The coronavirus disease that emerged in 2019 (COVID-19) is still rampant across the world as of February 2022, and despite progress in vaccinations and the development of several therapeutics, the end of the current pandemic is nowhere in sight. COVID-19 has had a major impact on all aspects of socioeconomic activities, but what most shocked many people most of all was the fact that so many of the deaths occurred in high-income countries, which had been thought to have robust health systems and the most effective pandemic preparedness and response (PPR) systems in the world. The PPR and health systems that many countries considered to be the gold standard that they should be aiming for turned out to be completely powerless in the face of this unprecedented pandemic.

The status of assessment indicators for crisis management and health systems

Traditionally, health crisis management, including the response to pandemics, and the development of a robust health system that can contribute to crisis response, has been the highest priority issue in global health. In health crisis management, the WHO’s International Health Regulations (IHR) have long played a central role, with individual states striving to acquire the core capacities set by the IHR, and many donor countries providing technical and financial support to help countries acquire those core capacities. In addition, member states are required to conduct self-assessments on the extent to which they have achieved the core capacities (State-Party Self-Assessment: IHR-SPAR) and submit those reports to the WHO. However, this IHR-led health crisis response proved insufficient during the 2013 outbreak of Ebola virus disease (EVD) in West Africa. Despite the enormous amounts of financial
assistance being provided for infectious disease control in the past decades, various problems were seen with the existing health crisis management system, including the failure to stop the spread of EVD in the early stages and the failure to immediately start research and development of necessary drugs and vaccines. Subsequently, a framework for independent external evaluation of IHR core capacities, the Joint External Evaluation (JEE), was introduced to complement the self-assessment efforts being done through the IHR-SPAR. In addition, in order to complement the WHO’s IHR and JEE, the Global Health Security Agenda (GHSA) was adopted and a corresponding Global Health Security Index (GHSI) was introduced to measure each country’s crisis management capacity. These arrays of evaluation criteria—IHR-SPAR, IHR-JEE, GHSA, and GHS Index—have come to be used worldwide to measure state parties’ PPR capacities. However, in the most recent 2021 GHS Index, for instance, the United States and the United Kingdom are ranked at the top of the list, regarded as the best prepared countries for health crises. In reality, these countries have suffered some of the highest number of deaths from COVID-19 worldwide, and similarly, although most high-income countries are given high scores in both IHR-SPAR and JEE, they have not necessarily responded well to COVID-19. This calls into question whether these assessment frameworks adequately assess crisis management capacity, and thus these existing evaluation criteria may require a fundamental review.

There are also a broad range of indicators for evaluating health systems. Among the most commonly used indicators in recent years is the universal health coverage (UHC) service coverage index (SCI). UHC means that all people have access to the health services they need, including prevention, treatment, and rehabilitation, when and where they need them, without financial hardship. The achievement of UHC by all countries by 2030 is also called for in the Sustainable Development Goals (SDGs). The progress toward UHC is evaluated mainly on whether (1) essential healthcare services are universally provided, and (2) financial risk protection structures are established to ensure access to essential healthcare services. The abovementioned SCI is primarily focused on the essential healthcare service coverage stated in (1), and if a country has greater access to essential healthcare services, including vaccinations and antenatal checkups, it is deemed to have a more robust health system. The notion of UHC itself has been proposed since around 2010, but similar to the argument related to health security, the 2013 Ebola outbreak in West Africa reminded us of the importance of UHC. At that time, West African countries experienced a tremendous impact from the spread of the Ebola virus, which limited access to healthcare services for diseases other than EVD, and resulted in more deaths from preventable diseases than those caused by EVD. This experience reiterated the need to establish a strong health system to provide not only essential health services in normal times but also an adequate response during a health crisis. It also indicated how indispensable the achievement of UHC is for this purpose.

UHC has been serving as a sort of “slogan” in global health. The inclusion of UHC in the SDG targets in 2015 increased the momentum toward achieving UHC worldwide, leading to a UN High-Level Meeting on Universal Health Coverage in 2019. However, looking at countries’ actual UHC-SCI scores and the extent of damage they have suffered from COVID-
19, it is clear that, just as with other indicators used for health crisis management, a high UHC-SCI rating has not necessarily meant that a country has been able to adequately respond to COVID-19. Given this unprecedented public health crisis, discussions are underway to reevaluate how crisis-resistant health systems can be built, what kind of health systems are needed during normal times from the perspective of crisis preparedness, as well as what types of indicators are appropriate to evaluate such systems.

The first key factor we can point to is public health interventions (nonpharmaceutical interventions, or NPIs), such as lockdowns, school closures, social distancing, and mask wearing, which have been nearly continuously in place in Asia since early 2020, at which time there were few cases of infection. By contrast, NPIs in the European Union (EU) started around March, and these measures were eased in the summer of that year (see fig. 1). While there have been media reports that have repudiated the effect of lockdowns, all research studies have produced empirical data that show NPIs to be clearly effective as infection control measures.

The correlation between evaluation criteria and COVID-19 outcomes

As mentioned above, health security indicators and the UHC-SCI are not necessarily related to COVID-19 outcomes, but the research findings to date from analyses of that relationship are not always consistent. For instance, a study by Tess Aitken et al. shows no relation between the achievement of these indicators and COVID-19 outcomes, while a study by David B Doung et al. reports a positive correlation, at least for GHSI (i.e., the higher the GHSI score, the more positive the COVID-19 outcome). Though it depends on the timing of assessment and the stage of pandemic, another study shows a correlation with specific indicators of IHR-SPAR and GHSA, rather than with those indicators as a whole (i.e., the better a country scores on those specific indicators, the better they have done in their handling of COVID-19, regardless of their total scores). It is also important to note that when assessing the impact of COVID-19, it is impossible to evaluate its overall impact on health systems by solely focusing on the numbers of cases and deaths from COVID-19. This pandemic has disrupted health systems in many countries, leading to the deaths of numerous people from what would not have been life-threatening diseases under normal circumstances. In fact, as of February 2022, many countries reported excess deaths, with the number estimated to reach about 1 million in the United States and 120,000 in France. Some Asian countries have also seen an increase in the number of excess deaths, even though the number of COVID-19 deaths per capita is not so large. It can be assumed that these countries have invested a great deal of health-care resources in COVID-19 measures, causing a shortage in the care of other diseases and resulting in excess deaths. Therefore, when assessing the impact of COVID-19 on health systems, it is important to look at not only the numbers of cases of and deaths from COVID-19, but also its impact on other diseases, namely from the perspective of excess deaths.
Assessment approaches to enhance synergies between UHC and health security

As the existing health security indicators and UHC indicators prove insufficient in the face of a global pandemic, how can we improve these indicators in specific terms? More importantly, how can we strengthen alignment between UHC and health security, and how can we enhance and assess synergies that could be gained from such strengthened alignment? A study by Arush Lal et al. examined the COVID-19 pandemic responses of various countries, dividing them into three types of health systems: those with stronger investments in health security, those with stronger investments in UHC, and those that promoted both in a well-balanced manner. For instance, the United States and African countries are classified as nations with an overconcentration on health security. Many African countries, for example, have put intensive resources into health crisis management. As a result, they were able to keep the numbers of infections and deaths at very low levels in the early stage of COVID-19. However, as the pandemic persisted and the problems became increasingly complicated, these countries’ weak health systems were no longer able to cope, causing a gradual increase in the number of infections and deaths. The study cites many Asian countries as having promoted both health security and UHC in a well-balanced manner. Having been exposed to different infectious disease risks since 2000, these Asian countries have stepped up their health security systems, and at the same time, driven by their economic growth, have been strengthening health systems for ordinary times. As a result, in the face of the COVID-19 pandemic, they have fared better in controlling the outbreak than the rest of the world, at least as of the end of February 2022.

It is easy to talk about building a robust health security system and achieving UHC, and also increasing synergies between these two components, but in fact, intersectoral collaborations are difficult even at the best of times. Based on the lessons learned from COVID-19, increasing synergies between the two components would require (1) identifying concepts and areas that could serve as a bridge between them (for instance, a flexible reorganization of hospital beds means creating a structure that can provide necessary healthcare beds for use in ordinary times and at the same time secure necessary beds as quickly as possible at a time of crisis; it is therefore an area involving both components); (2) enhancing alignment between health crisis budgets and UHC budgets; and (3) incorporating the concept of “resilience” into both components. In particular, “resilience” is defined in the abovementioned study by Lal et al. as “the ability of national health systems to withstand health shocks while maintaining routine functions.” This means not only having a wealth of human and physical healthcare resources, but also being able to use them flexibly during a crisis to maintain ordinary healthcare services, and even building on the crisis to improve the system itself in a more positive manner. These perspectives need to be taken into account what considering what health security systems and UHC should look like in the post-COVID-19 era.

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1 For more on the WHO International Health Regulations, see [https://www.who.int/health-topics/international-health-regulations](https://www.who.int/health-topics/international-health-regulations).
For more on IHR-SPAR, see https://extranet.who.int/sph/spar.

For more on WHO JEE, see https://apps.who.int/iris/bitstream/handle/10665/204368/9789241510172_eng.pdf.

For more on GHSA, see https://ghsagenda.org.

For more on the GHS Index, see https://www.ghsindex.org.

For more on the UHC-SCI, see https://www.who.int/data/gho/indicator-metadata-registry/imr-details/4834.


The term “excess deaths” means the number of deaths that occur in a specific time period of a year that are above the expected number of deaths for the same time period. In the wake of an infectious disease pandemic, like COVID-19, it is used as an indicator to measure the impact of deaths from the infectious disease itself (i.e., deaths directly caused by the infectious disease) and deaths that occur as a result of the spread of the infectious disease having a ripple effect on the provision of other healthcare services (i.e., deaths indirectly caused by the infectious disease).
