Fragmented health system resiliency to COVID-19: rectifying the misalignment between global health security and universal health coverage

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 critical gaps in public health infrastructure even in nations once lauded as the gold standard for readiness.[1],[2] While 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 health system financing continue to hamper response efforts. Analyzing the spread of COVID-19 through the lens of global health security (GHS) and universal health coverage (UHC) offers a useful opportunity to uncover blindspots in fostering health systems resilience moving forward. In this article we seek to understand how health systems heavily influenced by either GHS or UHC policies have initially fared with the shock of the COVID-19 pandemic.

Fragmented global health and national systems

GHS is centered on preventing, detecting, and responding to infectious disease threats.[3] Underpinned by the International Health Regulations (IHR), GHS guides the development for core public health capacities (i.e. surveillance, risk communication, coordination), but critically doesn't address primary health care (PHC) functions including curative services, patient management, and clinical surge capacity.[4] Meanwhile, UHC ensures access to comprehensive, appropriate, timely, and quality health services without exposure to financial burden.[5] Although it enables PHC systems and improves health service accessibility, in practice, there is a tendency for UHC interventions to neglect infectious disease threats and inadequately manage public health core capacities while focusing more on personal health services and health insurance.[4] The World Health Organisation (WHO) highly prioritizes both of these global health agendas, with major pillars of work under health emergencies and universal health coverage.[6]

While WHO approaches these agendas in principle as imminently convergent inputs towards a strong health system, limited resources and larger political realities force policymakers to make tough choices, usually prioritizing one over the other. For example, investing in divergent policies may be justified by cherry-picking distinct targets within the UN Sustainable Development Goals.[7] The high-wire act between inadequate health system resources and domestic and international political pressures means countries may be forced to "choose whether to increase lab capacity or make more nurses available for consultations."[4] The painful consequences of this imbalance from fragmented priorities were exemplified during the 2014 – 2016 West Africa Ebola Outbreak, where more people died from untreated malaria due to reduced healthcare services and overburdened systems.[4]

The *Lancet* Commission on synergies between universal health coverage, health security, and health promotion has begun examining the intersections between these three priorities and

45 corresponding agendas.[7] This review offers a critical initial assessment to advance this work and
46 further our understanding of fragmented governance, policies, and investments for global health,
47 noting that contexts are changing and further analyses are needed to draw definitive conclusions.
48
49 **Health systems with stronger investments in GHS capacities**
50
51 Despite the United States of America (US) receiving top ratings for pandemic preparedness in the
52 Global Health Security Index, it has, to date, reported the world's highest number of COVID-19
53 cases and deaths.[1,8] While the country has an impressive array of public and private laboratories,
54 innovative pharmaceutical and technology companies, and a high-capacity national public health
55 institute, the US ultimately relies on a significantly splintered healthcare system.[9] Each state
56 funds and operates its own public health and surveillance systems, and the nation has been
57 reluctant to build a unified, publicly-funded health system.[10] This lack of clear coordination, a
58 critical IHR core capacity, has so far hindered the country's ability to accurately estimate and
59 forecast the impact of COVID-19, resulting in delayed response activities including rapid testing
60 and contact tracing.[9] Additionally, the lack of centralised funding has led to chronic misuse and
61 underuse of human and financial resources.[11] Finally, high rates of underinsurance may
62 disincentivize healthcare utilization and discourage citizens from seeking emergency care,
63 leading to untreated chronic diseases, limiting syndromic surveillance capacities, and
64 undermining overall trust in public services -- thus further accelerating the impact of COVID-19.
65 The US is one of the most prominent examples demonstrating that reliance on traditional GHS
66 indicators to provide an accurate assessment of health system readiness fails to account for the
67 impact of inadequate UHC and political economy during health emergencies. [1,8]
68
69 An examination of the COVID-19 response in several countries in the African region similarly
70 suggests an overconcentration of GHS efforts while neglecting sustainable UHC pivots or vital
71 healthcare system investments. While the region is not monolithic, a majority of countries
72 share a dual experience: a proclivity to strengthen outbreak response competencies due to
73 perennial infectious disease outbreaks and health services developed through fragmented
74 global health initiatives or donor priorities.[12–14] Forty-four countries in the region have
75 completed a Joint External Evaluation, reflecting a prioritization of strengthening national
76 capacity for preparedness following high-profile outbreaks like Ebola. This has initially been
77 reflected in the rapid response to COVID-19.[15] For example, in late April 2020, the Nigeria
78 Centres for Disease Control and Prevention (NCDC) had followed up more than 98% of contacts
79 of confirmed COVID-19 cases, leveraging the 50,000 community informants originally
80 established for polio detection.[16-18] Meanwhile, the Africa CDC, established in 2017 by the
81 African Union and international partners, continues to support member states through
82 guidance documents, training, test kits, and improved laboratory capacity to confirm cases.
83
84 Despite this progress in health security, COVID-19 cases have rapidly increased across the
85 continent.[19] With high caseloads looming, many countries could face multiple challenges to
86 ultimately controlling the virus, especially in light of societal realities such as a large informal
87 daily-wage earning population and large densely-populated informal settlements (i.e. Kibera
88 Kenya) – these make many public health interventions like physical distancing inappropriate or

unsustainable. With only four countries having achieved the 15% commitment set in the Abuja Declaration in 2000, national health spending remains low in most countries and PHC and critical care capacities, such as ICU beds and ventilators, are exceedingly scarce; boosting healthcare functions during the pandemic is likely too late.[20–23] Furthermore, with donor-driven funding financing large portions of key health services, such as the majority of HIV care in Nigeria and Zimbabwe, cuts to international assistance could destabilize many downstream services that are buoyed by investments in health systems to keep these programmes running.[24]

Health systems with stronger investments in UHC components

Meanwhile, countries with strong UHC systems have also struggled if they lack coordinated implementation of robust GHS measures. While Italy offers universal access to care, its Lombardy province (one of Europe's wealthiest areas) was disproportionately impacted by COVID-19.[25] Inadequate coordination prevented proactive testing and left health workers unprotected.[25-26] Despite strong UHC providing services to individuals, Lombardy sidelined community-based core GHS principles which could have mitigated impacts of the outbreak.[25-26] Meanwhile, the UK, despite appearing to have effective UHC and ranking highly in GHS indices, failed to act quickly and struggled to ensure its National Health Service (NHS) could meet demand.[27–29] This 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.[27–29] Additionally, a 50% drop in NHS A&E admissions for heart attacks suggests unreported illnesses resulting from poor risk communication and community engagement.[30] Finally, both the UK and Spain delayed early investments in building necessary testing capacity and stockpiling PPE, despite reassuring their populations that they were prepared.[28-29,31] Where UHC systems aren't effectively aligned with GHS strategies and properly documented in global assessments, world leaders may be in danger of having overconfidence in existing health systems, leading to collective complacency and politicization of health during crises.[2,29,32]

Health systems that align GHS and UHC investments

While not mutually exclusive, GHS and UHC have divergent policies in practice. Thus far, countries with policies closely aligned with both frameworks have generally fared better and may be better equipped to recover after COVID-19 compared to nations with siloed systems that could struggle to cope with long-term challenges. Importantly, health systems that successfully integrated GHS core capacities with PHC services have been particularly effective at mitigating COVID-19.[33-34]

For example, Italy's Veneto province leveraged its UHC system while applying expertise in infectious disease control. Despite early community transmission, the state fared significantly better likely due to public health measures such as extensive testing and proactive screening, as well as strong clinical measures such as home diagnosis and care, supported frontline health workers, limited fragmentation of privatized medical services, and robust coordination between decentralized PHC centers.[25] In the Indian state of Kerala, over 30,000 health workers engaged

133 effectively in the emergency response, including in early detection, expansive contact tracing,
134 risk communication, and community engagement.[35] To complement this, Kerala's commitment
135 to broad social protection through investments in education and UHC included shelters for
136 stranded migrant workers, cooked meals for those in need, increased internet capacity, and
137 advanced pensions.[35]
138
139 Meanwhile, Taiwan, Vietnam, Hong Kong, and South Korea instituted strict social distancing and
140 public health communications, while their roots in UHC ensured success to date.[36] Taiwan's
141 99.9% national health insurance coverage enabled comprehensive epidemic prevention,
142 integrated medical data, unified information platforms, and safety nets for vulnerable
143 populations.[37] Recent advancements in UHC helped Vietnam safeguard government-citizen
144 cooperation needed to foster a culture of surveillance and comprehensive contact tracing where
145 mass testing was improbable.[38] Singapore leveraged public health infrastructure, innovative
146 diagnostics, PHC physicians trained for outbreaks, and no-cost screening, testing, and
147 treatment.[36,39] Finally, Costa Rica has been praised for initially achieving the lowest COVID-19
148 case fatality in the region, largely attributable to its robust universal health system, rapid
149 response led by top national leaders, and strong institutional support from both public and
150 private organizations.[40]
151
152 **Reimagining governance, policies, and investments for global health**
153
154 COVID-19 exposes just how fragmented and underfunded health systems are worldwide. It's time
155 for a radically reimagined approach to governance for global health. Gostin and Friedman have
156 argued that "robust national health systems, a 21st century WHO, a strong IHR with state
157 compliance, and sustainable human and financial resources would transform the global health
158 system."[41] Drawing from further recommendations in the Global Preparedness Monitoring
159 Report, essential public health functions (i.e. GHS/IHR core capacities) must be properly funded
160 and integrated into national health systems rooted in UHC to ensure inclusive and continuous
161 health services before, during, and after outbreaks.[4,42] The framework of UHC, building on key
162 commitments in the UN High-Level Meeting on Universal Health Coverage Political Declaration,
163 should expand to include multisectoral and comprehensive activities at all levels of governance
164 to control outbreaks while maintaining routine health services and addressing social
165 determinants of health. [4,43] Further benefits of such a system include diverse decision-making,
166 increased public demand for health to facilitate early disease detection, reduced risk of poverty,
167 locally-accessible health services, and enhanced trust critical to collaboration and public
168 compliance with state-led interventions. [3-5,44]
169
170 Incorporating the healthy societies vision, as proposed by the Healthier Societies for Healthy
171 Populations Group to make societies safer, cleaner, and more supportive, in COVID-19 contexts
172 further enhances response strategies by ensuring that the social determinants of health are
173 reflected in accompanying economic and welfare policies.[45] It's important to note that despite
174 being initially praised for its effective COVID-19 response, Singapore has since seen a spike in
175 cases originating from overcrowded dormitories housing migrant workers.[46] This emphasizes the
176 costly consequences of overlooking marginalized communities, signaling that without careful

consideration of socioeconomic measures to support vulnerable groups, clusters of outbreaks may 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.[47-48]

While breaking the cycle of panic and neglect necessary for sustained GHS may 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 post COVID-19 world. A system with social protection programs, 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.[44,49-50] In the recovery from COVID-19, economic fallout and public fear may push countries to favor isolationist approaches to health, favoring privatized health care and quick fixes to provide the illusion of health security. In the recovery from COVID-19, donors and advocates should be weary of overly-securitized 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.[49-51]

This expanded implementation of UHC with embedded GHS capacities may be developed through these four core recommendations:

Integration – Build robust GHS capacities into comprehensive UHC systems

Because national systems "lack interconnectivity," decision-makers and health experts struggle to bridge the resulting "self-protecting silos".[52] 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. Recent analyses offer important insights on where synergies may be possible. Both GHS and UHC mitigate risk, obligate states to realise a human right to health, can be supported through health system strengthening efforts, and overlap in their focus on health workforce, access to medicines, and financing/financial risk protection.[5] It is well understood that skills and infrastructure needed between the two systems are nearly identical -- there is an opportunity to re-examine obvious areas, such as fortifying national health workforce surge capacity as a bridge between prevention and health care delivery.[4,53]

Notably, countries with a poor track record of UHC, such as the US and Ireland, have begun implementing UHC-style outbreak response policies, including using federal funds to provide universally-free COVID-19 testing -- suggesting the crisis may offer an opportunity to embrace reforms for UHC as a foundation for unified and sufficiently publicly-funded health systems.[54] This reflects the WHO conceptual framework that portrays a cyclical relationship between quality universal health coverage and global health security, with the pattern initially appearing to hold true across low-, middle-, and high-income countries.[55]

221
222 **Financing – Break funding siloes that prevent unified health systems**
223
224 The COVID-19 pandemic demonstrates that low-income countries aiming to build unified and
225 sufficiently publicly-funded health systems are at the mercy of donor-driven funding that may
226 actually be fragmenting health services. Kutzin and Sparkes have argued that strengthening
227 health systems necessitates "a significant, purposeful effort to improve performance" by moving
228 beyond investing in inputs and reforming how health systems actually operate.[56] Thus, low-
229 income countries that depend on international assistance should raise domestic funding to at
230 least 5% of GDP and be given the flexibility to integrate vertical programmes into a unified health
231 system compatible with attaining UHC.[4] Meanwhile, low-, middle-, and high-income countries,
232 including the UK and US, must be intentional about addressing the willful neglect and
233 underinvestment in existing health systems by developing innovative domestic financing
234 strategies. The development of new funding sources that reflect commitments across UHC and
235 GHS will sustain unified health systems, decrease individual and collective risk of health threats,
236 and mend fragmented health governance mechanisms.
237
238 **Resiliency – Develop and assess health system resilience**
239
240 COVID-19 tests the ability of national health systems to withstand health shocks while
241 maintaining routine functions. Kruk et. al defines health system resilience as "the capacity of
242 health actors, institutions, and populations to prepare for and effectively respond to crises;
243 maintain core functions when a crisis hits; and, informed by lessons learned during the crisis,
244 reorganize if conditions require it."[57] Critically, because crises like COVID-19 do not occur in a
245 vacuum, resilience necessitates intentional collaboration between otherwise distinct health and
246 development agendas— including UHC, the Global Health Security Agenda, and the UN SDGs.[58]
247 Health system resilience, which should be framed as an ability rather than an outcome, can be a
248 powerful indicator of adaptability, responsiveness, and stability, and is therefore critical to
249 assess.[58-59] Because traditional models failed to account for the impact of COVID-19, new indices
250 should be developed that explore health systems resilience on governance by carefully
251 contextualizing explicit and implicit power dynamics, competing interests and priorities, and new
252 and emerging stakeholders.[59] Furthermore, existing assessments, like the Joint External
253 Evaluations and the Service Availability and Readiness Assessments can be reviewed and pursued
254 together in resilience models, alongside consideration of social determinants of health to assess
255 impact on health inequities, to develop a more cohesive understanding of GHS and UHC gaps in
256 health governance.[4]
257
258 **Equity – Apply a rights-based approach as the necessary foundation for health systems**
259
260 The COVID-19 response has emphasized the glaring absence of social determinants of health
261 from major health emergencies frameworks, such as the IHR. Moving forward, a unified GHS-
262 UHC agenda must be built with intersectional equity at the center. Incorporating the healthier
263 societies vision through a political economy lens, which considers "competing interests,
264 institutions, and ideas" can better safeguard UHC and GHS in a global economic downturn, thus

embedding the values of "leave no one behind" by protecting the rights of the most vulnerable groups through climate-conscious, health-in-all policies that truly build back better.[45] Furthermore, a rights-based approach to health governance should protect the ability of LMICs to equitably access necessary resources, such as vaccines and personal protective equipment, while obligating elites to "contribute a larger share of financing quality universal primary healthcare systems that care for all regardless of ability to pay."[21,60] Ultimately, the collective endeavor of health equity will require policymakers to ensure that leadership in health emergency preparedness, response, and recovery places marginalized groups, such as women and minorities, in the driver's seat and that multisectoral health structures can effectively balance the constellation of private sector interests, public sector demands, and political tides.[44]

Conclusion

Urgent work is needed to usher in a strategic shift toward GHS-aligned UHC programs, especially with health coverage expansion showing signs of slowing globally as public spending falls short of society's demands.[49] Ultimately, how countries respond to pandemics like COVID-19 boils down to how resilient their health systems are, with effective response required to both control the immediate outbreak and mitigate downstream health impacts. With additional sociopolitical factors at play, 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 benchmarks. A reimagined framework for global health that prioritizes health system integration across UHC and GHS domains, innovative and unified health financing, cross-sector resiliency indicators, and equity as a core value offers a necessary path ahead. National authorities developing health system priorities and funders who hold the purse strings cannot continue business as usual. To rebuild a more resilient post COVID-19 future, embedding the core principles 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 foundations of health for all. In the end, truly universal, comprehensive health systems in all countries, which have integrated core public health capacities and are aligned across all levels of governance, will be our strongest defense against the next great pandemic.

Contributions

AL and NAE conceived and designed the Health Policy, as well as synthesized much of the initial information into a manuscript. AL, NAE, DLH, GG, and RY further analysed the information and helped refine the manuscript with input from all authors. All authors contributed to revising the manuscript.

Declaration of interests

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

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