

# POLICY NOTE



## WHAT CAN FINANCING SCHEMES AND PAYMENT SYSTEMS DO TO IMPROVE PANDEMIC RESPONSE?



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On COVID-19 Preparedness and Response

# What Can Financing Schemes and Payment Systems Do to Improve Pandemic Response?

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# ABSTRACT

The budget allocation in response to the COVID-19 pandemic indicates an increase in both health and non-health sectors, together with policy prioritization to mitigate socioeconomic damage globally. In contrast with responses to previous economic crises, many governments instead expanded their budget, resulting in increased support for the health care sector. However, a significant portion of the budget was allocated to economic stimulus and industrial investment. Accordingly, the budget allocated to prevention and response to infectious diseases in the health care sector was relatively small, or it was spent from ear-marked resources such as social health insurance. However, health crises such as the pandemic required an essential workforce and additional services to protect population health and expedite the socioeconomic recovery. In this sense, strengthening the sustainability and resilience of the health care system was a way toward national security and economic growth. Governments would need to allocate additional budgets to the health sector in response to health crisis, and mobilize earmarked funds collected from social insurance contributions. The latter enables the provision of essential health services with or without governments' financial support. A mixed payment system could boost surge capacity in the health care system and provide incentives for medical providers.

# 1. INTRODUCTION

The World Health Organization (WHO) declared the end of COVID-19 as public health emergency on May 5, 2023. It was the day that the cumulative cases and deaths of COVID-19 reached 764.70 million and 6.93 million, respectively. The socioeconomic impact of COVID-19 was also profound, even with the policy responses to minimize COVID-related patients and deaths. The economic growth rate was 2.8 percent in 2019, -2.8 percent in 2020, 6.3 percent in 2021, and 3.4 percent in 2022. The 2021 economic growth rate rebound was accompanied by economic stimulus measures, vaccination rollout, and increased personal consumption, while the lower growth in 2022 was attributable to the challenges from multiple new variants, supply chain bottlenecks, and labor shortages (IMF 2022). Global growth in 2023 is projected at 2.8 percent due to the possibility of high and long-term inflation, tightening of monetary policies, and expanding downside risks such as war. Governments face an increasing burden of inflation and public debt that challenge the financial strategy in health systems.

**The pandemic crisis has similarities to past economic crises (the 1997 Asian financial crisis and 2008 global financial crisis). Its socioeconomic impacts incurred economic slowdown and a rise in unemployment and poverty rates.** Moreover, the vulnerable were influenced disproportionately and struggled with worsened income inequality. The number of people living in extreme poverty is projected to increase from 8.23 percent in 2019 to 8.82 percent under the baseline scenario, or to 9.18 percent under the downside scenario, in 2020 (WB 2020). The projected “new poor” will be concentrated in South Asian countries that had already been struggling with high poverty rates.

**The COVID-19 pandemic has also had negative impacts on population health and health inequality.** Increasing death tolls resulted in excess mortality and reduced life expectancy in many countries regardless of income level. The number of excess years of life lost from the pandemic in 2020 was more than five times higher than that from the 2015 seasonal influenza epidemic (Islam et al. 2021). The strategies and magnitude of fiscal response depended on the COVID-19 caseload and structural factors, including income level, welfare regime, and institutional buffer (Alberola et al. 2021; De Jong and Ho 2020).

**The persistent COVID-19 pandemic has implications for health financing from two aspects.** First, policy measures (such as travel restrictions, quarantine, and lockdown) that governments implemented in response to COVID-19 contributed to income loss due to unemployment and bankruptcy, and thus to the consequent decrease in government fiscal revenue. In contrast, a tremendous amount of cash was distributed into the households and market by government subsidies, liquidity assistance, and tax cuts, all of which contributed to worsening the government fiscal deficits. This unbalanced budget has implications for health financing at a macro level in the sense that it can cause tight health financing. Second, a variety of nonpharmaceutical policy measures influenced human behavior including medical usage. Medical providers experienced income loss due to fewer visits to health care facilities. In contrast, an increased number of suspected and confirmed COVID-19 patients increased extra expenses for medical providers. To keep the health care systems functioning during the pandemic, governments needed to compensate for income loss and extra expenses of clinics and hospitals at a micro level. Meanwhile, patients’ out-of-pocket (OOP) expenditure may have reduced due to decreased medical usage and lowered copayment implemented temporarily in many countries during the pandemic.

**Each country has implemented different financial measures to cope with the impact of COVID-19 on the health care system.** During the pandemic, it was well known that the health sector needed investment (Thomas et al. 2020). But optimizing resource allocation and payment systems during the pandemic was difficult and often controversial within and across countries. Each country had to make decisions and develop strategies within a limited time and with evolving evidence. Therefore, it would be useful to examine how countries have funded health sectors in response to the COVID-19 pandemic and the kinds of provider payment measures that have been used to compensate for income loss and extra expenses. This thematic note aims to focus on the national-level budget allocation and payment strategies in response to the COVID-19 pandemic. For this purpose, six countries (**Ghana, Indonesia, Japan, Republic of Korea [Korea], Thailand, and the United**

Kingdom [UK]) were included. This selection of countries ensured a representation of different regions, income levels, and health financing mechanisms.

## Country profiles

Table 1 shows the general information related to demographics and health care expenditure in the six countries in 2020. All these countries have a population of at least 30 million and have attempted or achieved reforms toward universal health coverage (UHC). The United Kingdom (UK) is well known for its National Health Service (NHS), which was established in 1948 and became the basis for universal health coverage. Social health insurance has been implemented under different schemes in countries including Japan (1961), Korea (1977), Thailand (2001), and Ghana (2008) (WHO 2013). Indonesia also launched a single insurer system by merging multiple insurance funds to achieve UHC in 2014 (Bazyar et al. 2021).

**Table 1:** Relevant UHC data in the six countries

	Ghana	Indonesia	Japan	Korea	Thailand	United Kingdom
<b>General status in 2020</b>						
Total population (thousands)	32,180	271,858	126,261	51,836	71,476	67,081
Life expectancy at birth (years)	64.11	68.81	84.56	83.43	79.27	80.35
Population ages 65 and above (% of total population)	3.41	6.71	29.58	15.83	13.85	18.72
GDP (USD billions)	70.0	1,058.7	5,040.1	1,644.3	499.7	2,704.6
GDP growth (annual %)	0.51	-2.07	-4.51	-0.71	-6.2	-11.03
<b>Health expenditure in 2020</b>						
Total current health expenditure (USD millions, % of GDP)	2,735 (4.0)	36,147 (3.4)	549,586 (10.9)	136,995 (8.4)	21,806 (4.4)	330,210 (12.0)
by government (%)	40.1	37.3	9.7	12.0	61.6	82.8
by compulsory health insurance (%)	13.6	17.7	74.6	50.6	11.4	0.0
by voluntary payment schemes (%)	15.5	13.2	3.1	9.7	16.4	4.6
by out-of-pocket payment (%)	30.8	31.8	12.6	27.7	10.6	12.5
<b>Primary health financing scheme</b>	National Health Insurance Scheme	National Health Insurance (JKN)	Health Insurance (multiple payers)	National Health Insurance (single payer)	Health Insurance (multiple payers) w/ tax subsidy	National Health Service (NHS)
<b>Dominant provider payment system</b>	Ghana Diagnostic-Related Groups (G-DRGs)	Capitation, Diagnosis-related group (DRG)	Fee-for-service (FFS), Diagnosis-related group (DRG)	Fee-for-service (FFS)	FFS, Capitation, Thai-Diagnosis-related group (DRG)	Capitation, Block contracts

Source: World Bank DB, WHO Global Observatory Database, WHO Global Health Expenditure Database

Advanced countries with higher gross domestic product (GDP) are likely to have a longer life expectancy and a higher proportion of older people over 65 years, with higher health expenditure. As of 2020, Japan spent US\$549,586 million (10.9 percent of GDP) on health, followed by the UK, with US\$330,210 million (12.0 percent of GDP), and the Republic of Korea, with US\$136,995 million (8.4 percent of GDP). Thailand, Ghana, and Indonesia had relatively low health expenditures—4.4, 4.0, and 3.4 percent of GDP, respectively.



**The proportion of financial resources varies by country depending on financing schemes and population coverage.** The UK runs the NHS, which is funded out of general taxation and accounted for 82.8 percent of total health expenditure in 2020. On the other hand, the countries with the maximum population enrolled in compulsory health insurance are Japan and Korea, where insurance-based financing was the largest at 74.6 percent and 50.6 percent, respectively. Governments' tax accounted for 9.7 percent and 12.0 percent, respectively, of their total health expenditure. Thailand also achieved population coverage with a multiple insurer system. Unlike Japan, Thailand's government played a significant role in population coverage expansion and financial protection, subsidizing 61.6 percent of the total. Therefore, 11.4 percent was financed by social insurance premiums. Indonesia and Ghana are still pursuing population coverage based on a single-insurer system like Korea's. These two countries had financial resources for health care from general tax—37.3 percent and 40.1 percent, respectively—and from insurance premiums—17.7 percent and 13.6 percent, respectively. Less than half of the total population had enrolled or renewed its membership until 2017, despite the decade-long effort to implement a National Health Insurance Scheme (NHIS) in Ghana since 2004 (Nsiah-Boateng and Aikins 2018). In Indonesia, OOP payments contributed to the largest proportion of health expenditure despite an 84 percent enrollment rate in the Indonesian National Health Insurance Scheme, called Jaminan Kesehatan Nasional (JKN), in 2019 (James et al. 2018). In 2020, the first year of the COVID-19 pandemic, the share of OOP expenditure in Indonesia and Ghana was second largest to that of government expenditure. Considering that the share of OOP expenditure was larger than that of government expenditure before the pandemic, this is a noticeable change as a result of the governments' response to the pandemic.

**Although health outcomes and medical expenditure are generally proportional to the size of a country's economy as represented by GDP, the provider payment systems have been blended by historical and contemporary payment reforms.** Until 2019, Korea showed higher OOP payments by more than 30 percent, driven by expedited supply-side market growth under the fee-for-service (FFS) payment system (Kwon 2018). The Korean reform toward diagnosis-related groups (DRG) was sluggish, unlike in the other two Asian countries, Japan and Thailand, where DRG reforms were in line with financial arrangements (Annear et al. 2018). Indonesia and Ghana, where social insurance coverage is low, struggled with low contribution bases and partial purchasing power. In a move from DRG-based and FFS payments, both countries have been pursuing reforms toward capitation-based payments (Abiuro, Alatinga, and Yamey 2021; Tan and Qian 2019). The UK, known for capitation-based primary health care, offers block contracts for hospitals to undertake acute care in a particular area (Jenkins and Maheswaran 2020).

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## 2. HOW HAVE COUNTRIES FUNDED THE HEALTH SECTORS IN RESPONSE TO THE COVID-19 PANDEMIC?

**Unlike past experiences during other economic crises, where governments responded with long-term austerity, structural adjustment, and cost-containment measures, a series of fiscal stimulus packages were deployed to minimize health and socioeconomic impacts.** Governments in advanced economies deployed fiscal stimulus by increasing public spending on health, liquidity support, cash transfer, or social welfare payments to rouse economic activity (Makin and Layton 2021). Low- and middle-income countries raised public spending and debt despite the decreased amount of tax revenue due to the economic slowdown in the trade and tourism industries. Table 2 provides data from the IMF database on fiscal policy response to COVID-19, summarizing government measures from January 2020 to September 2021.

Globally, an average of 13.1 percent of GDP was spent in response to the pandemic crisis (IMF 2021). **The budget allocation in response to the pandemic indicates an increase in both health and non-health sectors, despite a solid policy prioritization of mitigation of socioeconomic damage.** In the six countries, government spending increased through collection of a supplementary budget, raising public debt, or cutting taxes for households and businesses. In the order of largest budget expenditure, the UK spent 18.9 percent of its GDP, Japan 16.7 percent, Thailand 14.6 percent, Indonesia 9.3 percent, Korea 6.4 percent, and Ghana 3.3

percent (IMF 2021). The Thai government further pooled a minimum of 10 percent of the ministries' budget for redistribution and used in-kind donations and government loans to raise financial capacity from early 2020 (Sachdev et al. 2022).

It should be noted that revenue collected from insurance premiums is not included in the amount of the sectoral budget in the health sector. The UK had relatively large spending in the health sector, 25.1 percent of additional budget, equivalent to 4.8 percent of its GDP. Unlike during the period of low funding growth over a decade prior to the pandemic, the NHS was called on to prevent SARS-COV-2 infection and treat and trace those with suspected or diagnosed cases. The UK government wrote off the £13.4 billion (UK pounds) debt of the NHS in April 2020 (Kraindler 2020). Additional cash injections to the NHS to support infection control measures, hospital discharge programmes, and routine surgeries continued in 2021, reaching over £34 billion (Kraindler 2020). The UK also relieved value-added tax (VAT) and customs duties for imported medical goods since January 2020.

Japan and Korea, two prominent countries with social health insurance, spent a relatively low proportion (12.4 percent and 11.4 percent, respectively) of additional budget in the health sector compared to the other countries. Japan's additional budget was about eight times larger than that of Korea. Unlike Japan, where the budget execution was decentralized, the central government in Korea led the health-sector response by budgeting for testing and tracking, compensation to and investment in medical institutions, and vaccine development. In Korea, most costs of tests, treatments, and vaccinations were covered by national health insurance (NHI), so that lower share of additional funding from the government, equivalent to 0.7 percent of GDP, was allocated to the health sector. This is in contrast to the UK NHS, where tests, treatments, and vaccinations had to be covered by the government budget, requiring a higher share of additional funding.

Indonesia and Ghana, respectively, allocated 22.2 percent and 33.6 percent of the total additional budget to the health sector in response to COVID-19. Indonesia announced several fiscal packages and earmarked a substantial amount to the health sector, resulting in a budget equivalent to 2 percent of GDP (Kwon and Kim 2022). Health care, economic rescue, and financial sector stabilization were the government priorities in Indonesia (Haniyah and Putra 2021). The Ghanaian president initiated the Coronavirus Alleviation Programme (CAP) in May 2020. The CAP included large-scale construction of over a hundred district- and regional-level hospitals, two psychiatric hospitals, and three infectious disease control centers. Other measures consisted of the COVID-19 Emergency Preparedness and Response Plan (EPRP) for economic stimulus and procurement of drinking water, food, sanitation, and relief funds for frontline health workers (personal protective equipment [PPE], tax waivers, allowances, transportation, and insurance for COVID-19 infection) (MoF 2021; Abor and Abor 2020). All six countries, in common, spent some budget on the procurement and distribution of medical supplies and equipment (masks, testing kits, or ventilators).

**Table 2:** Six countries' additional budget in response to the COVID-19 pandemic

	Total Additional Budget (USD Billion, % of GDP)	Sectoral Budget (USD Billion, %)		Percent of GDP (%)	
		Health	Non-Health	Health	Non-Health
<b>Global</b>	<b>11,194 (13.1)</b>	<b>1,451 (13.0)</b>	<b>9,743 (87.0)</b>	<b>1.7</b>	<b>11.5</b>
Japan	844 (16.7)	105 (12.4)	739 (87.6)	2.1	14.7
United Kingdom	522 (18.9)	131 (25.1)	391 (74.9)	4.8	14.3
Republic of Korea	105 (6.4)	12 (11.4)	93 (88.6)	0.7	5.7
Indonesia	99 (9.3)	22 (22.2)	77 (77.8)	2.0	7.3
Thailand	73.2 (14.6)	N/A	N/A	N/A	N/A
Ghana	2.2 (3.3)	0.8 (33.6)	1.5 (66.4)	1.1	2.2

Notes: The data includes additional spending or forgone revenues and COVID-19-related measures from January 2020 to September 2021, regardless of how they are financed or their net impact on the government budget. The global sum and percentages of GDP were recalculated using country-specific figures from the raw data.

Source: IMF (2021).

# 3. WHAT KINDS OF PROVIDER PAYMENT MEASURES HAVE BEEN USED FOR INCOME LOSS AND EXTRA EXPENSES DURING COVID-19?

The pandemic caused unexpected losses and expenses due to sudden changes in patient flows across departments and regions. This became challenging for provider payment systems that have been instituted and reformed for decades: global budget, salary, capitation, fee-for-service (FFS) payment, per diem payments, DRG payment, and other systems. European countries adopted and developed provider payment and compensation measures for both income loss and excess expenses (Waitzberg et al. 2021; Waitzberg et al. 2020). Income loss was caused by reductions in usage of health services by patients having non-COVID-19 illnesses or by those fearful of the risk of being infected. In contrast, clinics and hospitals required extra expenses and workloads to treat an increased number of patients who were vulnerable to, suspected of having, or diagnosed with COVID-19. Most measures implemented in an ad hoc fashion as a tentative means were influenced by countries' existing payment systems.

**Table 3:** Countries' provider payment systems by purpose and means

	Before COVID	Income Loss	Extra expenses	Medical Accessibility
Global budget or salary	Ghana, United Kingdom	United Kingdom		
Capitation	United Kingdom			
Fee-for-service payment	Indonesia, Japan, Republic of Korea, Thailand		Japan, Republic of Korea	Japan, Republic of Korea, United Kingdom
DRG-based payment	Indonesia, Japan, Thailand	Thailand	Thailand	
Compensation for overhead costs including supplies, equipment, and utilities			Ghana, Indonesia, Thailand, United Kingdom	
Compensation based on the previous year's turnover or income threshold		Republic of Korea, United Kingdom		
Cash- or in-kind benefits for patient				Ghana, Indonesia, Republic of Korea

Sources: Authors' compilation from government reports

In the UK, the NHS offered block contracts for all NHS trusts and foundation trusts with local variation adjustment (NHS 2020). General practitioners (GPs) or specialists used to receive salaries or capitation payments, which served as safety nets. During the pandemic, overtime was paid with higher payment rates (Waitzberg et al. 2021). GPs were also compensated based on the previous year's turnover instead of contact capitation, combined with some FFS payments. Emergency funding ensured new fees. Funding arrangements for public hospitals were also changed from an activity-based payment scheme to block contract since April 2020. The block contract system aimed to simplify and alleviate the administrative burden, provide sufficient funding for the workforce, and ensure service delivery in response to COVID-19 (NHS 2020).

# To ensure that essential health services were provided without disruption during the pandemic, the Korean government implemented various types of payment methods including extra fees and early payment.

However, many countries outside Europe often had different market landscapes, with the majority having private providers or feeble purchasing power. In Ghana, patients who worried about the risk of infection opted for self-medication and home treatments (Abor and Abor 2020). This resulted in the adverse effect of those patients becoming reluctant to stay enrolled in the National Health Insurance scheme. Hospitals could not adhere to clinical guidelines due to a lack of resources even before COVID-19. The Ghanaian case shed light on the fact that payment and reimbursement are prerequisites for appropriate and sufficient service delivery.

**To ensure that essential health services were provided without disruption during the pandemic, the Korean government implemented various types of payment methods including extra fees and early payment.** In Korea, the social discussion and providers' requests for the lost compensation began during the 2015 Middle East Respiratory Syndrome (MERS) outbreak (Baek and Kim 2020). At that time, a private hospital brought the case to the court by suing the health authority. Even though Korean health authorities regarded medical services as goods of public interest, medical institutions insisted that government intervention was violating individual property rights. The gap in perspectives recurred with the COVID-19 pandemic.

The Korean government mobilized government officials who were paid on a seniority-based payroll system and used primary health centers and public hospitals (10 percent in total) to implement policy measures. It also implemented a prepayment method in which 90 to 100 percent of the average monthly reimbursement of the previous year was paid in advance, and an early payment method in which 90 percent of the claimed payment was reimbursed per se before the claim review was settled. Both methods require auditing but made faster the financial flow to prevent deficits in medical institutions. Furthermore, the government prepared a legal basis for compensation for income losses (Lee et al. 2022). The compensation could be provided not only to medical institutions, but also to other businesses that adhere to government guidelines and quarantine policies. For medical institutions, compensation was funded from the government budget for secured hospital beds, income loss due to the decrease in non-COVID-19 patients, and income loss due to temporary closures or excess expense for disinfection procedures. In the case of a week's hospital closure, the average paid leaves for the private provider totaled about ₩3.6 million (Korean won) on average (equivalent to US\$2800) (Park, Lee, and Kim 2020).

In December 2020, the first administrative order for mandating hospital beds for COVID-19 patients was initiated for tertiary and general hospitals in the Seoul metropolitan area. Subsequently, providers criticized the abuse of executive orders a total of six times in the second half of 2021, during August, September, November, and December. According to the guidelines applied from December 2020 to December 2021, an intensive care unit (ICU) bed for COVID-19 patients would be reimbursed five times if not used, or 10 times if used, compared to the pre-existing fee per day. Even beds for treating moderate patients could be reimbursed two times if not used, or five times if used, compared to the pre-existing fee per day. The reimbursement rates began to be differentiated in December 2021. Due to the Omicron variant, the rate increased to 14 times higher during the first five days of hospitalization. Table 4 summarizes extra provider payments in Korea during the pandemic.

**Table 4:** Extra fee-for-service payments in Republic of Korea (January 2020 to June 2022)

Type	Subtypes	Amount (KRW Billion)	Amount (US\$ Million)
Infection Control and Prevention	• For infection control related to COVID-19	8.8	8.0
	• For long-term-care hospitals	214.5	195.0
	• For mental health hospitals	40.2	36.5
Testing COVID-19	• Using a polymerase chain reaction (PCR) test kit	1,531.2	1,392
	• Using a rapid antigen test kit	807.3	733.9
	• Using a PCR test kit for influenza and SARS-CoV-2	4.1	3.7
Treatment	• Admission and treatment for severely ill patients diagnosed with COVID-19	1,284.8	1,168
	• Treatment of mildly ill patients diagnosed with COVID-19		
	1. At a community treatment center	149.8	136.2
	2. By telemedicine (home treatment)	1,363.2	1,239.3
	3. For in-person care	81.8	74.4
• Emergency care to prepare and respond to COVID-19 patients	92.4	84.0	
Non-COVID Care	• For telemedicine	102.7	93.4
	• For national relief hospitals	136.1	123.7
	• For designated clinics for respiratory infection	167.5	152.3
	• For surgery and childbirth for COVID patients	2.5	2.3
	• For hemodialysis	13.3	12.1
Workforce	• For nursing management at night	43.9	39.9
	• Incentive for COVID response health care workforce	140.1	127.4
Others	• COVID-19 diagnosis prescription fee	59.8	54.4
	• COVID vaccination service fee	858.8	780.7
<b>Total</b>		<b>7,102.8</b>	<b>6,457.1</b>

Source: Author-modified data from government press releases

In Japan, provider payments for treating critically ill patients in the ICU were raised to three times higher since May 2020 (Kwon and Kim 2022). In December 2020, when Korea began mandating hospital beds, the Japanese government provided up to US\$142,000 per bed for COVID-19 patients. These measures helped secure less than 1 percent of hospital beds for COVID-19 patients (Kwon and Kim 2022). Unlike Korea and Japan, Thailand mandated private hospitals to treat COVID-19 patients and banned balance billing. A DRG-based payment was provided for hospitalized patients, with a regularly updated fee schedule to reflect market rates. The Thai government pursued public financial management by requiring all public and private hospitals to report allocation, disbursement, and use of resources, and that information is publicly available (Sachdev et al. 2022).

Thailand and Indonesia used standard claim-based financial arrangements in the public health insurance scheme (Kwon and Kim 2022). The hospital capacity was measured and monitored, including the number of ICU beds, ventilators, and health workers. Additionally, Indonesia established a special payment scheme based on a per-diem rate to accommodate hospital-level care for COVID-19 patients (Nugraha et al. 2022).

**A mixed payment and compensation system, combining prospective payments with retrospective ones, helped to ensure essential health services by preventing disruption, fluctuation, or delay in financial arrangements.** Retrospective payments such as FFS payment could put medical providers at financial risk during the pandemic because providers' incomes are based on the volume of services provided. In contrast, prospective payments such as capitation or global budgets could reduce such financial risk. In Korea, the COVID-19 pandemic led some of medical providers to pay attention to other types of payments than FFS,

even after the pandemic ended, because they realized that prospective payments could serve as a safety net in a health crisis.

New types of health services delivery models can be used to compensate for the providers' income loss, as well as to ensure the patients' access to essential health services. One example is telemedicine services in Korea. Telemedicine had been banned prior to the pandemic mainly due to the objections of the medical providers. However, it was allowed temporarily to lower the possibility of spreading infection, and the medical providers were reimbursed at 30 percent higher than usual fee levels (Lee et al. 2022).

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## 4. POLICY IMPLICATIONS AND LESSONS LEARNED

**Protecting population health was the most effective and resilient political strategy.** The world has been overflowing with an unprecedented amount of financing set for the single purpose of responding to COVID-19. However, more of this budget was allocated and spent on economic stimulus and industrial investment, and relatively less went to public health responses. For instance, many countries extended fiscal and monetary support to prevent an economic slowdown after lockdowns. Public debt was one of the means to offset the revenue shortage. Meanwhile, low- and middle-income countries had already been struggling with low tax revenues and accrued debts (Tandon et al. 2020). Low- and middle-income countries may place health care in low priority due to challenges in increasing the tax base or paying off public debts.

**Therefore, strengthening the sustainability and resilience of the health care system is the way toward national security and economic growth** (Sundararaman, Muraleedharan, and Ranjan 2021; Thomas et al. 2020). In the health care system, health financing has played a pivotal role in accelerating preparedness and response to the pandemic. This policy note concludes with the following three lessons, interrelated and drawn from the country cases that have used health financing and provider payment systems to compensate for income loss or extra expenses during the pandemic:

- 1. Governments should allocate additional budget to the health sector in response to a health crisis such as the COVID-19 pandemic.** The health care system has a pivotal role in treating those diagnosed with infectious diseases and treating critically ill or vulnerable patients. There should be alternatives and supplementary measures to improve access to care for pregnant women, newborns, the elderly with chronic diseases, the disabled, and those having mental diseases. Extensive financial management is required to strengthen the surge capacity and prevent excess mortality.
- 2. Earmarked funds collected from social insurance contributions enabled provision of essential health services with or without governments' financial support.** For extra expenses from tests, treatments, and vaccinations, social health insurance (SHI) schemes could require tax subsidies to the health sector depending on the SHI's funding capacity and institutional arrangements. Schemes could also contribute to governments distributing more tax revenue to the non-health sector to give priority to mitigation of socioeconomic damage. Thus, a social insurance scheme with a tax subsidy could increase the overall capacity and resilience of public funding in response to population health and economic impact.
- 3. A mixed payment system could boost surge capacity in the health care system and provide incentives for medical providers.** The purpose and strategy of combining payment measures often depend on an existing payment system and governance. Under a volume-based payment system, which is vulnerable to reduced usage in a pandemic, introducing prospective payments, such as capitation or global budgets, offsets the income loss of medical providers and creates a safety net by making provider payments unlinked to service volumes. Advance payments based on previous years' turnover can be a good example. Some provider payment or compensation measures can be used temporarily or lead to payment reform, enhancing the resilience of the health care system.

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