accounting for 55 percent of total health expenditure in 2019.[38]

Rather than being driven by politics, Vietnam learned from international best practices to develop its health system. The relatively undemocratic nature of some Asian countries could be a challenge[39] when developing health systems, but Vietnam's experience suggests that countries can achieve success with a pragmatic and non-ideological approach.

Although some countries have remarkable success stories, large differences remain between Asian health systems. Many middle-income countries in Asia continue to develop their economy without paying equivalent attention to health.

Notably, India spends only 3 percent of its GDP on health compared to the global average of 10 percent.[40] In 2018, Indians spent 62 percent[41] of their total health spending as out-of-pocket expenditure (WHO recommendation is less than 20 percent), risking financial catastrophe for many of them. This has resulted in a health

[35] See https://www.aic.sg/
[36] Mao, W., Tang, Y., Tran, T. et al., "Advancing universal health coverage in China and Vietnam: lessons for other countries", BMC Public Health 20, 1791, November 25, 2020. See https://doi.org/10.1186/s12889-020-09925-6
[37] Asian Development Bank, How countries in Asia and the Pacific are working toward universal health coverage and controlling COVID-19, September 15, 2020. See https://www.adb.org/news/features/how-countries-asia-and-pacific-are-working-toward-universal-health-coverage-and
[38] Statista, "Domestic private health expenditure as share of current health expenditure in Vietnam from 2010 to 2019", January 2022. See https://www.statista.com/statistics/690767/vietnam-ratio-of-private-to-total-health-expenditure/
[39] United Nations University, "Health and Healthcare Systems in Southeast Asia", April 5, 2021. See https://unu.edu/publications/articles/health-and-healthcare-systems-in-southeast-asia.html
[40] World Bank data, "Current health expenditure (% of GDP) – India", Data retrieved January 30, 2022. See https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?locations=IN
[41] Statista, "Out-of-pocket expenditure as percentage of current health expenditure across India from 2001 to 2018", July 29, 2021. See https://www.statista.com/statistics/1080141/india-out-of-pocket-expenditure-share-in-total-healthcare-expenditure/

system completely unprepared for the Covid-19 pandemic, during which 44 million Indians[42] were pushed into extreme poverty by July 2021.

Another improvement is in preventive health services, which are often deprioritized. Malaysia, considered an upper-middle-income country, only spends 7 percent[43] of its total health budget on preventive care (compared to lower-middle-income Vietnam's 30 percent[44] allocation for similar services).

Preventive care is needed not only for infectious diseases, but also for the parallel epidemic of non-communicable diseases. The wide disparity in political commitment to health within Asia highlights the need for increased regional leadership and collaboration.

Regional

Regional collaboration for health systems strengthening in Asia is limited but growing after strategic concerns exposed by Covid-19. We start with the Southeast Asian bloc, with the potential to provide a collection of best practices in strengthening health systems. For example, while high-income countries like Singapore[45] and Brunei[46] have long had successful health systems, middle-income Southeast Asian nations have been at the forefront of increasing health equity by expanding UHC.

The Philippines passed a Universal Care Act in 2019, effectively completing[47] the country's journey to UHC in less than 25 years. Thailand's Universal Coverage Scheme[48] notably covers low-skilled workers and non-Thai migrants, and has reduced out-of-pocket expenditure[49] from 34 percent in 2000 to 9 percent in 2019, among the lowest globally. These reforms in resource-limited contexts provide an example to other developing countries of how political will can alter the healthcare landscape.

The diversity of health financing mechanisms in Southeast Asia — with five countries having a single-pool national health insurance and four having multiple pooling systems — allows each country to track its independent path according to its development context. If health systems reforms are implemented successfully, Southeast Asian nations could provide a range of case studies from which other

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[42] *The Economist*, "The covid-19 pandemic pushed millions of Indians into poverty", January 12, 2022. See https://www.economist.com/graphic-detail/2022/01/12/the-covid-19-pandemic-pushed-millions-of-indians-into-poverty

[43] Noor, N.M., and Khor, SK, *The Star*, "Invest in preventive health", May 15, 2020. See https://www.thestar.com.my/opinion/letters/2020/05/15/invest-in-preventive-health

[44] Asian Development Bank, How countries in Asia and the Pacific are working toward universal health coverage and controlling COVID-19, September 15, 2020. See https://www.adb.org/news/features/how-countries-asia-and-pacific-are-working-toward-universal-health-coverage-and

[45] Lee Kuan Yew School of Public Policy, Global-Is Asian, "Does Singapore have the most efficient healthcare system in the world?", August 2, 2018. See https://lkyspp.nus.edu.sg/gia/article/the-3-factors-that-make-singapore-s-health-system-the-envy-of-the-west

46 Oxford Business Group, "A good prognosis: Health care strategies target prevention and best practices", 2013. See https://oxfordbusinessgroup.com/overview/good-prognosis-health-care-strategies-target-prevention-and-best-practices

[47] Coronel Santillan, M., Tamayo R., Reyes M., Khor, S.K. and Reyes, K., Think Global Health, "Insuring 100 Million People During COVID-19: The Philippines' experience", February 19, 2021. See https://www.thinkglobalhealth.org/article/insuring-100-million-people-during-covid-19

[48] Tuangratananon, T., Suphanchaimat, R., Hanvoravongchai, P. and Khor, S.K., Think Global Health, "In Thailand, Noncitizen Health Matters", September 16, 2020. See https://www.thinkglobalhealth.org/article/thailand-noncitizen-health-matters

[49] Asian Development Bank, How countries in Asia and the Pacific are working toward universal health coverage and controlling COVID-19, September 15, 2020. See https://www.adb.org/news/features/how-countries-asia-and-pacific-are-working-toward-universal-health-coverage-and

developing regions can learn. Nonetheless, this diversity can also be a challenge, especially when there is no strong convening force for health in Southeast Asia.

In theory, there are two possible convening forces for health in Southeast Asia. While ASEAN could be a high-potential convenor, various structural barriers have limited its influence. ASEAN was formed as an intergovernmental organization with the core principle of non-interference[50] and has little influence on the health policies of member states. This reflects ASEAN's general approach to prioritize economic cooperation and political security, rather than social welfare. Moreover, ASEAN is not a health-focused organization; the ASEAN Health Division is only one of 46 divisions in the Jakarta Secretariat, and does not receive sufficient funding or political support to deliver impact.

It is challenging for WHO to be a convening force in Southeast Asia since member states are split across two WHO regional offices: three countries in the South-East Asia Regional Office (SEARO) and seven countries in the Western Pacific Regional Office (WPRO). This is a missed opportunity for regional harmonization and convergence, although the Asia Pacific Observatory on Health Systems and Policies (part of WHO and supporting both SEARO and WPRO) plays a small role in bringing both regional offices together.

In Northeast Asia, Asia's more prosperous, developed countries have emerged as regional leaders. For example, South Korea's New Southern Policy Plus (NSP Plus) emphasizes the regional strengthening of health infrastructure as a major cooperative goal with ASEAN and India.[51] NSP Plus leverages South Korea's experience in public health governance prior to and during the Covid-19 crisis.

NSP Plus aims to establish "permanent channels for healthcare communication" that go beyond Covid recovery, framing the pandemic as an opportunity for increased global health development in Asia. Initiatives like the NSP Plus can take advantage of the West's lack of preparedness and leadership over the Covid pandemic, allowing generally overlooked middle powers like South Korea to shine.

Regional health systems strengthening in Asia may be better positioned to address Asia-specific challenges, including climate change and natural disasters, population ageing and regional geopolitics. Northeast and Southeast Asian partnerships also have the potential to re-balance global health away from a reliance on the North America and Europe. Still, it is important to consider the vast diversities within Asia, and not assume that wealthier Northeast Asian nations have all the answers to middle-income countries' health challenges.

Global

Asia can share their best practices in national and regional health systems strengthening on the global platform. China, in particular, has sought to position itself as a model for low- and middle-income countries in their journey towards UHC.

[50] Khor, S.K., The Edge Markets, "Stethoscope: How Southeast Asia's health systems can collaborate better", September 18, 2020. See https://www.theedgemarkets.com/article/stethoscope-how-southeast-asias-health-systems-can-collaborate-better

[51] Ingram, G., *Development in Southeast Asia: Opportunities for donor collaboration*, Chapter 1: Policy, Center for Sustainable Development at Brookings, December 2020. See https://www.brookings.edu/multi-chapter-report/development-in-southeast-asia-opportunities-for-donor-collaboration/

China's Barefoot Doctors program, training community health workers to provide services in rural areas in the 1970s, has been an inspiration[52] for resource-constrained countries like Brazil and Bangladesh.

As China's health system has grown more sophisticated,[53] the country has shared its experience of South-South cooperation programs with a focus on Africa.[54] The early phases of the Covid pandemic gave China the opportunity to provide expert insight[55] to Italy and other European countries, which provided an occasion for China to proclaim the relative strengths of its health system preparedness.

Among higher-income countries, Japan is a leader[56] in promoting health systems strengthening and UHC across the global health agenda. Japan has pushed for UHC as a priority at key events[57] in global health, such as the 2016 Ise-Shima Summit[58] — the first G7 Summit after the adoption of the UN Sustainable Development Goals (SDGs). Japan exemplifies how countries can leverage their national experience to advocate on topics of their choice: Japan's interest in furthering UHC can be partly explained by its ageing population and resulting drive to increase health systems sustainability.[59]

Among middle-income countries, Thailand stands out as an example of a carefully prepared and well-executed plan to build a global presence for their health system. Thailand routinely sends a large delegation to WHO's World Health Assembly, with a combination of senior and junior technocrats as part of succession planning and global exposure. This decades-long reputation-building has enabled Thailand's Ministry of Public Health to provide thought leadership and technical expertise to WHO and other global health organizations.

Asian countries can lead global health by strengthening their national health systems, and then sharing best practices with the global community. However, it may appear that Asian countries are less keen to share their achievements and leadership, preferring to stay under the radar. This could be reflective of the Asian culture that is humble and respectful. Humility and respect are powerful, but they can be amplified by evidence-based, confident and timely sharing of best practices with the global community, as it is equally the duty of Asian countries to share with the world.

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[52] *Developing and Strengthening Community Health Worker Programs at Scale*, Perry H. and Crigler, L. (Eds), USAID, 2014. See https://pdf.usaid.gov/pdf_docs/pa00jxwd.pdf

[53] Tao W, Zeng Z, Dang H, et al. "Towards universal health coverage: lessons from 10 years of healthcare reform in China", BMJ Global Health 2020; 5: e002086. doi:10.1136/bmjgh-2019-002086, February 15, 2020. See https://gh.bmj.com/content/bmjgh/5/3/e002086.full.pdf

[54] Cheng, Z. and Cheng F., "China's unique role in the field of global health", *Global Health Journal*, Vol. 3, Issue 4, PP 98-101, December 2019. See https://www.sciencedirect.com/science/article/pii/S2414644719302702#bb0070

[55] Atlantic Council, "Is China winning the coronavirus response narrative in the EU?", March 25, 2020. See https://www.atlanticcouncil.org/blogs/new-atlanticist/is-china-winning-the-coronavirus-response-narrative-in-the-eu/

[56] Special Commission on Japan's Strategy on Development Assistance for Health, *Japan's Global Health Diplomacy in the Post-COVID Era*, Japan Center for International Exchange, November 30, 2020. See https://www.jcie.org/wp-content/uploads/2020/12/Overview-report-e-122120.pdf

[57] Takemi, Keizo, Lecture on Asia Health and Wellbeing Initiative (AHWIN) and cancer, Japanese Journal of Clinical Oncology, Volume 51, Issue Supplement 1, May 18, 2021. See https://academic.oup.com/jjco/article/51/Supplement_1/i24/6277430

[58] Sakamoto, H. et al., "Japan's contribution to making global health architecture a top political agenda by leveraging the G7 presidency", Journal of Global Health, November 29, 2018. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6269922/

[59] AHWIN, The Basic Principles of the Asia Health and Wellbeing Initiative, p. 3, July 25, 2018. See https://www.kantei.go.jp/jp/singi/kenkouiryou/en/pdf/2018_basic-principles.pdf

4.2 SET NEW AND HIGHER STANDARDS FOR GLOBAL HEALTH

Leadership of global health requires setting, maintaining and enforcing standards. Global health standard-setting is arguably the broadest domain of health leadership, encompassing direct governance and rule-setting as well as soft influence on health.

Countries seeking to become leaders in this domain must lead by example. This requires contributing to global health regulations in a transparent manner, maintaining world-class standards in key areas of public health, like pandemic preparedness and information exchange, and taking the initiative in capacity-building for global health.

National

Asia is at a critical growth stage in contributing to global health governance and standard-setting. While international organizations have traditionally been led by the United States and other Western powers, Asian success stories in health governance provide an alternative source of standards. South Korea, Singapore and Taiwan have been spotlighted as global leaders in public health preparedness during the Covid pandemic, where a mixture of good governance and advanced ICT infrastructure made the countries stand out[60] with relatively low case numbers and fatality rates.

In particular, Asian nations have the potential to set international standards for NCDs and behavioral health — reflecting the growing NCD burden of disease and ageing population in the region. In 2022, Malaysia made headlines for its plan to introduce a new law banning tobacco products for people born after 2007 — the "Generational End Game" plan for smoking. These initiatives have set a high standard and raised the interest of neighboring countries in following a similar path.[61]

Malaysia's influence will be particularly felt in Singapore, a nation with already-stringent tobacco control now looking[62] to implement its neighbor's even bolder policy move. This case of smoking regulation exemplifies how healthy competition between neighboring countries can set continually higher standards and spark opportunities for dialogue on common challenges.

Transparency is an important feature of standard-setting. For example, China's early strong showing during Covid is in danger of being overtaken by a non-transparent and rigid "Zero Covid" policy. Any country that controls information too tightly is unlikely to project an image of a global health leader. A lack of standards transparency at home can jeopardize a country's aspirations of global health governance, no matter how powerful the country. This is because standards must be not only rigorous and enforced, but also transparent and predictable.

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[60] Kim J, Moon J, Jung TY, Kim W, Yoo HC. "Why Have the Republic of Korea, Taiwan, and Singapore Coped Well with COVID-19 and What Are the Lessons Learned from Their Experiences?" Yonsei Med Journal, March 2022. See https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8860936/

[61] Azmi, H., "Malaysia's divisive smoking debate a sign of what's to come for Singapore, New Zealand and other countries mulling age-based bans", This Week in Asia, March 28, 2022. See https://www.scmp.com/week-asia/people/article/3171845/malaysias-divisive-smoking-debate-sign-whats-come-singapore-new

[62] NUS, Saw Swee Hock School of Public Health webinar, "Policy Dialogue: What can we learn from New Zealand and Malaysia's policies to ban smoking?", April 6, 2022. See https://sph.nus.edu.sg/events/policy-dialogue-what-can-we-learn-from-new-zealand-and-malaysias-policies-to-ban-smoking

Regional

Setting standards for health often occurs in a bilateral context in Asia. For example, the Philippines is an important migrant-sending country, and is a global pioneer in social policy protections[63] for their overseas workers. The "Covid travel bubbles" between many Asian countries are another example of bilateral standard-setting. A more multilateral example is in Southeast Asia, with various efforts like harmonized mutual recognition[64] of health professionals, the harmonized Medical Device Directive 2015[65] and regulatory convergence for drug approvals[66] taking place through the ASEAN framework.

The Southeast Asian approach is different from the European Union approach. The European approach is top-down, initiated by bureaucrats in Brussels and various European institutions and filtering down to national governments. The Southeast Asian approach is bottoms-up, initiated by national governments and then filtering up to the ASEAN Secretariat. There are pros and cons to both approaches, with two notable divergent outcomes: The interventionist top-down approach is more likely to create impact but may trigger resentment, while the consensus bottoms-up approach is more likely to be durable but may take a long time to show impact.

If regional rule-setting is not yet entrenched, gradual capacity-building for health is an area in which Asia already excels. This is generally achieved through forums for collective dialogue and information exchange projects. Academic initiatives for information exchange have grown rapidly in Asia, with wealthier countries like Singapore taking on leadership roles.

Singapore's SingHealth-Duke-NUS Global Health Institute was launched in 2019 to advance the health of Southeast Asia; it has since embarked on more than 70 multi-country research projects and convened Asian healthcare leaders on topics such as NCDs and health diagnostics.[67] Hong Kong has sought to play a similar role, hosting summits[68] and innovative learning programs[69] on health systems leadership. Both cities have leveraged strong government support alongside a network of industry and academic partners. These examples demonstrate that academic-public-private partnerships are an important way forward to set standards in global health, especially in Asia, where business plays a significant role.
If industry faces limitations, intergovernmental organizations like ASEAN can also host information-sharing initiatives, such as ASEAN's Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre)[70] or Thailand's

[63] Mendoza, D. and Ruiz, N., "Protecting Overseas Workers: Lessons and Cautions from the Philippines", Migration Policy Institute (MPI), September 2007. See https://www.migrationpolicy.org/research/protecting-overseas-workers-lessons-and-cautions-philippines
[64] ASEAN Mutual Recognition Arrangement on Medical Practitioners, February 26, 2009. See https://asean.org/asean-mutual-recognition-arrangement-on-medical-practitioners/
[65] ASEAN Medical Device Directive, 2015. See https://asean.org/wp-content/uploads/2016/06/22.-September-2015-ASEAN-Medical-Device-Directive.pdf
[66] Tongia, A., "The Drug Regulatory Landscape in the ASEAN Region", Regulatory Focus (RF), January 29, 2018. See https://www.raps.org/news-and-articles/news-articles/2018/1/the-drug-regulatory-landscape-in-the-asean-region
67 See https://www.singhealth.com.sg/news/giving-philanthropy/Addressing-Asia%E2%80%99s-pressing-health-challenges,-from-an-Asian-perspective
[68] Such as the inaugural Asia Summit on Global Health, November 24, 2021. See https://mediaroom.hktdc.com/en/pressrelease/detail/20325/Inaugural%20Asia%20Summit%20on%20Global%20Health%20highlights%20Hong%20Kong&%2339;s%20advantages
[69] For example, The CUHK JC School of Public Health and Primary Care Professional Certificate Programme in Health System Leadership. See https://www.hsl.sphpc.cuhk.edu.hk/
[70] See https://ahacentre.org/

Field Epidemiology Training Program[71] established by ASEAN+3 countries for collaborative epidemiology training. These emerging initiatives could be expanded to standardize regional practices and form the basis for an ASEAN Centre for Disease Control (CDC), which has been glaringly lacking[72] in a region with a high infectious disease burden.

Although capacity-building and knowledge-sharing may not directly influence health outcomes, these efforts are important in two ways: They elevate a country's regional reputation and provide greater influence over global standards; and they increase knowledge among Asian partners — a first step to deeper collaboration. Joint capacity-building projects build goodwill, standardize regional practices and produce information specific to the Asian context.

Global

As the most populous and largest economy in Asia, it is natural to perceive China as Asia's leader in global health governance. Since 2000, China has increased its influence[73] in international organizations, earning the third-largest share of votes in the World Bank in 2010[74] and placing senior officials in leadership positions (notably, Margaret Chan serving as WHO Director-General between 2006 and 2017).

China also supports health infrastructure and standards in developing countries, portraying itself as an alternative to Western institutions. This has largely taken place through the BRI and its "Health Silk Road" component launched in 2015, with Africa, Eastern Europe and the Middle East as regions of interest.

As China takes on increasing leadership in global health governance, however, we should hope for a durable solution to Taiwan's participation in global health. Despite Taiwan's successes in the Covid-19 response, healthcare access and health promotion, Taiwan is not a member of WHO. Any durable solution must include political and diplomatic solutions that respect principles of choice and health rights for all humans.

Other nations in Asia have an equal opportunity to step up and set global health standards. India is taking its place in health data-sharing and patent regulation, not least due to its position as a major manufacturing hub for medicines and vaccines. Its contribution to global patent systems — most notably through the Amended Indian Patent Act (2005) — has balanced protecting medical innovation while allowing India to remain the world's top producer[75] of low-cost generic medications.

[71] See https://www.tephinet.org/training-programs/thailand-field-epidemiology-training-program
[72] Khor, S.K., Lim, J., Hsu, L.Y. and Mahmood, J., "Southeast Asia Needs Its Own CDC", Think Global Health, July 2, 2020. See https://www.thinkglobalhealth.org/article/southeast-asia-needs-its-own-cdc
[73] See Council on Foreign Relations, "China's Approach to Global Governance", https://www.cfr.org/china-global-governance/
[74] Wroughton, L., "China gains clout in World Bank vote shift", Reuters, April 25, 2010. https://www.reuters.com/article/us-worldbank-idUSTRE63O1RQ20100425
[75] Basant, R. and Srinivasan, S., "Intellectual property protection in India and implications for health innovation: emerging perspectives", *Innovation and Entrepreneurship in Health*, 2016;3:57-68, April 12, 2'16. See https://www.dovepress.com/intellectual-property-protection-in-india-and-implications-for-health--peer-reviewed-fulltext-article-IEH

The Covid pandemic is a critical turning point, with unprecedented popular global discontent[76] with vaccine patents. This provides an opportunity for manufacturing leaders like India to consolidate their contribution and reform the Intellectual Property Rights (IPRs) regime to ensure that human health is protected above financial competition. Together with South Africa, India has already advocated[77] for the World Trade Organization (WTO) to issue a Covid patents waiver, demonstrating its commitment to leading health equity in vaccines. Thailand, Indonesia and Malaysia could be allies to India's efforts, having taken an active role[78] in reshaping IPRs for public health since the early 2000s.

These alliances have the potential to impact global health even beyond IPRs, because they could fundamentally shift how ownership is conceived in global health research and thus ensure that global public goods[79] for health are accessible among lower-middle-income and high-income countries equally. If countries like India, Malaysia and Thailand can capitalize on global anger at vaccine nationalism, it might represent an important victory for Asia in leading global health product standards and regulations.

Asia can and should present a more united front in global health standard-setting, taking advantage of existing avenues for collaboration, such as the WHO International Health Regulations (IHR).[80] In 2005 during last revision of the IHR, Asian countries appeared to have taken a backseat[81] and only had limited engagement with the negotiation process. With Asia's Covid experience and increased leadership over the past 17 years, Asian countries must take the lead in the 2022 IHR revision.

4.3 STRENGTHEN R&D AND MANUFACTURING

Traditionally, R&D for medicines, vaccines and medical devices has been monopolized by North American and European companies and countries, although manufacturing and the supply chain is located around the world. Asian countries must lead in global health by strengthening their domestic R&D and manufacturing in order to diversify research and manufacturing sites, improve supply chain resilience and increase competition in research and manufacturing.

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[76] Sullivan, R., "Government urged to back vaccine patent waiver as protesters march on Downing Street", Independent, Tuesday 12 October 2021. See https://www.independent.co.uk/news/uk/politics/covid-vaccine-patent-waiver-wto-b1937216.html

[77] Usher, A., "South Africa and India push for COVID-19 patents ban", *The Lancet*, Vol. 396, Issue 10265, pp. 1790-1791, December 5, 2020. See https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32581-2/fulltext

[78] Moon, S. and Szlezák, N., "Rule-makers, rule-shapers, and rule-takers: what role for Asia in the global governance of intellectual property rules and global health?", *Asia's Role in Governing Global Health*, Routledge, 2012. See https://www.taylorfrancis.com/chapters/edit/10.4324/9780203081211-18/rule-makers-rule-shapers-rule-takers-role-asia-global-governance-intellectual-property-rules-global-health-suerie-moon-nicole-szlez%C3%A1k?context=ubx&refId=ea286b95-4a77-4568-a864-18752cb9164c

[79] Commission on Macroeconomics and Health, *Global Public Goods for Health*, World Health Organization, August 2002. See http://apps.who.int/iris/bitstream/handle/10665/42518/9241590106.pdf?sequence=1

[80] *International Health Regulations*, World Health Organization, See https://www.who.int/health-topics/international-health-regulations#tab=tab_1

[81] Kamradt-Scott, A., Lee, K. and Xu, J., "The International Health Regulations (2005): Asia's contribution to a global health governance framework", *Asia's Role in Governing Global Health*, Routledge, 2012. See https://www.taylorfrancis.com/chapters/edit/10.4324/9780203081211-14/international-health-regulations-2005-asia-contribution-global-health-governance-framework-adam-kamradt-scott-kelley-lee-jingying-xu?context=ubx&refId=034566df-c84f-4165-b194-57f3d22b864d

Asia has long been the global factory for electronics, consumer goods and heavy industries, thanks to significant government investment, lower labor costs and high-quality standards. Many parts of Asia are pivoting to high-end manufacturing of medicines, vaccines and critical medical devices.

Health product manufacturing requires higher quality standards than most other manufacturing sectors — and Asia has risen to the challenge, with middle-income countries like India and China supplying medical products to the world. Higher-income Korea, Taiwan and Singapore are also becoming R&D and manufacturing hubs, primarily focusing on high-impact research.

National

Medical R&D in Asia is primarily supported by high-income economies, such as South Korea, Taiwan, Hong Kong and Singapore. This is consistent with data indicating that high-income countries in Asia Pacific spend more[82] on general R&D as a percentage of GDP than do middle-income countries. Asia's thriving biomedical innovation industries have been enabled by two factors: Sustained, top-down investment such as South Korea's economic development plans[83] prioritizing R&D from the 1960s; and a responsive environment able to take lessons from past health crises, such as SARS and MERS.

Following domestic criticism of its perceived poor handling of MERS in 2015, South Korea made various reforms to boost public health preparedness. This included developing and then vertically integrating biotech infrastructure and public-private partnerships, which enabled South Korea's effective Covid response. Diagnostic kits were developed and approved in record time, allowing South Korea to conduct 20,000 tests per day[84] in April 2020, much faster than any other country and making South Korea the world's largest exporter of Covid PCR tests in the early days.

South Korea's Covid experience not only highlighted the country's world-class medical R&D and manufacturing, but also established it as a leader in learning from past mistakes. This provides a contrast to European countries characterized by a slower pace of bringing innovation to market. As South Korea's — and other Asian countries' — R&D and manufacturing capability matures, it should be careful to implement agile and robust regulatory systems and maintain a spirit of continual quality improvement.

Of the health leadership domains, R&D and manufacturing involves the greatest level of private-sector investment and involvement. It is unsurprising that countries with low levels of corruption[85] and a high ease of doing business[86] can support

[82] Khor, S.K., "Challenges and opportunities for health policy and systems research funding in the Western Pacific region", *Public Health Research & Practice*, Vol. 31(4):e3142123, November 2021. See https://www.phrp.com.au/wp-content/uploads/2021/11/PHRP3142123.pdf
[83] Dayton, L., "How South Korea made itself a global innovation leader", *Nature*, May 27, 2020. See https://www.nature.com/articles/d41586-020-01466-7
[84] Kim, J., An, J. and Oh, S., "Emerging COVID-19 success story: South Korea learned the lessons of MERS", Our World in Data, March 5, 2021. See https://ourworldindata.org/covid-exemplar-south-korea
[85] Corruption Perceptions Index, Transparency International, 2020. See https://www.transparency.org/en/cpi/2020
[86] Ease of Doing Business rankings, The World Bank, benchmarked to May 2019. See https://archive.doingbusiness.org/en/rankings

strong biomedical research. In these settings, public-private partnerships like South Korea's can thrive and combine industry goals with public health ones.

Singapore has a vibrant medical R&D and manufacturing ecosystem,[87] with major firms[88] such as Johnson & Johnson, Medtronic and Thermo Fisher Scientific setting up research centers and factories. The Hong Kong government has similarly committed[89] US$12.9 billion to innovation in recent years, developing smart hospitals and AI-powered systems.

Overall, common themes for R&D success in Asia include high levels of government investment, business-friendly environments and trusted regulatory landscapes. These factors can attract multinational companies to establish a presence and foster even more innovation. This is more challenging in some places than others; Taiwan, for example, is working to overcome its limitations[90] in foreign investment whereas Singapore and Hong Kong have existing English-speaking environments conducive to international business.

Regional

High-income Asian countries can act as regional leaders by sharing knowledge, capacity and capital. For example, focusing on more direct capacity-building, Japan has declared its intention[91] to help Asia achieve self-sufficiency in pharmaceuticals. Government initiatives[92] are helping Japanese companies set up factories for generics in Southeast Asia, engaging in regional knowledge-sharing and promoting the interoperability of pharmaceutical approval systems. Through this strategy, Japan seeks to increase its manufacturing presence in the region and assist its Asian neighbors.

Undoubtedly, these regional initiatives partly seek to advance Japan's national interests; this is particularly the case when industry and profit are involved. It is crucial that Japan and other regional leaders build win-win situations instead of creating a zero-sum competition.

While some Asian countries focus on cutting-edge innovation, others are increasing their presence in lower-cost medical manufacturing. India is an obvious example, with its world-leading generics manufacturers.

The pharma markets in Bangladesh and Sri Lanka are also expected to grow significantly[93] by 2025 due to rising life expectancy and per capita income.

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[87] Singapore Economic Development Board, *Singapore – The Biopolis of Asia*, May 2009. See https://pharmacy.nus.edu.sg/wp-content/uploads/sites/6/2019/11/victoryu-mediapublicity-4-full.pdf

[88] EDB Singapore, "Singapore dazzles as a world leader in medical manufacturing", April 13, 2018. See https://www.edb.gov.sg/en/business-insights/insights/singapore-dazzles-as-a-world-leader-in-medical-manufacturing.html

[89] "Hong Kong: Becoming an R&D Powerhouse", Brand Hong Kong. See https://www.cnbc.com/advertorial/hong-kong-becoming-an-rd-powerhouse/

[90] Huang, W., "Growth of Taiwan's healthcare driven by innovation and R&D", Hospital Management Asia (HMA), August 19, 2021. See https://www.hospitalmanagementasia.com/tech-innovation/growth-of-taiwans-healthcare-driven-by-innovation-and-rd/

[91] AHWIN, *The Basic Principles of the Asia Health and Wellbeing Initiative*, July 25, 2018. See https://www.kantei.go.jp/jp/singi/kenkouiryou/en/pdf/2018_basic-principles.pdf

[92] Deloitte, *The future of Life Sciences and Health Care in Asia Pacific*, Deloitte Southeast Asia Ltd, 2019. See https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Life-Sciences-Health-Care/gx-lshc-future-lshc-asia-pacific.pdf

[93] Kulkarni, S., "Prospects of pharma industry in SAARC nations", Pharmabiz.com, September 15, 2021. See http://pharmabiz.com/ArticleDetails.aspx?aid=142531&sid=9

Expansion in this sector will allow South Asian nations to find a place in the global health landscape. Regional cooperation will be essential to facilitate this shift. Bangladesh and Sri Lanka can learn from India's experience to become self-sustaining in medicine production, and eventually see strong export growth that can help diversify their economies.

Asian countries in earlier phases of developing their R&D sectors have a generational opportunity to build strong R&D, manufacturing and regulatory ecosystems to last several decades. Particular attention should be paid to supply chain resilience.[94]

It is encouraging to note that R&D and manufacturing is no longer the preserve of high-income countries. For example, Vietnam, Thailand, Indonesia and Malaysia have all announced plans to research and manufacture domestic Covid vaccines.[95] In addition, many local pharmaceutical manufacturers have smaller-scale R&D facilities, consistent with the overall trend that sees Asian countries trying to move up the manufacturing value chain amid the Industrial Revolution 4.0.

Global

Asia is a powerhouse of R&D and medical manufacturing: India and China have been important players for decades; India produces 20 percent[96] of global exports of generic drugs and over half[97] of the global demand for vaccines, global public health's "best buy". India is responsible for providing affordable healthcare for millions of people worldwide, with Médecins Sans Frontières labelling the country the "pharmacy of the developing world".[98]

India is also crucial for supplying medicines to Western powers[99] such as the United States and United Kingdom. Notably, India has led the way not only in affordability, but also in quality, with India's pharmaceutical companies receiving fewer FDA quality warnings[100] than US competitors in 2019.

Indian companies are seeking to scale up as the industry continues growing, with top manufacturers expanding[101] into biosimilars and setting up overseas facilities. In future, it will be important for India to find a balance between providing for its

[94] McKinsey Global Institute, "How Asia can boost growth through technological leapfrogging", McKinsey & Company, December 2, 2020. See https://www.mckinsey.com/featured-insights/asia-pacific/how-asia-can-boost-growth-through-technological-leapfrogging

[95] Tham Siew Yean, "The Race to Produce Covid-19 Vaccines in Southeast Asia", Yusof Ishak Institute (ISEAS), 21 March 2022. See https://www.iseas.edu.sg/articles-commentaries/iseas-perspective/2022-29-the-race-to-produce-covid-19-vaccines-in-southeast-asia-by-tham-siew-yean/

[96] Horner, R. "The world needs pharmaceuticals from China and India to beat coronavirus", The Conversation, May 25, 2020. See https://theconversation.com/the-world-needs-pharmaceuticals-from-china-and-india-to-beat-coronavirus-138388

[97] Reddy, K. S. and Khor, S.K., "India, Covid-19 and the Global Health Agenda", Observer Research Foundation (ORF), January 26, 2022. See https://www.orfonline.org/expert-speak/india-covid-19-and-the-global-health-agenda/

[98] Campaign for Access to Essential Medicines, "Examples of the Importance of India as the 'Pharmacy of the Developing World'", Médecins sans Frontières. January 28, 2007. See https://msfaccess.org/examples-importance-india-pharmacy-developing-world

[99] Deloitte, The future of Life Sciences and Health Care in Asia Pacific, Deloitte Southeast Asia Ltd, 2019. See https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Life-Sciences-Health-Care/gx-lshc-future-lshc-asia-pacific.pdf

[100] Mukherjee, R., "US pharma companies get more FDA 'warnings' than Indian firms", *The Times of India*, January 20, 2020. See https://timesofindia.indiatimes.com/business/india-business/us-pharma-cos-get-more-fda-warnings-than-indian-firms/articleshow/73397856.cms

[101] Rao, R., "Indian companies gearing up to solve the biosimilars puzzle", *Business Standard*, July 13, 2016. See https://www.business-standard.com/content/b2b-pharma/indian-companies-gearing-up-to-solve-the-biosimilars-puzzle-116071200648_1.html

population and for the global market — a tension highlighted in 2021, when Prime Minister Modi's promise to vaccinate the Indian population by the end of the year was incompatible with India exporting most of its vaccines. As India briefly banned vaccine exports to respond to its second Covid wave, would-be recipients of its vaccines in Africa were hit the hardest.[102] This illustrates the tension of distributing resources when resources are limited.

While countries caring for their population is certainly valid, India must grapple with its role as "pharmacy of the developing world" and understand the connected responsibilities — perhaps including the responsibility to secure its internal public health in order to provide for others.

China is another established global leader in medical manufacturing, primarily through medical dressing and personal protective equipment (PPE). Even before the pandemic, China provided 43 percent[103] of the world's face shields, protective garments, mouth-nose-protection equipment, gloves and goggles. The Covid crisis provided an opportunity for expansion, with China's mask production increasing twelvefold, for example.

As part of global health diplomacy, China provided developing nations with PPE and vaccines. At the virtual gathering of the World Health Assembly in May 2020, President Xi Jinping pledged[104] to make Chinese vaccines a "global public good", contrasting with the West's vaccine nationalism; by March 2021, China had produced one-third[105] of the world's vaccine doses. However, this manufacturing prowess and generosity must be backed by transparency and high-quality products, from manufacturers to regulators and health professionals.

But Asian R&D and manufacturing should be decentralized to increase the resilience of global supply chains. While it is encouraging that China and India are among the world's largest suppliers of health products (by volume if not by value), over-dependence on a few countries is unsafe and unsustainable.

Supply disruptions and shocks are common especially for complex industries with multiple moving parts, without accounting for the possibility of weaponizing trade and supplies. Therefore, Asian leadership in R&D and manufacturing must also be decentralized. It is a matter of global interest and the self-interest of more Asian countries to build up their R&D and manufacturing for health products.

[102] Kirshnan, V., "As India Lifts its Vaccine Export Ban – will 600 Million India-made Doses of J&J Vaccine be Shipped to Rich Western Countries?", Health Policy Watch, September 24, 2021. See https://healthpolicy-watch.news/will-600-million-india-made-doses-of-jj-vaccine-be-exported-to-rich-western-countries/
[103] Bown, C., "COVID-19: China's exports of medical supplies provide a ray of hope", Peterson Institute for International Economics (PIIE), March 26, 2020. See https://www.piie.com/blogs/trade-and-investment-policy-watch/covid-19-chinas-exports-medical-supplies-provide-ray-hope
[104] Wheaton, S., "Chinese vaccine would be 'global public good,' Xi says", Politico, May 18, 2020. See https://www.politico.eu/article/chinese-vaccine-would-be-global-public-good-xi-says/
[105] Huang, Y., The COVID-19 Pandemic and China's Global Health Leadership, Council on Foreign Relations, January 2022. See https://cdn.cfr.org/sites/default/files/report_pdf/Huang_CSR-92.pdf

4.4 INCREASE FINANCIAL CONTRIBUTIONS TO GLOBAL HEALTH

Asia's collective financial contributions to global health are limited but growing. The lion's share of Asia's voluntary contributions to WHO[106] come from Japan,[107] with South Korea[108] as a somewhat distant second and most other countries lagging behind, including China and India. Low- and middle-income countries contribute less financially, even if these are large economies like China and India. Yet, there is a growing recognition that Asia must contribute its fair share.

National

Asia's financial contributions to global health have been increasing only recently as the region becomes wealthier and plays a more important role on the global stage. Bilateral aid is an important component of these financial contributions, and a domestic political priority for aid is the first step to becoming a leading financial contributor.

This domestic priority must be translated into enduring institutions. For example, as the world's leading financial contributor to global health, the United States has a dedicated development assistance agency, the US Agency for International Development (USAID). Leading Asian contributors have active development coordinating agencies, including the Japan International Cooperation Agency,[109] the Korea International Cooperation Agency[110] and the Taiwan International Cooperation and Development Fund.[111]

In contrast, China lacks a political set-up[112] to facilitate foreign health aid despite its aspirations to lead global health. The country lacked a dedicated development assistance agency until 2018, when the China International Development Cooperation Agency (CIDCA) was created.[113] This contributed to Chinese medical aid being characterized[114] by a lack of coordination between ministries and a lack of transparency, with claims that aid was handed out in an opaque and less structured manner.[115] As China is undergoing rapid transitions and is not yet an established global power, its political landscape and institutions will evolve to increase China's ability to contribute to global health financing.

But institutions alone are not enough, and must be accompanied by continuing political commitment. South Korea and Japan have been recognized as global aid

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[106] World Health Organization, Voluntary contributions – Thematic. See https://open.who.int/2020-21/contributors/overview/vct
[107] World Health Organization, Contributors – Japan. See https://open.who.int/2020-21/contributors/contributor?name=Japan
[108] World Health Organization, Contributors – Republic of Korea. See https://open.who.int/2020-21/contributors/contributor?name=Republic%20of%20Korea
[109] Japan International Cooperation Agency, About JICA. See https://www.jica.go.jp/english/about/index.html
[110] Korea International Cooperation Agency. See http://www.koica.go.kr/sites/koica_en/index.do
[111] Taiwan International Cooperation and Development Fund, See https://reliefweb.int/organization/taiwanicdf
[112] Huang, Y., "A Superpower, But Not Yet a Global Leader", Council on Foreign Relations, April 20, 2017. See https://www.cfr.org/blog/superpower-not-yet-global-leader
[113] Cordell, K., "Chinese Development Assistance: A New Approach or More of the Same?", Carnegie Endowment for International Peace, March 23, 2021. See https://carnegieendowment.org/2021/03/23/chinese-development-assistance-new-approach-or-more-of-same-pub-84141
[114] Ngeow Chow-Bing, COVID-19, Belt and Road Initiative and the Health Silk Road: Implications for Southeast Asia, Friedrich Ebert Stiftung, October 2020. See https://library.fes.de/pdf-files/bueros/indonesien/16537.pdf
[115] Council on Foreign Relations, "China's Approach to Global Governance", https://www.cfr.org/china-global-governance/

success stories. Despite periods of stagnation in foreign aid due to budget deficits, Japan "increased its total official development assistance by 40 percent in 2018".[116]

South Korea increased its foreign aid from US$1.2 billion in 2010 to US$2.25 billion in 2016, implementing or partly implementing as high as 87 percent of a set of OECD peer review recommendations in 2018.[117] This long-term commitment signals reliability to aid recipients, that Japan and South Korea are reliable donors even as their political leadership changes.

Finally, Asian countries contribute to WHO through assessed contributions (which are set according to a country's GDP) and voluntary contributions. Interestingly, in 2020, Japan paid the highest amount of Assessed Contributions among Asian countries (US$23 million), followed by China (US$19 million, despite having a population 11 times larger than Japan).[118] Generally, both high-income and lower-middle income Asian countries tend to pay their contributions in full or almost in full. As of 2019, no Asian country was considered in arrears[119] in their payments.

However, WHO's overall voluntary contributions are dominated by European countries, which make up approximately 80 percent of the organization's budget.[120] Nonetheless, various Asian countries have stepped up to donate more regardless of their income status. South Korea, Bangladesh and the Philippines are among 11 Asian countries that provide voluntary contributions to WHO's general fund, with other countries such as Thailand donating through in-kind and service voluntary contributions.

The contribution of such lower-middle-income countries demonstrates a recognition of global health in Asia. Nonetheless, the continent's voluntary contributions to WHO could be improved, especially through increased participation from China, Japan and South Korea.

Regional

Regional contributions to global health largely involve the Asian Development Bank (ADB) and bilateral aid agencies. Japan has been by far the top donor to regional public health, contributing 35 percent[121] of the ADB's Asian Development Fund 13 in 2020. Aid between Asian nations is growing, as Covid-19 led even previously-small donor nations like Singapore[122] to increase their donations for humanitarian and diplomatic reasons.

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[116] OECD, *OECD Development Co-operation Peer Reviews: Japan 2020*, OECD Development Co-operation Peer Reviews, OECD Publishing, Paris, 2020. See https://www.oecd-ilibrary.org/sites/b2229106-en/index.html?itemId=/content/publication/b2229106-en

[117] OECD, *OECD Development Co-operation Peer Reviews: Korea 2018*, OECD Development Co-operation Peer Reviews, OECD Publishing, Paris, 2018. See https://www.oecd.org/korea/oecd-development-co-operation-peer-reviews-korea-2018-9789264288829-en.htm

[118] World Health Organization, Assessed contributions, See https://www.who.int/about/funding/assessed-contributions

[119] Ibid.

[120] World Health Organization, How WHO is funded, See https://www.who.int/about/funding

[121] Asian Development Bank, *Asian Development Fund 13 Donors' Report: Tackling the Covid-19 Pandemic and Building a Sustainable and Inclusive Recovery in Line with Strategy 2030*, ADB, October 2020. See https://www.adb.org/sites/default/files/institutional-document/649181/adf-13-donors-report-main-report.pdf

[122] Amul, G. and Pang, T., "COVID-19 and Singapore's Health Diplomacy", Civil Service College Singapore, June 29, 2021. See https://www.csc.gov.sg/articles/covid-19-and-singapore%27s-health-diplomacy

Arguably, high-income countries have a moral imperative to build up regional health by catalyzing more funds, not just providing funds. Regional leadership in global health financing could also be evaluated by countries advocating for more multilateral aid and convening programs on a health issue.

An example would be China partnering with the ADB[123] on a regional knowledge-sharing initiative focused on Covid. This can help rising Asian donors highlight their presence in international aid organizations. Currently, the United States is one of the ADB's two largest shareholders[124] alongside Japan, and this situation should change to reflect more active Asian participation in the development banks.

In South Asia, an early positive development was the creation of a Covid emergency fund of over $18 million[125] in March 2020, organized by the South Asian Association for Regional Cooperation (SAARC) and funded primarily by India, the regional power. It took the Covid pandemic to trigger the first high-level SAARC meeting since 2014. However, there has been little regional collaboration since March 2020.

The ability of Asian countries to provide regional aid depends on their economic power and health systems capacity. Poor health systems management prevented some countries from significantly contributing to regional health during the Covid crisis.

India was among the worst hit in 2021, and became a net recipient of Covid aid after receiving donations from the United States, the United Kingdom, [126] Taiwan[127] and others. India's experience highlights how strong domestic public health systems are a prerequisite to attaining net donor status and, hence, to securing legitimacy as a global health leader.

Global

Financial donations for health are primarily led[128] by the United States and by non-state actors such as UN agencies, NGOs and charitable foundations (like the Bill & Melinda Gates Foundation or the Rockefeller Foundation), development banks (like the World Bank) and public-private partnerships (like GAVI and COVAX).

Unsurprisingly, higher-income Japan and South Korea lead Asia's contributions to global health: Japan is the fourth-largest donor[129] among G7 countries, and Japan and South Korea are the only two Asian nations among WHO's top 12 voluntary

[123] Asian Development Bank, *2020 Annual Report*, ADB, 2020. See https://www.adb.org/sites/default/files/institutional-document/691766/adb-annual-report-2020.pdf
[124] Asian Development Bank, *2020 Financial Report*, ADB, 2020. See https://www.adb.org/sites/default/files/institutional-document/691766/adb-financial-report-2020.pdf
[125] Fruman, C. and Kaul, M., "South Asia shows new spirit of collaboration to fight COVID-19 (Coronavirus) pandemic", World Bank Blogs, March 31, 2020. See https://blogs.worldbank.org/endpovertyinsouthasia/south-asia-shows-new-spirit-collaboration-fight-covid-19-coronavirus-pandemic
[126] France 24, "US, EU and UK set to deploy support to India as hospitals overwhelmed by Covid-19 surge", France 24, April 25, 2021. See https://www.france24.com/en/asia-pacific/20210425-us-deploys-support-to-india-as-it-records-another-covid-19-daily-record
[127] Krishnan, A., "India receives COVID-19 aid from Taiwan, places commercial orders with China", *The Hindu*, May 3, 2021. See https://www.thehindu.com/news/national/india-receives-aid-from-taiwan-places-commercial-orders-with-china/article34464800.ece
[128] "Flows of development assistance for health", Viz Hub, accessed July 31, 2022. See https://vizhub.healthdata.org/fgh/
[129] Special Commission on Japan's Strategy on Development Assistance for Health, *Japan's Global Health Diplomacy in the Post-COVID Era–The Paradigm Shift Needed on ODA and Related Policies: Recommendations*, Japan Center for International Exchange (JCIE), November 30, 2020. https://www.jcie.org/wp-content/uploads/2020/12/Overview-report-e-122120.pdf

contributors.[130] Despite being a superpower, China contributed only 1.5 percent[131] to WHO's total budget prior to 2020 (compared to the Bill & Melinda Gates Foundation, which contributed about 9 percent[132]). This suggests that Asia has a long way to go to catch up with North American and European financial leadership in global health.

Although China is not yet a major global donor, aid agencies view it as a high-potential prospect[133] due to its rapidly growing economy and increasing role in global governance. There is also some demand for Chinese aid, being considered a partner for countries seeking an alternative to US-dominated aid. China is aware of this duty, and has increased its global health aid to target[134] BRI countries and South-South Cooperation.

China is leading the fight against malaria[135] in East Africa and has built dozens[136] of medical facilities in low- and middle-income countries. Providing foreign aid can improve a country's reputation, shape the geopolitics of aid and contribute to wider goals that impact global health, such as poverty eradication.

To increase leadership in this domain, Asian countries should find a balance between strengthening their domestic health systems and contributing to foreign health systems. There is a fine equilibrium between their domestic duties (to taxpayers, voters and citizens) and their global duties (to the global commons). Two important success factors for financial contributions to global health are: Transparency, with countries making their aid intentions, decision criteria and conditions visible and measurable; and sustainability in funding and policy terms that will survive changes in political leadership. Aid sustainability is crucial so recipients are not left in the lurch if funds suddenly dry up.

4.5 LEAD IN EMERGING GLOBAL HEALTH SECTORS

Countries' other emerging contributions to global health do not necessarily fall under the four domains above, but are equally important in the fifth domain of emerging health sectors. These largely come in the form of technological advances, with digital health and AI as high-potential areas for public health. Asian countries' ability to drive innovation and find emerging niches in global health vary, but as a whole, the continent has been successful in disrupting the healthcare sector.

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[130] World Health Organization, Our donors, See https://www.who.int/westernpacific/about/partnerships/donors
[131] Huang, Y., *The COVID-19 Pandemic and China's Global Health Leadership*, Council on Foreign Relations, January 2022. See https://cdn.cfr.org/sites/default/files/report_pdf/Huang_CSR-92.pdf
[132] McPhillips, D., "Gates Foundation Donations to WHO Nearly Match Those From U.S. Government", US News and World Report, May 29, 2020. See https://www.usnews.com/news/articles/2020-05-29/gates-foundation-donations-to-who-nearly-match-those-from-us-government
[133] Mazumdaru, S., "What influence does China have over the WHO?", DW, April 17, 2020. See https://www.dw.com/en/what-influence-does-china-have-over-the-who/a-53161220
[134] Husain, L. and Bloom, G., "Understanding China's growing involvement in global health and managing processes of change", Global Health 16:39, 2020. See https://globalizationandhealth.biomedcentral.com/articles/10.1186/s12992-020-00569-0
[135] Kushner, J., "China Is Leading the Next Step in Fighting Malaria in Africa", The Atlantic, July 4, 2019. See https://www.theatlantic.com/international/archive/2019/07/china-tackles-malaria-kenya/592414/
[136] Tambo, E., Ugwu C.E., Guan Y., Wei D., Xiao-Ning, Xiao-Nong Z., *China-Africa Health Development Initiatives: Benefits and Implications for Shaping Innovative and Evidence-informed National Health Policies and Programs in Sub-Saharan African Countries*, Int J MCH AIDS. 2016;5(2):119-133. 2016. See https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5187644

National

Generally, wealthier Asian nations take the lead in emerging health contributions. This is largely thanks to governments' investments in health innovation. Singapore is a global leader in AI,[137] and the government-wide AI Singapore[138] partnership has dedicated research grants and training opportunities for healthcare AI. Coupled with its low tax rates and business-friendly environment, Singapore is an attractive hub for health innovation. AI and genomics helped Singapore's Ministry of Health to understand the spread of Covid-19, and the National University Healthcare System (NUHS) already deploys micro-AI tools[139] to gather patient information and predict their length of stay.

China has similarly dedicated itself to health technology, with the country's 2017 13th Five-year Plan[140] on Science, Technology and Innovation revealing strategies to invest in precision medicine and create a national platform to store biomedical big data.

Singapore's free-market economy and China's highly centralized system exemplify how health innovations can thrive in either context. A capitalist system encourages competition and openness, yet a communist one ensures that national priorities in emerging areas of health are implemented. What matters most is not the type of government, but the existence of a strategic plan for innovation.

Middle-income countries in Asia can lead the way in applying health innovations to equity challenges. Covid has provided an opportunity for countries to develop their digital health capabilities.[141] India's government, for example, is betting on AI[142] to manage disease outbreaks, and AI is already being used[143] in medical decision support in underserved areas. Reflecting this commitment, the country's AI market was valued at US$7.8 billion[144] in August 2021 — a 22 percent jump from the previous year.

While lower-middle-income countries may not generally innovate as rapidly as high-income ones, they might bring about even more meaningful change by increasing equity and accessibility through digital health.

Finally, in setting strategies for health innovations, rising Asian leaders can look to their strengths and identify their distinctive challenges. The case of Asian smart cities

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[137] Savage, N., "The race to the top among the world's leaders in artificial intelligence", *Nature*, December 9, 2020. See https://www.nature.com/articles/d41586-020-03409-8

[138] AI in Health Grand Challenge, AI Singapore, 2022. See https://aisingapore.org/grand-challenges/health/

[139] Merlicek, R., "A new realm of possibilities with AI in healthcare", *Singapore Business Review*, May 2022. See https://sbr.com.sg/commentary/new-realm-possibilities-ai-in-healthcare

[140] Deloitte, *The future of Life Sciences and Health Care in Asia Pacific*, Deloitte Southeast Asia Ltd, 2019. See https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Life-Sciences-Health-Care/gx-lshc-future-lshc-asia-pacific.pdf

[141] Sit, D., "The ASEAN Digital Health Landscape: An Overview", HKTDC Research, September 17, 2021. See https://research.hktdc.com/en/article/ODU1NDkyNDU0

[142] Ghosh, A., "Learning from Covid, Modi govt plans big AI push for disease surveillance across India", The Print, February 24, 2022. See https://theprint.in/health/learning-from-covid-modi-govt-plans-big-ai-push-for-disease-surveillance-across-india/844585/

[143] Ghosh, A., "How AI is changing India's healthcare – it's reading scans, predicting risks & a lot more", The Print, April 2, 2022. See https://theprint.in/health/how-ai-is-changing-indias-healthcare-its-reading-scans-predicting-risks-a-lot-more/896495/

[144] Raibagi, K., *Report: State of Artificial Intelligence in India 2021*, AIM & TAPMI, 2021. See https://analyticsindiamag.com/study-state-of-artificial-intelligence-in-india-2021-by-aim-research-tapmi/

is an example. By 2025, the Asia Pacific region will account for 40 percent[145] of global smart city spending. Thailand and South Korea are leading[146] smart cities projects that include health features, such as smart ambulances and medical data-sharing.

Asian governments' investment in smart cities suggests that they have learned from the urban disruptions of Covid, and that rising health challenges like urbanization, ageing demographics and climate change are all being seen as interrelated.

By integrating different spheres of urban life with health, smart cities demonstrate the importance of disruptive systems-thinking — a problem-solving approach that can be applied to other areas and health challenges. It is an exciting opportunity for Asia to shape how solutions are found in global health.

Regional

Regional collaboration provides another platform for health innovation to develop. While Asian collaboration in global health governance and health systems strengthening has been limited, health innovation is an area where countries can more easily engage in peer-to-peer learning.

Two major platforms for cross-country collaboration exist. One is the Asia eHealth Information Network,[147] started by WHO in 2012 and comprising over 1200 members. Another is the Global Digital Health Partnership[148] launched in 2017 with WHO and several countries from Asia Pacific as charter members. This partnership is the world's largest intergovernmental and multilateral platform on digital health, and Asia Pacific countries make up 10 out of 30 member countries.

WHO's involvement in these partnerships indicates that, where Asia lacks its own developed forums for collaboration, governments are eager to engage in mutual learning through existing broader platforms, especially in areas like digital health.

Beyond these WHO-supported platforms, Asia-specific collaborations are emerging. Leveraging Asia's interest in smart cities, for example, South Korea has assumed regional leadership by hosting[149] global forums and integrating[150] its 2008 Ubiquitous City (U-City) Act with the ASEAN Smart Cities Network. This exemplifies a partnership naturally borne out of common interests, with South Korea and ASEAN independently enhancing their smart cities portfolios before joining forces.

Interestingly, there is wide diversity in smart cities capability within ASEAN. Through regional knowledge exchanges — even those facilitated by non-Southeast Asia peers like South Korea — this diversity could become a strength, with leading cities acting as sandboxes for other cities.

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[145] Prakash, M., "Unlocking Citizen-centric Smart Cities in Asia", OpenGov Asia, September 2, 2021. See https://opengovasia.com/exclusive-unlocking-citizen-centric-smart-cities-in-asia/

[146] Singh P.K. and Landry M., "Harnessing the potential of digital health in the WHO South-East Asia Region: sustaining what works, accelerating scale-up and innovating frontier technologies", WHO South-East Asia J Public Health Vol. 8, pp. 67-70. 2019. See http://www.who-seajph.org/text.asp?2019/8/2/67/264848

[147] Asia eHealth Information Network. See https://www.asiaehealthinformationnetwork.org/

[148] Global Digital Health Partnership. See https://gdhp.nhp.gov.in/

[149] Such as the annual Smart Cities Asia Conference and Exhibition. See https://smartcitiesasia.com/

[150] Lee, B., ASEAN Smart City Network (ASCN) Pilot Project and Smart Solution, KRIHS, 2019. See https://library.krihs.re.kr/dl_image2/IMG/07/000000030229/SERVICE/000000030229_01.PDF

Global

Global collaboration on smart cities, AI, internet of things and other innovations has only recently gained traction. Diverse regulatory environments and levels of development make it difficult for the global advance towards health innovation to march at an even pace. While national investments in health AI keep growing, multinational projects in healthcare AI development have been limited. An industry-dominated, competitive environment may have contributed to this lack of global collaboration.

Countries risk working in silos primarily due to a lack of harmonization[151] in AI and data-sharing. Progress in pushing past these barriers has been limited due to their complexity. In Asia, there is no regional data-sharing regulation to match the EU's General Data Protection Regulation (GDPR). Although the GDPR is only made possible — and binding — through the existence of the European Union, alternative regional and global methods of harmonization could be explored.

Thus, the limitations in global health AI point to the need for further multilateral dialogue and standard-setting. This would take Asia's leadership in healthcare AI beyond national applications to a broader level, allowing the region to have a unified impact.

Despite these challenges in regulation, Asian countries have cooperated on emerging areas in global health. The Hong Kong government, for example, recently funded[152] the Sydney site of a global health data research lab focusing on health AI and robotics. Part of a joint project between the University of Hong Kong, University of Sydney and two UK universities, this initiative demonstrates how collaborations across governments, academia and even industry can drive innovations.

Bilateral initiatives can be a way to increase Asian countries' collaboration with other countries, as in India's and Germany's recently announced partnership[153] for AI-based start-ups in healthcare. Such opportunities increase Asia's presence on the world stage, even in new areas like AI that lack established platforms for cooperation.

Importantly, however, leadership in emerging areas of global health can only be attained when other domains of health leadership are met. Nations must have strong, or at least stable, health systems; they must show global responsibility in health standard-setting and financial contributions, and, ideally, should have networks across government, academia and industry from which to draw. When these conditions are met, other emerging contributions can more easily arise.

[151] Leong H.J.M., Vogel, S., Kitikiti, N., Muthalaguhttps, A. et al., *Artificial Intelligence in Healthcare: Landscape, Policies and Regulations in Asia-Pacific*, NUS Initiative to Improve Health in Asia, October 2020. See www.duke-nus.edu.sg/docs/librariesprovider5/default-document-library/niha_white-paper_ai-in-healthcare_vfinal-23102020.pdf?sfvrsn=1c5e2636_0

[152] Ang, A., "Hong Kong funds Sydney site of global health data research lab", Healthcare IT News, November 12, 2021. See https://www.healthcareitnews.com/news/asia/hong-kong-funds-sydney-site-global-health-data-research-lab

[153] "India, Germany to focus on AI-based startups in healthcare", BioSpectrum, May 3, 2022. See https://www.biospectrumindia.com/news/22/21166/india-germany-to-focus-on-ai-based-startups-in-healthcare.html

The complexity and novelty of AI illustrates that the five health domains we have considered are not distinct from one another. Often, they support each other in enabling rising Asian leaders to define their presence on the world stage.

5. CONCLUSION: BUILD ON FUNDAMENTAL ASIAN VALUES AND IDENTITY

As the world de-globalizes and Asia rises in power and confidence, global leadership will inevitably become more multipolar. This will give Asian countries the opportunity to be heard in the global health space. Asian countries must now find a balance between their domestic duty to their citizens and their global duty to the world.

A global health "Asian century" would likely be multipolar and diverse. There are many rising leaders in Asia: Some high-income economies competing to outpace each other (like Japan and South Korea); upper-middle income countries that are projected to become the world's next superpowers (like China and India); and lower-middle-income countries that are setting world-class examples for health equity despite facing resource constraints (like Thailand and Indonesia). The most effective Asian global health leadership will reflect this diversity.

A multipolar balance of power would differ from today's global health architecture dominated by the United States. In many respects, it would be more equitable — giving a voice to more countries, and to countries that have overcome colonialism and poverty to reach their current status.

Of course, a wide diversity of Asian voices risks compromising regional and global cohesiveness in health. To avoid this, Asian countries should take a gradualist approach to increasing collaboration and promoting inclusivity.

The first step will be through mutual capacity-building and knowledge-sharing. Governments, aided by strategic partners like think tanks and intergovernmental organizations, can convene dialogues on common priorities. Wealthier nations can assist poorer ones through knowledge and donations, partly out of solidarity and partly to achieve their strategic objectives of public health and diplomacy.

Asian governments will have to expand their approaches, traditionally driven by national interest, to accept some level of joint decision-making with other countries. This can be facilitated by identifying, aligning and acting on common interests to promote regional and global health.

Infectious disease management is an obvious example, as Asia has often been at the center of past pandemics. Aligning on common goals will also be easier in some areas than others. The economic sides of global health — R&D, manufacturing and their attached regulations — can be mutually beneficial areas that fit with Asia's longstanding focus on economic development.

More government-planned domains, such as health systems strengthening, may not be as easily harmonized given the diversity of Asia, the region's general non-interference approach and because health is very localized. Therefore, expanding Asian leadership will mean operating on multiple levels, sometimes macro-global and sometimes hyper-local.

Asia should not aspire to dominant world leadership, neither in global health nor in global governance. Asia's strengths, identity and worldview are rooted in respect,

humility and consensus-building. These attributes and philosophies are crucial in a world too familiar with power, conquest and colonialism.

As the world changes, Asia can, should and must lead more in global health and rise to take its equal place in the world by building on fundamental Asian values and identity of respect, humility and consensus-building.

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