The 2019 novel Coronavirus (COVID-19), first reported from Wuhan, People’s Republic of China (PRC), on 31 December 2019, is the latest emerging infectious disease to be declared a public health emergency of international concern. The situation is rapidly evolving, with more than 43,000 confirmed cases reported from at least 25 countries, and more than 1,000 deaths as of 11 February 2020, with PRC accounting for nearly all (99%) cases and deaths.

The ease of world travel and increased global interdependence have added complexity to containing diseases like the COVID-19 that affect the health and economic stability of societies. The immediate challenge is to respond urgently to contain the spread of the novel virus and to rapidly identify, isolate, and treat infected patients, but in ways that would help improve future responses.

Besides the enormous human toll, the economic impact of cross-border transmission and the spread of emerging infectious diseases on tourism, trade, and productivity can reach billions of US dollars.

As the world faces the daunting task of containing the spread of COVID-19 and treating the ill, past evaluations of the financial and technical responses from multilateral agencies including the Asian Development Bank to Severe Acute Respiratory Syndrome (SARS), Ebola, and Avian Influenza provide some lessons on supporting countries during and after the critical phases of the outbreaks.
A. Lessons on Immediate Response

1. **Ensure ownership and coordination of support at the highest level of government.** A key determinant of program success is strong ownership and commitment from the highest levels of government, which in turn requires tailored approaches. In the case of the response to the SARS outbreak in the PRC, clear and unambiguous signals were conveyed at all levels to initiate evidence-based action to the crisis, policy discussion and debate were encouraged as a basis for policy development and action, staff capacities were strengthened at all levels to respond to the emergency, level of transparency and openness were enhanced, and the general public was involved in epidemic response, and resources were mobilized to support the national response. During the 2014-16 Ebola outbreak in West Africa, Mali, Senegal and Nigeria established emergency operations centers that facilitated response and coordination efforts of all parties involved.

2. **Grant financing is essential.** Given the global public goods nature of the spillovers from the response to emerging infectious diseases, availability of grant financing is crucial at the country level. Low income countries would be especially unwilling to undertake projects supporting a global public good without grant funding. With the provision of grant financing, more can be done to encourage inter-country cooperation at the regional level, such as for sharing data, samples, and technical resources. The evaluation of the World Bank’s Global Program on Avian Influenza Control and Human Pandemic Preparedness and Response (GPAI) found that during the avian influenza outbreak, some countries didn’t perceive much threat or risk, or lacked interest in using their own funds to support a global public good. Grant funding was useful in making support for avian influenza interventions more affordable to these countries.

3. **Partner with specialized technical agencies.** The convening and financing role of financial institutions like ADB and the World Bank, works better when combined with the technical expertise of specialized UN agencies like the World Health Organization (WHO). Crisis response support coming from multiple partners often become uncoordinated and can overwhelm recipient governments. ADB partnerships with WHO’s regional offices in the Western Pacific and Southeast Asia were key to rapidly and effectively responding to the SARS and avian influenza outbreaks. While ADB allocated funds for countries in the region, WHO helped assess the technical quality and appropriateness of country requests. ADB’s financial and convening power and its flexibility and responsiveness helped build links and strengthen collaboration between WHO, Food and Agriculture Organization, and the World Organization on Animal Health. Collaboration with the WHO was key in the African Development Bank’s response to the Ebola outbreak in West Africa, especially since Government systems in the region were weak. This global coalition was a key component of the response to the Ebola virus outbreak in West Africa.

The World Health Organization (WHO) on 30 January 2020 declared the coronavirus a public health emergency of international concern. The agency described the emergency as an "extraordinary event" as other countries are at risk. Therefore a coordinated global response is required in order to contain a virus that broke out in the Chinese city of Wuhan. Photo credit: Salvatore Di Nolfi/Keystone via Associated Press.
Include compensation mechanisms in the response. In the case of avian influenza, compensatory mechanisms for culled birds proved to be a critical element in encouraging farmers to report outbreaks and allow their birds to be culled, rather than trying to sell sick birds and spread the disease. It is important that those affected are aware of and have full confidence in the system, so mechanisms need to be designed and publicized before disease outbreaks occur. Sustainable disease control capacity also requires long-term availability of resources for compensation for those affected, especially if they are poor and vulnerable. The establishment of a mechanism using existing institutions and setting appropriate payment rates are prerequisites for this. In Nigeria, which established a well-financed and functional compensation mechanism with a high degree of transparency, most outbreaks of avian influenza in the commercial sector were reported by farmers. Similarly, in Lao People’s Democratic Republic, a compensation system was established with rates that were high enough to encourage farmers to report avian influenza cases. On the other hand, although a compensation system was established in Nepal, the payment rate was too low to motivate farmers to report bird deaths. During the Ebola crisis, the World Bank Group also provided support to poor households through cash transfers and provided seeds to farmers to plant in their fields.

Design rapidly but be mindful of quality at entry. An expedited project preparation process in response to a crisis can lead to quick project approval, but it could come at the expense of weak quality at entry and poor results. To respond to the outbreaks of avian influenza in 2003–04, the World Bank under the GPAI established a broad template for investment projects listing specific activities that the Bank committed to finance, and put in place a method for rapid project approval where the Board was not required to review each individual project prepared under this template. The evaluation of these projects identified a number of issues with quality of entry. The commonly cited were failure to establish a single project coordinator in the government responsible for implementation of the whole project, vague specifications of the precise activities to be supported, and overestimation of the capacity of implementing agencies. In the first project in Viet Nam, a lack of mechanisms for donors to work together made it difficult to coordinate activities. In some cases (Egypt, Bangladesh) there was a disconnect between project objectives (which had animal and human health goals) and project designs (which had only animal health activities).

Ensure design includes cross-disciplinary and sub-regional cooperation. For effective response to health crises at the country level cooperation and coordination across sectors and sub-regions is imperative. Avian influenza required effective collaboration between animal health and human health experts at the strategic and implementation levels. ADB’s response to avian influenza supported the One Health concept which emphasizes the links between animal health and human health and emerging animal and human diseases. Zoonotic diseases

Many countries, both within and outside the region, have stepped up their precautionary measures over coronavirus. Outside People’s Republic of China, the most number of confirmed cases were from Singapore (45), Hong Kong (42), and Thailand (33) (as of 11 February 2020).
like avian influenza are likely to persist and the chance of transmission to humans remains high. The primary goal of a longer-term strategy is often to prevent the transmission of the disease from animals to humans. Key dimensions of a strategy include: prevention, monitoring, control, mitigation, eradication, and human protection. Implementing the strategy can be complicated in decentralized contexts with multiple agencies and stakeholders. As such, improved governance, incentives, awareness and collaboration between stakeholders, including bringing farmers on board is essential particularly as the longer-term objective is prevention. For example, improved sanitation practices on farm and in particular at live bird markets are key steps but need to be complemented with other activities and functions. In Bosnia and Herzegovina and Turkey, the GPAI projects covered only zoonotic diseases in poultry and not in other animals. Although no cases of avian influenza were detected in Bosnia and Herzegovina, outbreaks of brucellosis (a zoonotic disease) in sheep and goats led to 1,700 human infections and the culling of 75,000 animals. In Turkey, the avian influenza outbreaks were successfully controlled, but did not address outbreaks of brucellosis which caused over 64,000 cases in humans. A top priority in the case of outbreaks is to quickly build the capacity to detect, treat cases, and contain the outbreak. For instance, in the case of the Ebola outbreak key factors for successfully controlling it were fast contact tracing, monitoring the contacts, and isolating those with infections.

Focus on intermediate outcomes in results frameworks. Monitoring and evaluation systems could be made more useful by shifting to an approach that tracks the performance of intermediate outcomes in biosecurity, surveillance, diagnosis, and outbreak response. The results framework of the GPAI template focused on outputs such as production of preparedness and response plans and strategies, rather than performance of surveillance and diagnostic systems, and existence rather than effectiveness of communication campaigns. The project in Lao People's Democratic Republic offers a practical example with useful indicators. Useful intermediate outcome indicators in this project included the percent of samples reaching the laboratory within 48 hours, the percent of diagnostic tests of suspected cases done within 48 hours of receipt, the percent of provinces sending weekly surveillance reports on time, and the percent of outbreaks where response occurred within 24 hours.

B. Lessons on Medium-Term Response

Build flexible response systems beyond single diseases. Single disease interventions can lead to a patchwork response system with facilities that are not well utilized or coordinated from an overall public health perspective. System capacity can be built to manage multiple diseases in a more flexible fashion. In the Philippines, ADB’s support for control of avian influenza helped strengthen systems to respond to the outbreak of avian influenza, but also outbreaks of dengue and other emerging diseases at the level of local government units.
Build sustainable disease surveillance systems. Disease surveillance and diagnostic systems were improved in many countries but sustaining them proved to be a challenge in the absence of external financing after project completion. Creativity and innovation by building on existing institutions can help in addressing this challenge. For instance, Nigeria made efforts to sustain these systems by locating laboratories within university teaching hospitals and including surveillance and diagnostic testing in the curriculum. This could be a useful model to train future laboratory experts, and maintain the surveillance systems through participation of students, although some level of public funding may still be needed. Similarly, in Mali to increase the staff numbers, medical students trained in epidemiology were used for contact tracing of Ebola cases.

Engage communities and build local capacity. Community engagement is critical for active disease surveillance, especially case identification in communities to cast a wide net of surveillance efforts beyond paid staff. In West Africa, UNICEF credited the community-based model for mobilizing and empowering the communities as partners in the response to the Ebola outbreak. As a result, UNICEF was able to encourage community behavior changes (such as safe burials, handwashing, and early isolation) and enable early isolation through the provision of community-based isolation efforts (in community care centers) within a larger system. Early efforts to build awareness in communities and strengthen local capacity can sustain continuation of surveillance efforts and response to future outbreaks, if and when they arise.

C. Lessons on Longer-Term Response

Ensure public health crises are included in national disaster risk management frameworks. The current model of responding to health crises after they occur needs a paradigm shift, with a move towards incorporating risk reduction and management. Pandemic preparedness and risk reduction in one country provide positive externalities to others. This also provides a strong rationale for national disaster risk management policies to include public health crises, which is not the norm.

Consider establishing a center for infectious disease control at the regional level including Biosecurity Level 3 (BSL3) laboratories. A regional center could be established to improve surveillance, emergency response, and prevention of infectious diseases. This center could also serve as a platform for sharing knowledge and building capacity across countries in the region. BSL3 laboratories allow for more advanced confirmation testing to be conducted within a country, but they are expensive to build, maintain and operate, and require significant and ongoing technical expertise. These facilities could be considered at a regional level instead, and countries can be encouraged to share samples, facilities, and data. In the case of GPAI, at project appraisal at least 13 countries planned to construct BSL3 laboratories, but due to the factors discussed above, only three successfully completed construction.
Strengthen regional integrated disease surveillance networks. A core capacity requirement under the WHO International Health Regulations is maintenance of a “sensitive and flexible surveillance system with an early warning function”. Strengthening core capacity to detect, assess, report, and respond is essential to preventing the spread of infectious diseases. Stronger systems could have contributed to preventing the Ebola outbreak in Guinea, Sierra Leone, and Liberia, as demonstrated by the response of Mali, Nigeria, and Senegal.

References


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About the Independent Evaluation at Asian Development Bank
The Independent Evaluation Department evaluates the policies, strategies, operations, and special concerns of the Asian Development Bank relating to organizational and operational effectiveness. It contributes to development effectiveness by providing feedback on performance and through evaluation lessons.

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