PROGRAM ECONOMIC ASSESSMENT

A. Introduction

1. The Asian Development Bank (ADB) has been a major partner in the efforts of the Government of Mongolia to reform the health sector since 1993 with commitments totaling to $247.69 million across 36 projects.[1] This policy-based loan (PBL) provides significant further assistance to combat the economic and social fallout of the coronavirus disease (COVID-19) pandemic by providing funding to reduce immediate financial budgetary pressures while ensuring commitment to necessary ongoing reform efforts.

B. Macroeconomic Context

2. Prior to the protracted global economic crisis caused by the COVID-19 pandemic, Mongolia's economy was improving. Economic growth had averaged 5.9% over the past 3 years and was forecast to grow by 6.1% in 2020.[2] Since the onset of the COVID-19 pandemic, the country has entered a deep economic recession due to the extensive negative external spillovers and the impact of domestically imposed restrictions. Economic growth forecasts have been downgraded as the economy contracted by 5.3% in 2020 driven by substantially reduced exports and capital inflows. Employment losses are estimated at 20% of total employed. While growth is expected to rebound sharply in 2021 to 5.1%—assuming the outbreak subsides regionally and globally—Mongolia's financing needs have increased substantially as budget revenues for 2020 are expected to be at least 9.2% lower than originally budgeted, while expenditures will increase by 11.7%.[3] Maintaining financial stability during these uncertain and turbulent times presents a key challenge to Mongolia's macro-policy credibility.

C. Sector Context

3. A major constraint faced by Mongolia's health sector is a critical lack of funding. State expenditure on health over the past 5 years averaged just 2.5% of the gross domestic product (GDP), which is half of the recommended target of 5.0% by the World Health Organization (WHO), and is well below the average for lower-middle income countries (5.3%).[4] Lack of primary health care funding is of particular concern. Average per capita spending of $11 is well below countries of a similar level of development, where per capita spending ranged from $15–$60.[5] Consequently, important services, such as laboratory testing and diagnostic imaging are not sufficiently delivered, leading people to bypass primary health care and seek more expensive hospital treatment.

4. While domestically imposed restrictions have been very effective at containing the spread of COVID-19 throughout the country (with just 1,349 cases of which 408 are imported, with one death as of 6 January 2021) the presence of several risk factors leave Mongolia highly vulnerable

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[1] ADB cumulative loans (7), grants (10), and technical assistance (19) commitments as of December 2020.
[2] ADB. 2019. *Asian Development Outlook 2019 Update: Fostering Growth and Inclusion in Asia's Cities*. Manila.
[3] The government announced plans to spend $1.8 billion under a targeted Countercyclical Development Expenditure Program to support public health ($71.8 million), social protection ($474 million), and economic stimulus measures to help vulnerable businesses and citizens to counter the adverse impact of the pandemic. It will raise expenditures by 11.7% over 2019.
[4] Planned expenditure for 2020 is 3.19% of the GDP. WHO. 2019. *Global Report. Global Spending on Health: A World in Transition*. Switzerland.
[5] N. Vande Maele et al. 2019. Measuring Primary Healthcare Expenditure in Low-income and Lower Middle-income Countries. *British Medical Journal Global Health.* 4 (1).

to the possibility of second and third wave outbreaks.[6] These factors include extreme weather conditions, respiratory diseases accounting for a high burden of disease, rapid urbanization and urban poverty, and 20% of its population (over 772,000 people) estimated as high risk due to age and comorbidities.[7]

5. Recent assessments have identified Mongolia's limited preparedness to respond to major health threats. A 2017 WHO evaluation indicated a need to strengthen institutions and response capacity of the health system during outbreaks. Recommendations included increasing funding and support for training of public health workforce, surveillance and risk assessments, laboratory systems, and public health emergency preparedness.[8] The 2019 Global Health Security Index found that national health security and preparedness to be fundamentally weak globally with no country fully prepared to respond to epidemics and pandemics.[9] While Mongolia ranked comparatively well (46th of 195 countries) with a score of 49.5 (out of 100, against the world average score of just 40.2); performance was below average on measures to address prevention on the release of pathogens, rapid response and mitigation of spread of an epidemic, and commitments to improve national capacity and financing. It was rated among the least prepared countries on robustness of the health system to treat the sick and protect health workers.

D. Rationale for Reform

6. National public health systems are essential components of resilient health systems and the first line of defense against the threat of pandemic disease. Robust public health capabilities and infrastructure at the national level are thus the foundation of a global health risk framework.[10] A primary health care system without the support of strong public health capabilities will lack the ability to monitor disease patterns and be unable to plan and mobilize the scale of response required to contain an outbreak. Likewise, a public health system without strong primary care service capabilities will lack both the "radar" to pick up the initial cases of an outbreak and the delivery system to execute an effective response strategy. In the context of countering the threat of infectious diseases such as COVID-19, public health and primary care serve the same ultimate objective—improving the health security of individuals.

7. Prioritizing investment in health security is necessary to reduce future pandemic risk to avoid or mitigate the severe costs of economic and social disruption that they invoke. Vulnerable groups, particularly the poor, bear a disproportionate share of these costs, and the World Bank has identified global pandemics as the greatest threat to ending extreme poverty.[11]

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[6] Worldometer. COVID-19 Coronavirus Pandemic. (accessed 6 January 2021). The government declared a 2-month nationwide lockdown starting in mid-November 2020 following the country's first locally transmitted COVID-19 case and another 2-week lockdown starting in mid-February 2021.

[7] Currently 28.4% of the population live below the poverty line, with poverty concentration growing in urban areas. A further 14.9% of the population, living just above the poverty line, are highly vulnerable to shocks.

[8] WHO. 2017. *Joint External Evaluation of International Health Regulation Core Capacities of Mongolia*. Geneva.

[9] Johns Hopkins Bloomberg School of Public health Center for Health Security and Nuclear Threat Initiative. 2019. Global Health Security Index: Building Collective Action and Accountability.

[10] Commission on a Global Health Risk Framework for the Future; National Academy of Medicine, Secretariat. 2016. Strengthening Public Health as the Foundation of the Health System and First Line of Defense. In *The Neglected Dimension of Global Security: A Framework to Counter Infectious Disease Crises*. Washington, DC: National Academies Press.

[11] O. Jonas. 2013. *Pandemic Risk*. Background paper for the World Development Report 2014 on Risk and Opportunity: Managing Risks for Development.

E. Program and Policy Formulation

8. The government has requested financial assistance from the ADB to strengthen the government's health sector response to COVID-19 and to secure medium-term reforms that will strengthen health systems and ensure that Mongolia is well prepared to respond to future health crises. The proposed PBL will incentivize reform by providing $100 million in Q1 2021 to meet the government's immediate domestic financing needs. A second subprogram amounting to $100 million is scheduled to follow later in 2021 that will deepen progress in critical reform areas by ensuring that momentum is maintained and that government attention remains focused on prioritization of health system strengthening.

9. The PBL targets four priority reform areas: (i) health sector preparedness and response to COVID-19 pandemic strengthened, (ii) governance of health sector operations improved, (iii) sustainability and efficiency of heath sector resources improved, and (iv) medium-term fiscal stability enhanced.

10. Policy actions targeting pandemic preparedness and response will focus on effective coordination and timeliness of the government's National Disaster Response Plan in the event of a domestic outbreak of COVID-19 or another pandemic. ADB will support the government to (i) establish a single incident management system to integrate multiple existing and fragmented structures; (ii) develop an inter-sector management information system and COVID-19 database, ensuring cross-sectoral coordination; and (iii) establish a national storage facility to stockpile emergency supplies of medicines, medical devices, and protective equipment, including regulations and appropriate protocols for the effective management of the stockpile.

11. Reform areas 2 and 3 will address systemic health sector issues whose strengthening will deliver improved quality and efficiency savings across the health system and health care services. The program will build on and secure benefits identified through previous ADB-supported pilot programs and accelerate government efforts to translate these gains into permanent structural improvements.[12] Policy actions to improve governance of health sector operations include: (i) strengthening the functions to regulate medicines by ratifying the Law on Medicines and Medical Devices and establishing the National Pharmaceutical Regulatory Authority; and (ii) increasing the quality and efficiency of hospital-based services, including support for gender inclusive health care, by advancing a pilot of financial autonomy in three public hospitals. Policy actions targeting sustainability and efficiency will enhance pooled procurement of medicines and medical supplies under the prequalification and framework agreement and increase financial protection of individuals by transforming the Health Insurance Fund as a single purchaser of health services.

12. Maintaining momentum in key health reforms presents a major challenge for the government given the significant pressures on financial and resource allocation associated with COVID-19 response and relief measures. The PBL provides the fiscal space to enable reform efforts to progress while also imposing the fiscal discipline to ensure financial stability over the medium term. Policy actions under reform area 4 will ensure that structural deficit is no more than

[12] For example, ADB helped the government to develop the regulatory framework for framework agreements with national suppliers and successfully piloted the bulk procurement of 17 items of essential medicines for 43 public hospitals nationwide (ADB. Mongolia: Improving Access to Affordable Medicines in Public Hospitals). Similarly, ADB has assisted in revising the regulatory framework for hospital autonomy which is stipulated in various legal acts such as the Health Law (amended in 2008, 2011, 2016, and 2020), the Medical Care and Service Law (amended in 2016), and the State Policy on Health, 2017–2026 (ADB. Mongolia: Strengthening Hospital Autonomy).

5.1% in 2021 and 3.6% in 2022, consistent with the medium-term fiscal framework which shows gradual reduction of the fiscal deficit in line with the Fiscal Stability Law, 2010.

F. Transmission Mechanisms

13. The various policy and regulatory reform initiatives, targeting governance and operational service improvements, are expected to generate productivity and efficiency gains through better coordination to reduce duplication of effort, improve response time, and lower costs of essential medicines and health insurance. This, in turn, will reduce costs to consumers and induce higher private investment in health care and insurance. Cost savings to public health will provide a source of sustainable financing to strengthen capacity to combat COVID-19 and respond to future health crises. Investments in disaster resilience and pandemic preparedness will help alleviate poverty, especially because infectious diseases tend to affect poor people disproportionally. Preparedness will also contribute to shared economic prosperity, by avoiding losses when disasters occur, and by stimulating innovation and economic development because investment risks are reduced.

G. Program Benefits

14. Program benefits are assessed in terms of (i) avoided economic and social losses of future pandemics, and (ii) productivity and efficiency savings attainable through the suite of health system reforms supported by the PBL. The analysis follows the approach recommended for policy-based lending by ADB, where economic benefits are related to the direct and indirect losses that will not ensue should a future pandemic occur, (rather than annual streams of benefits typically generated by other investments projects, as would be the case for productivity and efficiency savings).[13] While it is not possible to precisely quantify impacts of future pandemics, the analysis draws on international evidence and reliance on analysis of past pandemics to discern the range and scale of potential impacts. Preliminary estimates of the economic fallout from COVID-19 were also assessed, however, given the pandemic's unprecedented speed and global reach, quantifying its full economic impact may take several years.

15. **Estimation of benefits (avoidable costs of pandemics).** Pandemic risk is a combination of low probability, infrequent occurrence events that—in the absence of prevention and containment measures—generate severe economic and societal impacts. Estimating avoidable costs from pandemics is more complicated than standard cost-benefit exercises because they are necessarily probabilistic. Furthermore, risks are rising, especially due to the level of globalization and interconnectedness, but also the accelerated pace of urbanization, increasing the speed of contaminations, thus reducing lead times for authorities to enact and coordinate countermeasures.

16. There have been various attempts in the past to quantify economic losses caused by pandemics using historical data. Modelling by the World Bank in 2013, for instance, estimated that a severe influenza pandemic, equivalent to the 1918 Spanish flu, would generate economic losses amounting to 4.8% of the global GDP, or more than $3 trillion (footnote 11). This equates to annual expected value of $30 billion.[14] Some estimates of the economic fallout from COVID-19 already exceeded this amount. Around 60% of this impact would be caused by the disruptive effects of containment measures (shutting down economic and public life) while a further 28% would be due to lost production resulting from job losses, high worker absenteeism, etc. A similar

[13] ADB. Guidance Note for the Economic Assessment of Policy-Based Lending. Unpublished.
[14] This assumes a 1% probability of occurrence in any given year, i.e., a once-in-a-100-year event.

distribution of impacts was found in a 2007 study that analyzed the Avian flu outbreaks in South America, Asia, Europe, and Africa—which quantified direct and indirect impacts including spillover and wider societal impacts—and found 70% of the overall cost impact is indirect but fully attributable to the underlying contagion.[15] This compared to health sector control costs of just 4%.

17. While most studies measure economic losses in terms of direct costs (e.g., medical and hospitalization costs) and indirect costs (e.g., lost earnings due to illness and productivity costs), a more recent model expanded the concept of income losses to incorporate the intrinsic cost of excess mortality.[16] This study estimated the expected annual cost of pandemic influenza at 0.6% of global income (approximately $500 billion) including both lost income and the intrinsic cost of elevated mortality. The estimated proportion of annual national income represented by the losses varied according to country income grouping, from 0.3% in high-income countries to 1.6% in lower-middle-income countries (Table 1).

Table 1: 2015 Mortality and Economic Losses from Influenza Pandemic Risk

	Country Income Group				
Variable[a]	**Low**	**Lower-middle**	**Upper middle**	**High**	**World**
1. Expected mortality (thousands of deaths/year)	120	390	180	28	720
2. Expected annual economic losses (% of GNI/year)[b]	1.1	1.6	1.0	0.3	0.6

GNI = gross national income.

[a] Data are based on modelled risk of either a moderate or severe pandemic in 2015.

[b] Combined loss of national income and intrinsic loss associated with elevated mortality.

Source: V. Fan et al. 2018. The Loss from Pandemic Influenza Risk. In D. Jamison, H. Gelband, S. Horton, P. Jha, R. Laxminarayan, C. Mock, eds. *Disease Control Priorities*. Washington, DC: World Bank.

18. Initial estimates of the economic impacts of COVID-19 in Mongolia serve as a baseline for determining future avoidable losses. An ADB-supported research estimated economy-wide and sector-specific impacts of COVID-19 under scenarios based on outbreak severity and duration to contain the pandemic.[17] Where no significant domestic outbreak (defined as greater than 1,000 COVID-19 cases) has occurred, economic impacts are assessed in terms of losses incurred due to global spillovers. The estimated impact is relative to a "no-COVID baseline" scenario. Results for Mongolia are summarized in Table 2, which ranges from –4.1% of the GDP under the global spillover and short-term containment scenario to –8.6% of the GDP under the significant outbreak and long-term containment scenario. Figure 1 provides details on how sectors within the economy will be affected and also decomposes the channels (tourism, other external demand, and domestic demand) through which the economy will be affected under the significant outbreak scenario.

19. However, these results appear to significantly understate the likely full economic impact. Despite thus far having avoided a significant domestic outbreak, Mongolia's downgraded growth forecast of –5.3% for 2020 (down from 6.1% pre-COVID-19) represents an 11.4 percentage point contraction—equivalent to $1.60 billion in constant price terms—which exceeds the significant outbreak–long-term containment scenario. Assuming COVID-19 is a once-in-a-100-year event, this represents an annual expected value of $16.0 million. By contrast, the annual expected value

[15] World Organisation for Animal Health. 2007. *Prevention and Control of Animal Diseases Worldwide: Economic Analysis–Prevention Versus Outbreak Costs.* Consultant's report. Paris.

[16] V. Fan et al. 2018. Pandemic Risk: How Large are the Expected Losses? *Bulletin of the World Health Organization*. 96 (2), 129–134.

[17] A. Abiad et al. 2020. The Impact of COVID-19 on Developing Asian Economies: The Role of Outbreak Severity, Containment Stringency, and Mobility Declines. In S. Djankov and U. Panizza, eds. *COVID-19 in Developing Countries*. London: Centre for Economic Policy Research.

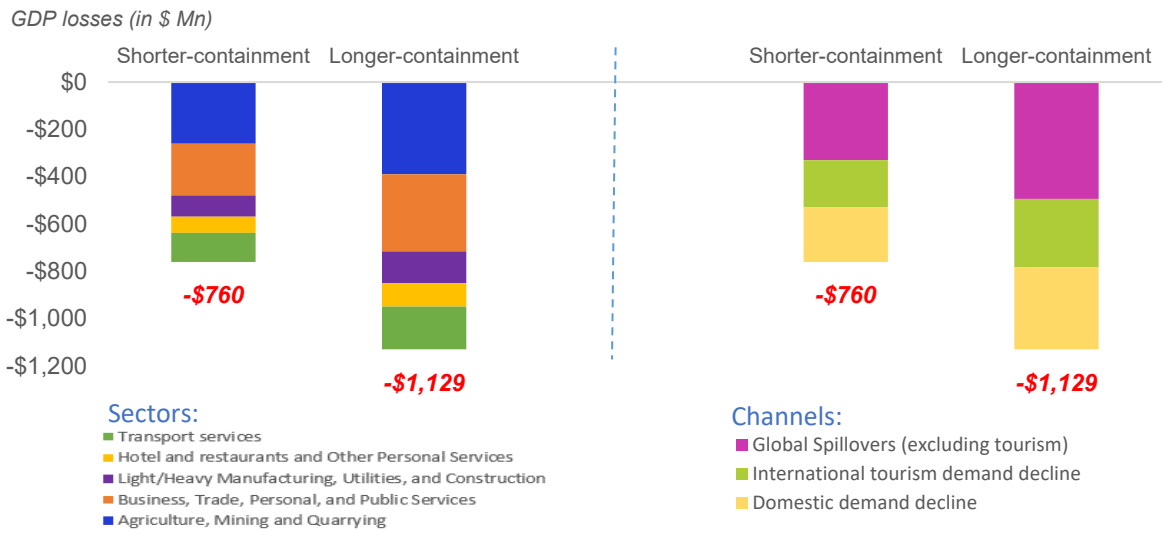
of income losses could be as high as $196.7 million using the 1.6% share of gross national income estimate for lower-middle-income countries.[18]

Table 2: 2020 Estimated Economic Impacts of COVID-19 in Mongolia

	Short-term Containment Scenario		Long-term Containment Scenario	
Scenario	as % of GDP	($ million)	as % of GDP	($ million)
1. Impact from global spillover only	(4.1)	(550)	(6.0)	(783)
2. Total impact if significant outbreak occurs	(5.8)	(760)	(8.6)	(1,129)

GDP = gross domestic product.
Source: A. Abiad et al. 2020. The Impact of COVID-19 on Developing Asian Economies: The Role of Outbreak Severity, Containment Stringency, and Mobility Declines. In S. Djankov and U. Panizza, eds. *COVID-19 in Developing Countries*. London: Centre for Economic Policy Research.

Figure 1: Estimated Economic Impact of Significant COVID-19 Outbreak in Mongolia



COVID-19 = coronavirus disease, GDP = gross domestic product.
Source: A. Abiad et al. 2020. The Impact of COVID-19 on Developing Asian Economies: The Role of Outbreak Severity, Containment Stringency, and Mobility Declines. In S. Djankov and U. Panizza, eds. *COVID-19 in Developing Countries*. London: Centre for Economic Policy Research.

20. **Distributional impacts.** Another preventable cost resulting from investing in health security and pandemic preparedness relates to the adverse distributional consequences where vulnerable groups, particularly the poor, are disproportionately impacted. Recent poverty projections suggest that the social and economic impacts of the current crisis are likely to be quite significant. Projections from the June 2020 Global Economic Prospects report show that, when compared with pre-crisis forecasts, COVID-19 could push 100 million people into extreme poverty in 2020.[19] The number of people living under the international poverty lines for lower and upper middle-income countries with $3.2/day and $5.5/day in 2011 purchasing power parity, respectively, is also projected to increase significantly, signalling that social and economic impacts will be widely felt. Specifically, under the baseline scenario, COVID-19 could generate 176 million additional poor at $3.2/day and 177 million additional poor at $5.5/day. This is equivalent to an increase in the poverty rate of 2.3 percentage points compared to a

[18] Based on 2019 gross national income of MNT32,738.4 billion and exchange rate of MNT1.0 = $0.000375.
[19] World Bank. 2020. *Projected Poverty Impacts of COVID-19*. Washington, DC.

no-COVID-19 scenario. For Mongolia, this translates to an increase in the poverty headcount of 76,000 persons. ADB's more recent study suggests varying degree of poverty incidence in the post-COVID-19 environment for Mongolia.[20] The results of the simulations reveal that with COVID-19, decline in per capita consumption in the range of 5%–20% is expected to increase the poverty incidence from 28.1% to as high as 39.8%.

21. **Estimation of prevention and control costs.** In comparison to the scale of avoidable costs, estimates of the cost of strengthening preparedness are not exorbitant. The 2013 World Bank study (footnote 11) found that spending $3.4 billion annually would bring veterinary and human public health systems in all developing economies to performance standards set by the WHO and the World Organisation for Animal Health. These standards cover capacity for early detection, correct diagnosis, and prompt and effective control of contagion. By comparison, localized outbreaks across the globe occurring between 1997 and 2009 (i.e., that did not become pandemics) cost $80 billion, or $6.7 billion per year.[21] The expected value of economic benefits of better preparedness therefore would be at least this value, well above the level of expenditure required for preparedness and prevention. Similarly, the United States National Academy of Medicine estimates that committing an incremental $4.5 billion annually, for strengthening national public health systems, funding research and development, and financing global coordination and contingency efforts, would significantly reduce the severity of future outbreaks.[22] For developing countries, estimates of World Bank and WHO suggest an average spend of $1.69 per capita per annum is required to mitigate against future losses.[23] For Mongolia, this equates to $5.57 million annually (around 1.70% of health expenditure or 0.02% of the GDP).

22. **Productivity and efficiency savings.** While it is difficult to precisely quantify productivity and efficiency savings from the various governance, regulatory, and operational reform initiatives, there is an extensive international literature which confirms systemic reforms generate large positive returns and lead to sustainable health financing and improved health outcomes. A detailed cross-country comparison by the WHO, for example, estimated achievable global savings of $1.4 billion annually.[24] For lower-middle income economies, potential productivity savings, as a share of total health expenditure, included: 7%–14% for human resources initiatives; 2%–5% for medications; 5%–11% for hospital reforms; with total health sector savings of 20%–40% achievable across all activity categories assessed. Reinvesting savings to achieve allocative efficiency within the health sector would generate sustainable health financing with a view to achieving universal coverage.[25]

23. Based on 2019 health expenditure in Mongolia, a conservative estimate of 5% in efficiency gains, achievable from the PBL reforms, can yield $16.7 million in annual savings. These are substantial gains, it is, however, important to note that these estimates are just for illustrative purposes and by no means should be treated as the actual outcomes of the policy reforms. The extent of potential savings from one policy action, e.g., pooled procurement of pharmaceuticals, can be estimated drawing results from an ADB-supported pilot study which helped the government to

[20] ADB. COVID-19 and Poverty: Some Scenarios. Unpublished.
[21] K. Smith et al. 2019. Infectious Disease and Economics: The Case for Considering Multi-Sectoral Impacts. *ScienceDirect*. 7 (100080).
[22] Commission on a Global Health Risk Framework for the Future; National Academy of Medicine, Secretariat. 2016. The Case for Investing in Pandemic Preparedness. In *The Neglected Dimension of Global Security: A Framework to Counter Infectious Disease Crises*. Washington, DC: National Academies Press.
[23] World Bank Group. 2019. *Pandemic Preparedness Financing Status Update*.
[24] WHO. 2010. *Improving Health System Efficiency as a Means of Moving Towards Universal Coverage*.
[25] Defined as access to promotive, preventative, curative, and rehabilitative health interventions for all at an affordable cost, thereby achieving equity in access.

develop the regulatory framework and agreements with national suppliers for the bulk procurement of 178 essential medicines for 43 public hospitals (footnote 12). Findings showed medicines to be of poor quality (30% of medicines on the market are substandard, illegal, or counterfeit) and expensive (consumer prices ranged from 2.5 to 5.5 times the international reference price). The pilot study achieved average procurement savings of 30%.[26] A roll out of this initiative alone to a full range of 400 prescribed medicines across all hospitals is estimated to result in an annual net savings of $4.2 million.

H. Cost of the Reforms

24. The costs associated with the establishment, operation and maintenance of the national stockpile of emergency medical resources, and administrative costs of regulatory and policy reforms, are yet to be determined. Based on the analysis presented above, operation and maintenance costs of prevention and preparedness initiatives will be quite modest in comparison to the avoidable costs of future economic disruption. Furthermore, these costs could be readily absorbed by productivity and efficiency reforms delivered under the PBL ensuring that the program is financially sustainable.

I. Effects of the Reforms

25. Even with the full impact of COVID-19 still emerging, more must be done to significantly increase global preparedness and risk awareness for the inevitable outbreak of future influenza and other pandemics. From the above analysis, avoidable costs of a future COVID-19 equivalent pandemic range from $16.0 million annually (assuming a single once-in-a-100-year event is avoided) to $196.7 million annually (when more frequent smaller outbreaks and intrinsic costs of increased mortality are included). The expected value of economic benefits of better preparedness and prevention, therefore, would be at least $16.0 million per year, well above the estimated investment of $5.57 million needed per year for prevention and control. Furthermore, potential efficiency savings of $16.7 million per year will fully offset this needed investment. The impact of the program, therefore, will be that health outcomes in Mongolia improved such that adverse effects of the COVID-19 pandemic are mitigated, and future economic and social losses are avoided. A more financially sustainable, coordinated, and efficient health system will result in improved access to better targeted and gender-responsive health care services. Poor and vulnerable communities, in particular, will benefit and poverty will be alleviated. Improved health outcomes and a more resilient population will induce greater private investment in health sector and health insurance.

[26] ADB. 2019. *Technical Assistance Completion Report: Improving Access to Affordable Medicines in Public Hospitals in Mongolia*. Manila.