Fragmented health systems in COVID-19: rectifying the misalignment between global health security and universal health coverage

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The COVID-19 pandemic has placed enormous strain on countries around the world, exposing long-standing gaps in public health and exacerbating chronic inequities. Although research and analyses have attempted to draw important lessons on how to strengthen pandemic preparedness and response, few have examined the effect that fragmented governance for health has had on effectively mitigating the crisis. By assessing the ability of health systems to manage COVID-19 from the perspective of two key approaches to global health policy—global health security and universal health coverage—important lessons can be drawn for how to align varied priorities and objectives in strengthening health systems. This Health Policy paper compares three types of health systems (ie, with stronger investments in global health security, stronger investments in universal health coverage, and integrated investments in global health security and universal health coverage) in their response to the ongoing COVID-19 pandemic and synthesises four essential recommendations (ie, integration, financing, resilience, and equity) to reimagine governance, policies, and investments for better health towards a more sustainable future.

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Introduction

National responses to COVID-19 have varied greatly, from swift and proactive at best to haphazard and negligent at worst. That countries have managed the pandemic differently is expected, but COVID-19 has pushed all health systems to their limits, exposing severe gaps in public health infrastructure, even in nations once lauded as the gold standard for readiness.[1,2] Although much has been discussed about how countries could have been better prepared, these analyses have largely missed a focus on how fragmented governance for health and the resulting silos in financing of health systems (ie, vertical funding streams towards single disease categories, independence of tertiary care from primary care, and differences in domestic health priorities *vs* global health priorities) continue to hamper response efforts. Analysing the spread of COVID-19 from the perspective of global health security (GHS) and universal health coverage (UHC) offers a useful opportunity to uncover blind spots in fostering health-system resilience moving forward. In this Health Policy paper, we seek to understand how health systems that are heavily influenced by either GHS or UHC policies have initially fared with the shock of the ongoing COVID-19 pandemic, and we conclude with four key recommendations to redesign health systems for a sustainable future.

Fragmented global and national health systems

GHS is centred on preventing, detecting, and responding to public health threats, particularly by protecting people and societies worldwide from infectious disease threats.[3] Underpinned by the International Health Regulations (IHRs), GHS guides development for the core capacities of public health (ie, surveillance, risk communication, and coordination) but crucially does not address primary health-care (PHC) functions, including curative services, patient management, and capacity for clinical surges.[4] Meanwhile, UHC depends on access to comprehensive, appropriate, timely, and quality health services, without financial burden.[5] Although UHC enables PHC systems and improves the accessibility of health services, in practice there is a tendency for UHC interventions to neglect infectious disease threats and inadequately manage the core capacities of public health while focusing more on health insurance and individual health services.[4] WHO highly prioritises both GHS and UHC, with major areas of work for health emergencies and UHC.[6]

Search strategy and selection criteria

We searched PubMed and Google Scholar for articles published between Jan 1, 2015, and July 31, 2020. Search terms included "global health security" OR "universal health coverage" AND "COVID-19" AND "health systems strengthening" OR "preparedness and response" OR "governance" OR "financing" OR "resilience" OR "equity." Further articles were identified through a snowballing technique. We included only articles in English that discussed a combination of key concepts, including COVID-19 response, pandemic preparedness, global health security, universal health coverage, governance for global health, and health-system strengthening, and literature examining political or social drivers and implications of different health policy agendas. We excluded articles that focused exclusively on previous health emergencies or global health policies and programmes that were only primarily relevant before 2015 to ensure contextual relevance to the COVID-19 pandemic and current priorities in global health. Finally, we supplemented our academic literature search with a search of grey literature using similar search terms, including WHO reports and national strategic response plans, to analyse and give authentic reflections of the rapidly evolving landscape to guide key stakeholders in the ongoing COVID-19 pandemic.

Although WHO approaches these agendas in principle as imminently convergent inputs towards a strong health system, scarce resources and political realities force policy makers to make tough choices, usually prioritising one agenda over the other. For example, investing in different policies might be justified by selecting distinct, often potentially expedient, targets to favour within the UN Sustainable Development Goals.[7] The "high-wire act"[8] between inadequate health-system resources and domestic and international political pressures means that countries might be forced to "choose whether to increase lab capacity or make more nurses available for consultations".[4] The consequences of this imbalance from fragmented priorities were exemplified during the 2014–16 outbreak of Ebola virus in west Africa, in which more people died from untreated malaria than from Ebola virus disease due to reduced health-care services and overburdened health systems.[4]

The *Lancet* Commission on synergies between UHC, health security, and health promotion has begun examining the intersections between these three priorities and corresponding agendas.[7] This Health Policy paper offers a crucial initial assessment to advance this work and further our understanding of fragmented governance, policies, and investments for global health, noting that contexts are changing and further analyses are needed to draw definitive conclusions.

Health systems with stronger investments in GHS capacities

Despite the USA receiving top ratings for pandemic preparedness in the Global Health Security Index, it has, to date, reported the world's highest number of COVID-19 cases and deaths.[1,9] Although the country has an impressive array of public and private laboratories, innovative pharmaceutical and technology companies, and a national public health institute with high capacity, the USA ultimately relies on a greatly fragmented health-care system.[10] Each state funds and operates its own systems for public health and surveillance, and the nation has been reluctant to build a unified health system that is publicly funded.[11,12] This absence of clear coordination, a crucial IHR core capacity, has so far hindered the country's ability to accurately estimate and forecast the effect of COVID-19, resulting in delayed response activities, including testing and contact tracing.[10] Additionally, the scarcity of centralised funding has led to chronic misuse and underuse of human and financial resources.[13] Finally, high rates of underinsurance could disincentivise health-care use and discourage citizens from seeking emergency care, leading to untreated chronic diseases, reducing capacity for syndromic surveillance, and undermining overall trust in public services; thus further accelerating the effect of COVID-19. The USA is one of the most prominent examples, showing that reliance on traditional GHS capacities to provide an accurate assessment of health-system readiness does not account for the effect of incoherent coordination and inadequate UHC and political economy during health emergencies.[1,9]

An examination of the COVID-19 response in several countries in Africa similarly suggests an overconcentration of GHS efforts while sustainable UHC pivots or crucial investments in health-care systems are neglected. Although the region is not monolithic, most countries share a proclivity to strengthen competencies for outbreak response due to perennial outbreaks of infectious disease and have health services that were developed through fragmented global health initiatives or donor priorities.[14–16] 44 countries in the region have completed a WHO Joint External Evaluation, reflecting a prioritisation of strengthening national capacities for preparedness following high-profile outbreaks, such as the Ebola virus. This priority has initially been reflected in the rapid response to COVID-19.[17] For example, by late April, 2020, the Nigeria Centre for Disease Control had followed up more than 98% of contacts of confirmed COVID-19 cases, leveraging the 50 000 community informants originally established for polio detection.[18–20] Meanwhile, the Africa Centres for Disease Control and Prevention, established in 2017 by the African Union and international partners, continues to support member states through guidance documents, training, test kits, and improved laboratory capacity to confirm cases.

Despite this progress in health security, COVID-19 cases have rapidly increased across the continent.[21] With high caseloads looming, many countries could face multiple challenges to ultimately controlling the virus, especially in light of societal realities, such as large populations who earn an informal daily wage, densely populated settlements, and transitory migrant workers. These realities make many public health interventions, such as physical distancing, inappropriate or unsustainable. With only four of 55 countries in the African Union having reached the 15% commitment, which was set in the Abuja Declaration in 2001, national spending on health is still low in most countries and PHC and critical-care capacities, such as beds and ventilators in intensive care units, are exceedingly scarce; boosting these health-care functions during the pandemic is likely to be too late.[22–25] Furthermore, with funding driven by donors financing large portions of key health services, such as the majority of HIV care in Nigeria and Zimbabwe, cuts to international assistance could destabilise many downstream services that are supported by siloed investments in health systems.[26]

Health systems with stronger investments in UHC components

Meanwhile, countries with strong UHC systems have also struggled with the pandemic if they did not cohesively implement robust GHS measures. Although Italy offers universal access to care, its Lombardy province (ie, one of Europe's wealthiest areas) was disproportionately affected

by COVID-19.[27] Inadequate coordination prevented proactive testing and left health workers unprotected.[27,28] Despite strong UHC providing services to individuals, Lombardy sidelined core GHS capacities based in the community, which could have mitigated the effects of the outbreak.[27,28] Meanwhile, the UK, despite appearing to rank highly in the Global Health Security Index and offering widespread UHC, did not act quickly and struggled to ensure that its National Health Service could meet demand.[29–31] This struggle was largely due to poor integration of key GHS capacities, including leadership coordination and surveillance via tracing and testing, as well as neglect to factor in the governance and political economy of its health systems as important indicators for pandemic preparedness.[29–31] Furthermore, a 50% decrease in admissions to hospital accident and emergency departments for heart attacks suggests an increase in unreported illnesses, resulting from poor risk communication and community engagement.[32] Finally, both the UK and Spain delayed early investments in building the necessary testing capacity and stockpiling personal protective equipment, despite reassuring their populations that they were prepared.[30,31,33] Where UHC systems are not effectively aligned with GHS strategies and properly documented in global assessments, world leaders can be in danger of having overconfidence in existing health systems, leading to collective complacency and politicisation of necessary public health responses during crises.[2,31,34]

Health systems that align GHS and UHC investments

Although not mutually exclusive, GHS and UHC tend to have different policies in practice. Thus far, countries with policies that are closely aligned with both frameworks have generally fared better and might be better equipped to recover after COVID-19 compared with nations with health systems that are not aligned to both frameworks, which could struggle to cope with challenges in the long term. Importantly, health systems that successfully integrated GHS core capacities with PHC services have been particularly effective at mitigating the effects of COVID-19.[35,36]

For example, Veneto province, Italy, leveraged its UHC system while applying historical expertise in control of infectious diseases. Despite early community transmission, Veneto did substantially better in controlling the pandemic than did other regions of Italy, specifically Lombardy. This difference is most likely due to public health measures, such as extensive testing and proactive screening, and strong clinical measures, such as home diagnosis and care, supported front-line health workers, decreased fragmentation of privatised medical services, and robust coordination between decentralised PHC centres.[27]

Meanwhile, Taiwan, Vietnam, Hong Kong, South Korea, and Thailand instituted strict physical distancing and public health communications, and their roots in UHC have ensured swift control of the pandemic to date.[37] Taiwan's 99·9% coverage of national health insurance enabled comprehensive epidemic prevention, integrated medical data, unified information platforms, and safety nets for vulnerable populations.[12,38] Advancements in UHC helped Vietnam to safeguard the government–citizen cooperation that was needed to foster a culture of surveillance and comprehensive contact tracing where mass testing was improbable.[39] Singapore leveraged public health infrastructure, innovative diagnostics, PHC physicians who were trained for outbreaks, and no-cost screening, testing, and treatment.[37,40]

In Kerala, India, over 30 000 health workers engaged effectively in the emergency response, including in early detection, expansive contact tracing, risk communication, and community engagement.[41] To complement this engagement, Kerala's commitment to broad social protection through investments in education and UHC included temporary shelters for stranded migrant workers, cooked meals for people in need, increased internet capacity, and advanced pensions.[41] Finally, Costa Rica has been praised for initially having one of the lowest rates of COVID-19 case fatality in the the Americas, which was largely attributable to its robust universal health system, rapid response led by top national leaders, and strong institutional support from both public and private organisations.[42]

Reimagining governance, policies, and investments for global health

COVID-19 shows just how fragmented and underfunded health systems are worldwide. It's time for a radically reimagined approach to governance for global health. Gostin and Friedman have argued that "robust national health systems, a 21st century WHO, a strong IHR with state compliance, and sustainable human and financial resources would transform the global health system".[43] Drawing from further recommendations in the annual reports of the Global Preparedness Monitoring Board, essential public health functions (ie, core capacities for GHS and IHRs) should be properly funded and integrated into national health systems that are rooted in UHC to ensure inclusive and continuous health services before, during, and after outbreaks.[4,44,45] The framework of UHC, building on key commitments in the UN political declaration of the High-Level Meeting on Universal Health Coverage, should expand to include multisectoral, multistakeholder, and comprehensive activities at all levels of governance to control outbreaks while maintaining routine health services and addressing social determinants of health.[4,46] Further benefits of such a system include diverse decision making, increased public demand for health-care services to facilitate early disease detection, reduced risk of poverty, locally accessible health services, and enhanced trust, which is crucial to collaboration and public compliance with state-led interventions.[3–5,47]

Incorporating the vision of the Healthier Societies for Healthy Populations Group (ie, to evolve our societies to enable people to stay healthy) in COVID-19 contexts ensures that the social determinants of health are reflected in accompanying economic and welfare policies, thus further enhancing response strategies.[48] Notably, despite being initially praised for its effective COVID-19 response, Singapore has since seen a spike in cases originating from pre-existing overcrowded dormitories housing migrant workers.[49] This spike emphasises the costly consequences of overlooking marginalised communities, signalling that, without careful consideration of socioeconomic measures to support groups that are susceptible to disease and vulnerable to the disproportionate effects of socioeconomic inequity, clusters of outbreaks might be inevitable. Furthermore, the US practice of tying health coverage to employment has left many people especially vulnerable as unemployment rates escalate due to the pandemic. In recognition of the importance of social approaches in tackling infectious diseases, some US states have thus extended coverage to homeless and migrant communities and deemed psychosocial facilities and women's shelters as COVID-19 essential services.[50,51]

Although breaking the cycle of panic and neglect, which is necessary for sustained GHS, might be unlikely, re-envisioning UHC as the foundation for solidarity and action, including for health security and healthy societies, offers a necessary path forward in the world after COVID-19. A system with programmes for social protection, cost-effective PHC, inclusive leadership, and adequate public financing can guarantee quality services for all, especially in fragile contexts where poverty, overcrowded housing, and inadequate resources make communities most susceptible.[47,52,53] In the recovery from COVID-19, economic fallout and public fear might push countries to favour isolationist approaches to health, favouring privatised health care and quick fixes to provide the illusion of health security. Donors and advocates should be wary of overly securitised or neoliberal solutions that have long restricted both GHS and UHC, instead backing truly universal, publicly financed, and country-owned health systems that promote health equity and upstream determinants of health to leave no-one behind.[52–54] This expanded implementation of GHS capacities that are embedded and delivered through UHC can be developed along four core recommendations: integration, financing, resilience, and equity.

Integration: build robust GHS capacities into comprehensive UHC systems

Because national systems "lack interconnectivity", decision makers and health experts struggle to work across the resulting "self-protecting silos" of health specialties, which are sometimes purposefully kept distinct to prioritise one area of the health system over another.[55] Subsequently, poor communication and collaboration across institutions and national health systems means that unifying GHS and UHC policies at all levels of governance is a monumental challenge. However, analyses offer important insights on where synergies might be possible. Both GHS and UHC mitigate risk, obligate states to realise a human right to health, can be supported through efforts to strengthen health systems, and overlap in their focus on health workforce, access to medicines, and financing or financial risk protection.[5] It is well understood that the skills and infrastructure needed for the two systems are mutually reinforcing; an opportunity exists to re-examine obvious areas, such as fortifying the national surge capacity of the health workforce as a connection between prevention and health-care delivery or integrating emergency health-information systems with routine surveillance networks and other national databases.[4,12,56]

Notably, countries with a poor track record of UHC, such as the USA and Ireland, have begun implementing UHC-style policies for outbreak response, including leveraging federal funds to provide COVID-19 testing that is universally free. These actions also suggest that the crisis might offer an opportunity to embrace reforms for UHC as a foundation for health systems that are unified and sufficiently publicly funded.[57] This opportunity reflects the WHO conceptual framework that portrays a cyclical relationship between quality UHC and GHS, with the pattern appearing to hold true during the ongoing COVID-19 response across low-income, middle-income, and high-income countries.[58]

Financing: break narrow funding pathways that prevent unified health systems

The COVID-19 pandemic shows that low-income countries aiming to build health systems that are unified and sufficiently publicly funded are under the power of donor-driven funding, which might actually be fragmenting health services. Kutzin and Sparkes have argued that strengthening health systems requires a substantial and intentional focus on improving performance by moving beyond investing in the core capacities of health systems and reforming how these capacities operate together in health systems, with joint financing.[59] Thus, low-income countries that depend on international assistance should raise domestic funding to at least 5% of gross domestic product and be given the flexibility to integrate vertical programmes into a unified health system that is compatible with attaining UHC.[4]

Meanwhile, low-income, middle-income, and high-income countries, including the UK and the USA, must be intentional about addressing the wilful neglect and underinvestment in existing health systems by developing innovative strategies for domestic financing. These strategies include removing user fees at PHC centres, ensuring that health insurance is not tied to employment status, and scaling up pooled procurement mechanisms for vital resources; all were critical barriers to care and undermined COVID-19 response. The

development of new funding sources that reflect commitments across UHC and GHS will sustain unified health systems, decrease individual and collective risks of health threats, and mend fragmented mechanisms for health governance.

Resilience: develop and assess health-system resilience

COVID-19 tests the ability of national health systems to withstand health shocks while maintaining routine functions. Kruk and colleagues define health-system resilience as "the capacity of health actors, institutions, and populations to prepare for and effectively respond to crises; maintain core functions when a crisis hits; and, informed by lessons learned during the crisis, reorganise if conditions require it".[60] Crucially, because crises such as COVID-19 do not occur in a vacuum, resilience necessitates intentional collaboration between traditionally distinct health and development agendas, including UHC, the Global Health Security Agenda, the One Health approach, and the UN Sustainable Development Goals.[61]

Health-system resilience, which should be framed as an ability rather than an outcome, can be a powerful indicator of adaptability, responsiveness, and stability, and is, therefore, crucial to assess.[61,62] Because traditional models (eg, pandemic-preparedness models, GHS indicies, and IHR Joint External Evaluations) did not fully account for the varied effects of COVID-19, new indices should be developed that explore the resilience of health-system governance to cope with health crises. These revised models should carefully contextualise explicit and implicit power dynamics, competing interests and priorities, and new and emerging stakeholders.[62] Furthermore, existing assessments, such as the WHO Joint External Evaluations and Service Availability and Readiness Assessments, can be reviewed and pursued together in resilience models, alongside consideration of social determinants of health to assess effects on health inequities, to develop a cohesive understanding of GHS and UHC gaps in health governance.[4]

Equity: apply a rights-based approach as the necessary foundation for health systems

The COVID-19 response has emphasised the glaring absence of social determinants of health and meaningful community engagement from major frameworks for health emergencies, such as the IHR.[12,63] Moving forward, a unified GHS–UHC agenda should be built with intersectional equity at the centre. Incorporating the vision of fostering healthy populations (as advocated for by WHO, the Healthier Societies for Healthy Populations Group, and other stakeholders) with a political economy approach that considers "competing interests, institutions, and ideas",[48,64] can safeguard UHC and GHS in a global economic downturn. This perspective embeds the values of leaving no-one behind by protecting the rights of the most vulnerable groups, including LGBTQ+ (lesbian, gay, bisexual, transgender, queer, and others) populations and refugees, through health-in-all policies that rebuild health systems sustainably and equitably.[48] Furthermore, a rights-based, climate-conscious, decolonising global health approach to health governance would protect the ability of low-income and middle-income countries to equitably access necessary resources, such as vaccines and personal protective equipment, while obligating high-income countries, private sector, and major donors to "contribute a larger share of financing quality universal PHC systems that care for all regardless of ability to pay".[23,65]

Ultimately, the collective endeavour of health equity will require policy makers to ensure that leadership in preparedness, response, and recovery for health emergencies places marginalised groups, such as women and minorities, in decision making roles.[47,66] Multisectoral and multistakeholder health structures should thus be able to effectively balance the constellation of private sector interests, public sector demands, and political tides.[47]

Conclusion

Urgent work is needed to usher in a strategic shift towards GHS-aligned UHC programmes, especially with expansion of health coverage showing signs of slowing globally as public spending falls short of society's demands.[52] Although the COVID-19 response is ongoing and contexts are constantly evolving, how countries respond to pandemics is ultimately dependent on how resilient their health systems are, with effective response required to control the immediate outbreak and mitigate downstream health effects.[67] With the effects of additional sociopolitical factors, such as protracted crises, race, gender, climate change, economic status, and differing social contracts between citizens and their governments, the influence of competing priorities in the governance for global health should be integrated into traditional preparedness and response guidance. A reimagined framework for global health that prioritises health-system integration across UHC and GHS domains, innovative and unified health financing, cross-sector resilience indicators, and equity as a core value offers a necessary path ahead. National authorities developing health-system priorities and funders, who control expenditure, agenda setting, and prioritisation of investment, cannot continue business as usual. To rebuild a more sustainable future after COVID-19, embedding the core capacities of GHS into holistic, publicly financed UHC systems is the clear next step forward. We cannot keep jumping from one epidemic to the next while ignoring the political will that is required to invest in the foundations of health for all. In the end, truly universal, comprehensive health systems in all countries, which have integrated core capacities for public health and are aligned across all levels of governance, will be our strongest defence against the next great pandemic.

Contributors
AL and NAE conceived and designed the Health Policy paper and synthesised much of the initial information into a manuscript. All authors further analysed the information, helped to refine the manuscript, and contributed to revising the manuscript.

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We declare no competing interests. The views expressed in this Health Policy paper are those of the authors alone and do not represent the policies or views of the affiliated institutions. There was no funding source for this Health Policy paper and the authors did not receive any payment or reward of any kind for writing this paper.

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