

Health Systems: Strengthening preparedness

Elio Borgonovi (Bocconi University)

Chiara Cadeddu (Department of Life Sciences and Public Health, Università Cattolica del Sacro Cuore),

Marta Dassù (Aspen Institute Italia),

Fabrizio Landi (Toscana Life Sciences)

Ali Mehdi (Indian Council for Research on International Economic Relations (ICRIER)) ,

Sabrina Montante (Head of EU Affairs-Health Research Sector),

Sunisha Neupane (International Development Research Centre),

Mario Raviglione (MACH Centre, Università di Milano),

Walter Ricciardi (Faculty of Medicine and Surgery, Università Cattolica del Sacro Cuore),

Niccolò Serri (University of Cambridge)

Peter Taylor (International Development Research Centre)

September 23, 2021 | Last updated: September 23, 2021

The COVID-19 pandemic has increased pressures on health systems across the world, exacerbating existing resource and capacity constraints. To guarantee health quality and efficiency for all, it is necessary for health systems to substantially increase their preparedness capabilities to be able to respond to crises while strengthening their core primary functions. This policy brief identifies the key pillars needed to ensure strong health systems and puts forward a six-point action plan for the G20 to enhance global health resilience through joint procurement, policy harmonization, monitoring, horizon-scanning and health education.

Challenge

Improving quality, coverage and resilience of healthcare is of primary importance to sustain long-term socio-economic progress in countries, promoting shared prosperity while driving sustainable and inclusive growth (Rentschler et al., 2021). The COVID-19 pandemic has highlighted the systemic risks posed by global health crises, their potential for disruption of routine operations of health systems and their wide-ranging effect on economic and societal outcomes (Leach et al., 2021).

Healthcare services vary greatly across countries: the health systems of advanced industrial nations are often distinguished by a hospital-centric model of care focused on non-communicable diseases (NCDs) and ageing-related problems. Those of low and middle-income countries (LMICs), however, are still grappling with the development of integrated health delivery systems (IDS) to face the dual burden of infectious diseases, maternal, neonatal and child health and of the increasing prevalence of NCDs. At least half the world's population do not have full coverage of essential health services and around 12 per cent of the world's population spend at least 10 per cent of their household budgets on healthcare (HSG 2020). Universal health coverage (UHC) remains an ambition, but, outside most high-income countries, it is still nowhere near a reality for millions of people around the world whose lives have been worsened by the setbacks of COVID-19. The pandemic has demonstrated that not only those health systems perceived as weak are struggling, but also that many health systems that are well funded and are considered much stronger have failed to respond quickly and effectively. Despite their differences, all health systems proved to be unprepared to meet the challenge of COVID-19, which rapidly overwhelmed their outbreak response capacities and severely affected the supply and demand of essential care, resulting in increasing morbidity and mortality rates.

At an international level, the pandemic has revealed significant weakness in the harmonization of policies and health practices, even among G20 member countries. Nations around the world exhibited a lack of coordination in information exchange and in procurement of health equipment and medicines, which made it difficult to mount a concerted effort to stem the spread of the pandemic. The same lack of global coordination is currently affecting the roll-out and distribution of vaccines, to which LMICs still lack meaningful access.

On a further level, the pandemic has revealed the existence of a hiatus between the scientific community and the institutional response structure of health systems across the world. Even though the threat of a renewed global pandemic had been anticipated for some time, COVID-19 took the world by surprise. It is the third human coronavirus of animal origin to have caused an outbreak of epidemic proportions within the first two decades of the 21st century (WHO, 2015). Yet many countries across the world did not acknowledge the importance of previous experiences in fighting epidemics, showing complacency and a failure to adequately prepare until the spread of the virus and its impacts became all too apparent.

In the years to come, the effects of environmental degradation, the connected risk of new zoonotic diseases and demographic trends are likely to increase pressures on health systems across the world, exacerbating existing resource and capacity constraints (Taylor and McCarthy, 2021). To achieve the Sustainable Development Goal 3 of "ensuring healthy lives and promote well-being for all at all ages", working towards the goal of no-one being left behind, it is necessary to increase the preparedness capabilities and resilience of health systems a i.e. the capacity of health actors and institutions to successfully respond to crises while maintaining their core healthcare functions (Kruk et al., 2015). Such strengthening of health systems must be inscribed into the global logic of the G20 forum, where sound health assessment practices can inform effective policymaking at scale, producing positive health outcomes for all. Reducing inequalities in access to healthcare services must be seen as a key objective of G20 action.

Proposal

ENSURING STRONG HEALTH SYSTEMS

A health system comprises all organizations, institutions and resources that produce actions the primary purpose of which is to improve health (WHO, 2010). To fulfil its function, a health system should deliver preventive, promotive, curative and rehabilitative interventions through a combination of public health actions and the pyramid of healthcare facilities that deliver personal healthcare by both state and non-state actors. Over time, national health systems have evolved and diversified, influenced by budget, human resources, responses to occurrence of disease and perceptions of global risks, which then shape preparedness for future events. Despite their differences, their basic goal is to improve health and health equity in ways that are responsive and financially fair, and make the best, or most efficient, use of available resources (WHO, 2007).

Regardless of how they are organized, all G20 health systems should be structured around six pillars, as defined by the World Health Organization (WHO) framework, to guarantee improved health quality and efficiency, responsiveness, and social and financial protection for all (WHO, 2007).

- 1) First and foremost, G20 health systems must be able to deliver both preventive care and effective and safe primary healthcare, providing quality health interventions to all those who need them, when and where needed, minimizing the waste of resources. To achieve efficient health systems, it is necessary to strike a balance between hospital-centred models and decentralized community-based approaches, reversing a trend that, particularly in high-income countries, has privileged the former at the expense of the latter: Consolidation of community-based care is, instead, essential to the overall strengthening of health systems.
- 2) G20 health systems must ensure and constantly update the training of the health workforce, so as to make it responsive, fair and efficient in achieving the best health outcomes possible, given available resources.
- 3) G20 countries must endow themselves with a comprehensive health information system that ensures production, analysis and dissemination of reliable and timely information on health determinants, health systems performance and health status. Such information systems must operate at domestic and, most importantly, at international level, favouring cross-border data-sharing among G20 countries to bolster their capacity to cope with global health crises.
- 4) G20 health systems must guarantee equitable access to essential diagnostics, medical products, vaccines and technologies of assured

4) G20 health systems must guarantee equitable access to essential diagnostics, medical products, vaccines and technologies of assured quality, safety and cost-effectiveness. This includes a greatly increased application of digital technology, artificial intelligence (AI) and telemedicine, which bear great promise and are already making a difference in contexts such as prevention, diagnosis, treatment and rehabilitation.

5) The financing of G20 health systems must be raised to adequate levels that ensure people can equally access needed services while being protected from financial catastrophe and further impoverishment associated with having to pay for them having lost their income. This holds irrespective of the diverse funding arrangements of health systems, whether they are publicly funded by general taxation, based on a national insurance model or on voluntary private health insurance.

6) Leadership and governance involve ensuring strategic policy frameworks exist and are combined with effective oversight, coalition building, provision of appropriate regulations and incentives, attention to system design and full accountability.

To ensure that all G20 health systems can offer universal and meaningful access to adequate healthcare, all six pillars listed here must receive equal attention, support and sustenance. By contrast, the neglect of any single pillar might lead to the severe degradation of health systems, with the risk of aggravating basic societal inequalities and leading to their rapid overwhelming. In the case of India, for instance, the impact of COVID-19 with the announcement of one of the world's most stringent and extended nationwide lockdowns led to skyrocketing unemployment and salary cuts. These also affected frontline healthcare workers and put nearly 400 million Indians at the risk of falling into deeper poverty.¹ Ignoring the need for a careful balance between all the founding elements of health systems whether technological, economic or societal can lead to their collapse.

BUILDING GLOBAL HEALTH RESILIENCE: A SIX-POINT ACTION PLAN

Since the Berlin Declaration of G20 Health Ministers in 2017, considerable efforts have been made to emphasize the importance of health systems needing to be ready and well prepared for both predictable and unpredictable challenges (G20, 2017). These needs have received continuous emphasis as the pandemic has continued (IPPPR, 2021). Global health emergencies such as pandemics can cause urgently increased demands for health services and place pressures on the operating environment of health systems for instance by causing shortage of supplies, affecting hospital capacity and front-line healthcare providers (Rentschler et al., 2021).

G20 health systems must ensure their capacity to meet routine demand according to the blueprint of the six-pillar approach of the WHO but they also need to build resilience to external shocks, adopting an effective collaborative approach to emergency preparedness to tackle the global dimension of health threats (Villa et al., 2021). In other words, to be resilient, G20 member states must increase the in-built flexibility of their health systems, showing the capacity to guarantee everyday quality healthcare for all citizens, refugees and displaced populations, while coping with the additional adverse impact of sudden crises and their aftermaths (Kruk et al., 2015; Rentschler et al., 2021).

To pursue such an approach, several elements are necessary, including investment in medical equipment, efficient health management, shared operational protocols and community empowerment. Health systems differences across G20 countries make the definition of resilience always context-specific, requiring precise considerations of each system capacities and weakness (Kruk et al., 2015). We propose a six-point action plan that the G20 can implement to develop a comprehensive and timely response mechanism to face emerging health threats and improve global health security.

1) G20 countries should commit themselves to adopt **national and international health policies that uphold the six pillar approach to strong health systems highlighted in section 2.1**. This means delivering quality healthcare through a balanced model that incorporates hospital-centred and decentralized community-based approaches; investing in the training of the health workforce and the development of sound health information systems; guaranteeing equitable access to essential care to everybody, and providing appropriate regulations and governance structures through inclusive financing mechanisms. Such a commitment by G20 countries should be enshrined in an international cooperation framework with the oversight of the WHO, eventually extendable to non-member countries, with a global health security logic.

2) The G20 should develop an **international cooperation framework for the procurement, stockpiling and distribution of medicines and health equipment**. From a strategic standpoint, it is necessary to identify and address all market and regulatory challenges in order to boost public investments and incentivize private investments in the health industry, including the reduction of bureaucratic red tape to joint procurement programmes. This can drive the development of production capacity across G20 member countries, strengthening flexible and

procurement programmes. This can drive the development of production capacity across G20 member countries, strengthening flexible and scalable biomanufacturing and industrial pharmaceutical capabilities to allow rapid action responding to identified needs. To achieve this, it is necessary also to promote advanced health research and knowledge-sharing, which will be key to the development of cutting-edge technologies and countermeasures for cross-border health threats (LERU and EGHRIN, 2021). The key role played by the US Biomedical Advanced Research and Development Authority (BARDA) during the COVID-19 pandemic, for instance, offers a positive case in terms of the role that investments in health preparedness can play in enabling and accelerating the development of surge manufacturing capacities when needed. Over the years, BARDA has developed a fully integrated, systematic approach to the development of the necessary vaccines, drugs, therapies and diagnostic tools for several health emergencies, which could be adapted and replicated at G20 level (LERU and EGHRIN, 2021). Lastly, as part of the common framework for procurement and stockpiling, the G20 should develop a strong market intelligence focus to monitor available stocks of countermeasures, coordinate procurement and ensure that market blockages for needed supplies are detected and addressed in a swift manner considering, however, that the security-sensible nature of health emergency preparedness data interlinks with the defence domain and requires caution (Villa et al., 2021).

3) To further strengthen the procurement and stockpiling cooperation framework, favouring a concerted international response to global health threats, the G20 should pursue greater **policy harmonization** to make emergency preparedness tools more homogeneous across its member states. Policy harmonization could include the development of common stockpiling rules and, most importantly, the fine tuning of joint operational procedures, also in collaboration with global agencies such as the WHO, with the creation of an easily accessible information system to strengthen shared disease surveillance across G20 member countries (Villa et al., 2021). This proposal echoes the statement of the first G8 health ministers' meeting, held in April 2006 in the midst of the spread of the H1N5 influenza, which called for "communicable disease global surveillance, detection and identification" (G8, 2006) Establishing a degree of health policy coordination among G20 countries would also make it possible to establish an accountability framework to identify key responsibilities among countries regarding supply chains, procurement and monitoring. The proposed creation of a European Health Emergency Preparedness and Response Authority offers a possible blueprint for how to ensure coordination of preparedness and health response capacities while respecting the competencies and sovereignty of national authorities (LERU and EGHRIN, 2021).

4) Building upon a shared information and health intelligence system, G20 countries should engage in **constant monitoring** of their status of preparedness. The emergency response mechanism of health systems should be regularly tested to build capacity for early and bold reaction to emerging health threats. The G20 forum could identify the relative weaknesses of each country's health system model, based on commonly agreed preparedness assessment tools, and monitor their adherence to the WHO recommendations for self-assessment established within the International Health Regulations (WHO, 2005). Additionally, the G20, with the support of public health institute networks across the world, should carry out regular external evaluation of national and international emergency preparedness of health systems. On this point, the Sendai framework for disaster risk reduction can offer useful hints for a checklist of pre-health emergency risk assessment evaluation tools (UN, 2015)

5) The fifth point of the action plan calls on G20 members to strengthen their **horizon-scanning** capabilities to detect cross-border threats and international health hazards at the earliest possible moment. Early warning systems and increased forecast capacity can be instrumental in reducing the human cost of global pandemics, while cushioning their economic and social damage. To this end, research and innovation in key areas such as AI and high-performance computing, digital tools, big data and market intelligence must be developed. Digital technologies can play an important role in precisely identifying the early emergence of global health threats and the countermeasures most apt to stem their impact. At the same time, increasing our understanding of the diversity and ecology of viral threats, including vector-borne diseases, can help G20 countries to mitigate disease emergence and damage (Sheath et al., 2021). To strengthen its horizon-scanning capabilities, the G20 forum should manage relations and foster knowledge-sharing with universities and public health research institutes. In the case of Europe, for instance, the League of European Research Universities and the European Global Health Research Institutes Network are already strong advocates of coordinated international action to build health systems preparedness. Social science research is also vital, contributing to understand the social conditions, behaviours and attitudes that influence access by citizens to healthcare systems. Indeed, academia can play an important role in delivering leadership and state-of-the-art knowledge regarding epidemic threats of both human and non-human origin, providing specialized technical knowledge and the know-how on various risks and mitigation strategies (LERU and EGHRIN, 2021).

6) Building stronger ties with research institutions and universities is instrumental also for the sixth proposed point of the action plan towards the strengthening of global health resilience, that of **training and education**. Through the help of their competent academic institutions, G20 member countries should invest in educational programmes centred on international health systems preparedness. This initiative would aim

at training a more robust health workforce and key non-health professionals through a multidisciplinary approach based on the new skills required by the global nature of emerging threats. The education should focus, among others, on preparedness monitoring, studying logistics and cost-effectiveness of health policies, improvement of biopharmaceutical training and development of horizon-scanning capabilities through the study of future health hazards. In the context of the G20 forum, it will be particularly relevant to foster cooperation in health education, sharing best practices and experiences on emergency preparedness and favouring international teachers and students exchange (LERU and EGHRIN, 2021). This should be complemented by a bottom-up approach that, while fostering expert collaboration, does not neglect community engagement, opening pathways for two-way communication and consultation with a wider public even during periods of crisis.

TOWARDS A G20 HEALTH PREPAREDNESS TASKFORCE

The integrated six-point action plan for global health resilience can help G20 member countries to safeguard the routine operation of their diverse health systems while building up flexibility to face cross-border health threats, thus enhancing global health security. As indicated previously, strong health systems require the capacity to deliver quality and effective primary healthcare in a solid community-based environment that guarantees access to everybody (UHC), irrespective of the prevalent financing arrangements. By engaging in greater cooperation in stockpiling and distribution of medical supply, harmonizing policy development while investing in monitoring, horizon-scanning and training, G20 member countries can enhance the preparedness of their health system to deal with sudden and unforeseen crises.

Given the urgency of these needs, we thus call for the establishment of a **G20 Health Preparedness Taskforce** to give a concrete enactment to the global health resilience action plan highlighted here. Within the international forum of the G20, the taskforce could begin its work by profiling the different health systems of its member countries, studying the possible venues for policy harmonization and reviewing current regulation on healthcare procurement across states. This could then become the springboard on which to build a more solid joint framework for monitoring and horizon-scanning of future health threats. **In the end, the objective could be to set up a Health Stability Board, as suggested by the Pan-European Commission on Health and Sustainable Development.**

If we want to emerge stronger from the COVID-19 pandemic, we must strengthen our national capacity to identify and manage effective responses to public health emergencies. G20 countries represent two-thirds of the world's population and four-fifths of global gross domestic product but also a significant proportion of people left behind socially, economically and in terms of health. Taking up their related national political commitments, G20 countries can therefore implement an international preparedness framework to act as an anchor for the global health system. In doing so, they can help create a more just and equal world where everybody will have the tools and architecture in place to respond to pandemics (LERU and EGHRIN, 2021).

NOTES

<https://bit.ly/30eSXIL> (15/7/2020, 14:21 hours). 1

REFERENCES

G20 Germany (2017). The Berlin Declaration of the G20 Health Ministers Together Today for a Healthy Tomorrow, 2017, https://www.bundesgesundheitsministerium.de/fileadmin/Dateien/3_Downloads/C/Coronavirus/Infoblatt/2021/DEU_MB_bf.pdf

G8 (2006). Statement by the G8 Health Ministers, Moscow, 28 April, <http://www.g8.utoronto.ca/healthmins/health060428.html>

HSG (Health System Global), Improving Health Systems: The Challenges [WWW Document]. Heal. Syst. Glob. 2020, <https://healthsystemsglobal.org/improving-health-systems/the-challenges/>

IPPPR (Independent Panel for Pandemic Preparedness and Response) (2021), "Covid-19: Make it the last pandemic". <https://theindependentpanel.org/mainreport/>

Kruk, Margaret E., Michael Myers, S Tornorlah Varpilah and Bernice T. Dahn. What is a resilient health system? Lessons from Ebola. The Lancet, 385(9980):1910-1912

Leach, Melissa, Hayley MacGregor, Ian Scoones and Annie Wilkinson (2021). Post-pandemic transformations: how and why COVID-19 requires us to rethink development. *World Development*, 138:1-11

LERU and EGHRIN (League of European Research Universities and the European Global

Health Research Institutes Network) (2021). LERU and EGHRIN Response Public Consultation on Impact Assessment for HERA.

https://eghrin.eu/wp-content/uploads/2021/03/20210224-LERU-and-EGHRIN-Public-Consultation-Response-HERA_2.pdf

Rentschler, Jun, Christoph Klaiber, Mersedeh Tariverdi, Chloé Desjonquères, and Jared Mercadante (2021). *Frontline: Preparing healthcare systems for shocks, from disasters to pandemics*, Washington DC, The World Bank

Sheath, Danny J., Rafael Ruiz de Castañeda, Nefti-Eboni Bempong, Mario Raviglione, Catherine Machalaba, Michael S. Pepper, Effy Vayena, Nicolas Ray, Didier Wernli, Gérard Escher, Francois Grey, Bernice S. Elger, Kaj-Kolja Kleineberg, David Beran, J. Jaime Miranda, Mark D. Huffman, Fred Hersch, Fred Andayi, Samuel M. Thumbi, Valérie D'Acremont, MaryAnne Hartley, Jakob Zinsstag, James Larus, María Rodríguez Martínez, Philippe J. Guerin, Laura Merson, Vinh-Kim Ngyuen, Frank Rühli, Antoine Geissbuhler, Marcel Salathé, Isabelle Bolon, Catharina Boehme, Seth Berkley, Alain-Jacques Valleron, Olivia Keiser, Laurent Kaiser, Isabella Eckerte, JürgUtzinger, Antoine Flahault (2020). Precision global health: a roadmap for augmented action. *Journal of Public Health and Emergency*, 4(5):1-12

Taylor, Peter and Mary McCarthy (2021). Building a better world: the crisis and opportunity of Covid-19. *IDS Bulletin*, 52(1)

Villa, Simone, Remko van Leeuwen, Claire Craig Gray, Marianne van der Sande, Flemming Konradsen, Günter Fröschl, David Gisselsson Nord, Clarissa Prazeres da Costa, Oriana Ramirez-Rubio, Ibrahim Abubakar, Till Bärnighausen, Núria Casamitjana, Astrid Berner-Rodoreda, Frank Cobelens, Antoni Plasència Taradach and Mario Raviglione (2021). HERA: a new era in Europe for preparedness and response to international public. *The Lancet*, Published Online May 17, 2021 [https://doi.org/10.1016/S0140-6736\(21\)01107-7](https://doi.org/10.1016/S0140-6736(21)01107-7)

UN (United Nations) (2015). Sendai Framework for Disaster Risk Reduction 2015-2030. Sendai, United Nations

WHO (World Health Organization) (2005). *International Health Regulations*, Geneva, WHO Document Production Services

WHO (World Health Organization) (2007). *Everybody's business: strengthening health systems to improve health outcomes: WHO's framework for action*, Geneva, WHO Document Production Services

WHO (World Health Organization) (2010). *Monitoring the building blocks of health systems: A handbook of indicators and their measurement strategies*, Geneva, WHO Document Production Services

WHO (World Health Organization) (2015). How the 4 biggest outbreaks since the start of this century shattered some long-standing myths [WWW Document]. *World Health Organ*, <https://www.who.int/news/item/01-09-2015-how-the-4-biggest-outbreaks-since-the-start-of-this-century-shattered-some-long-standingmyths>

Existing Initiatives & Analysis