

Title: Lessons learned during the early phase of the COVID-19 pandemic in the Philippines

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Abstract

Context: The COVID-19 pandemic continues to impact countries across the globe affecting 213 countries and more than 8 million people as of 20 June. For the same date, the Philippines recorded 29,400 cases and 1,150 deaths (case fatality rate, CFR: 3.9%).

Problem: This pandemic is exposing the fragilities of even the most advanced health systems and is an even greater threat to countries with weak health systems. The Philippines is an archipelagic developing country that has significant limitations in health systems resource and capacity.

Action: As an early response to COVID-19, the government implemented a lockdown in the epicenter, Metro Manila, which was later expanded to other regions. This was necessary because the country was unprepared for the pandemic, requiring building of capacities. During the two-month lockdown from March to May, the government made some progress in strengthening capacity for disease surveillance, primary and critical care; increasing capacity for testing; and preparing quarantine facilities for possible surges in cases.

Lessons learned: The country rapidly built capacities during the two-month lockdown. There remain gaps in capacities, and issues in local data and communication strategies. As we move away from lockdowns, we need to sustain efforts in increasing capacity in

the different components of the pandemic response and effectively communicate to the public about the importance of public health interventions. These interventions or 'harm-reduction strategies' like mask wearing are realistic and sustainable, recognizing the needs of individuals while maximizing the protection of others and preventing an overwhelmed health system.

COVID-19 pre-publication

The Philippines is an archipelagic lower middle-income country with a population of more than 100 million. Its health system has significant limitations in resource and capacity but is transitioning towards universal healthcare, and a strengthened coordinated surveillance and outbreak response. In an earlier report, we discussed the early experiences and challenges of the country in responding to COVID-19.¹ In mid-March, the country was in the early implementation of an 'enhanced community quarantine' (ECQ) or lockdown in Metro Manila, the epicenter of COVID-19 in the Philippines. There were about 217 cases and 16 deaths, and only one laboratory accredited for testing. From lockdowns and strict social distancing measures, the country is now implementing a phased reopening of organizations, businesses, and communities to restart the economy.

The early response to COVID-19 in the Philippines managed to prevent many cases and deaths. However, because there is still no cure or treatment, sustained efforts are necessary to protect communities and frontline workers. The country only has 52,000 contact tracers, which is far from the target of at least 130,000 contact tracers to have a 1:800 contact tracer to general population ratio.² The government aimed to achieve 30,000 tests per day by the end of May; however, by middle of June, only about 10,000 tests per day could be conducted due to shortages in reagents, equipment, manpower, and/or the mismatch between capacity of laboratories and actual demand for testing. Primary care facilities have been grossly underutilized during this pandemic, and hospitals have not substantially increased their procurement of ICU beds and ventilators. As such, there is still a lot of work to be done across all critical components of the pandemic response throughout the country.³

We summarize our lessons learned: what capacity has been hardest to build, what challenges and binding constraints must be overcome and how they have been addressed. We also provide some recommendations to guide subsequent responses to the ongoing pandemic and future health emergencies:

1. The needed capacities were rapidly built during the two-month lockdown.

However, there are remaining gaps in capacities.

The lockdown allowed the government to achieve the following in a short span of time: (a) enhance surveillance and contact tracing by establishing reporting mechanisms and public data repositories, and hiring some 52,000 contact tracers; (b) build capacity in laboratories and testing by providing support and training resulting to an additional 61 accredited laboratories and capacity for testing 30,000 samples per day; (c) prepare quarantine facilities to accommodate more than 50,000 people; (d) sustain operations of primary care centers and provide online consultations for patients of different diseases; and (e) build capacity for critical care by reserving more than 10,000 beds for COVID-19 patients and almost 2,000 mechanical ventilators. Despite substantial gains in ramping up capacities, there are remaining issues that need to be addressed if we are to prevent an upsurge of cases and an overwhelmed health system (Table 1).

2. The country is not prepared in dealing with health emergencies emphasizing the need for a more proactive response to public health crises.

This pandemic has exposed the fragilities of even strong and advanced health systems, more so of weak health systems. In the case of the Philippines, this crisis has exposed the country's lack of preparedness in dealing with health emergencies across all levels of government. The country's leading coordinating body for controlling emerging infectious diseases, the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF-EID), issued its first statement on COVID-19 almost a month after the disease was first reported in China.⁴ There was evidence of local transmission for about a week by the time the lockdown was declared in March.⁵ Local governments were unprepared for dealing with the pandemic: how to enact the policies of the IATF-EID in their constituencies; how to build and scale-up capacity for testing, contact tracing, quarantine, isolation, and treatment; how to manage data; how to transition from a hard lockdown towards gradual reopening of businesses; and how to effectively communicate data and policies to the public. Such glaring deficiencies highlight the need for investments in public health preparedness, especially in capacitating local government units in responding to local health emergencies. Currently, there are bills being filed in the legislature to increase investments in public health preparedness such as in public health facilities over the next 10 years.

3. Good data quality is a prerequisite of good evidence-informed policies. But there is still a lot of work to be done to improve quality and availability of data.

Quality and availability of data are critical to ensure that research and evidence – on which policies depend – are accurate and reliable. Inefficient and poor data management have been causes for concern among researchers, advisers to the government, and the public. First, data are late and/or inaccurate because of reasons that include: (a) delays and incomplete reporting from sources of the case investigation form, as well as delays in manual encoding and validation; (b) varying reporting systems of health facilities (e.g., same patient provides different information to different laboratories where he/she is tested and retested); and (c) misclassification of data (e.g., city/province data are classified in the wrong region).⁶ The public and researchers have reported these issues to the Department of Health (DOH), which the department has addressed. The department has also been hiring data encoders and data managers to help with data entry, data cleaning, and data management. Second, there are difficulties in building an integrated database to collect and analyze data from various sources (e.g., hospitals, laboratories, the field, etc.) that can be used for better contact tracing and data analytics. Digital applications and platforms like COVIDKAYA and StaySafe.ph are being developed to address existing bottlenecks. Third, there are the organizational and bureaucratic issues such as concerns about data ownership and changing obsolete information technology (IT) systems that need to be addressed. The government may benefit from investments on adaptive data platforms and systems, as well as the retraining of people in information technology systems to fully digitize encoding, cleaning, and reporting of data.

4. There are communication needs not effectively addressed. This highlights the need for communication to be inclusive to all languages, health literacy levels, and social contexts.

The government has been providing regular information and education campaigns across various traditional media and social media. Despite efforts to increase knowledge and raise awareness about the disease, the government's initiatives might have only been somewhat effective. Approximately 3 months after the first cases were reported and almost 2 months into the lockdown, there are still considerable proportions of people who do not know that COVID-19 symptoms include fever (13.0%), cough (14.0%), and difficulty in breathing (54.0%).⁷ During the same period, there are still 23.0% who do not always wear a mask when going out and 36.0% who do not practice social distancing.⁸ Among those who practice social distancing, many do not observe the recommended distance of 6 feet. In addition, people are seen crowding in public areas and/or wearing masks, but not covering their nose and mouth. Lastly, cases are sometimes reported in aggregates by facilities, necessitating stratification of reports to 'fresh' and 'late' cases to avoid the impression and public anxiety that the pandemic is out of control. But it is difficult for the public and researchers to discern if the reports reflect the 'actual surge of cases' or 'surge of late reports'.

These issues show communication gaps that the government needs to address and highlight the need to make information more accessible and appropriate to the target populations, considering diversity in language, health literacy levels, and social contexts across the archipelago.

5. The two-month lockdown slowed disease transmission and provided the opportunity to build capacity in the pandemic response. However, lockdown measures are neither sufficient nor sustainable. As we begin phased reopening of businesses and communities, more sustainable public health interventions must be reinforced and implemented.

The country's lockdown was necessary because the health system was unprepared for the pandemic. After two months of lockdown, the transmission of the virus has slowed down ($R_t < 1$) demonstrating that lockdowns, together with other public health interventions, can significantly delay the exponential phase of the pandemic thus preventing an overwhelmed health system. However, lockdowns are not sustainable as people tire of isolation and lack of income. There have been reports of lockdown violations (e.g., not following curfews, holding parties and other large gatherings) and escapes from quarantine facilities. Lockdowns also raise some concerns on human rights.⁹ In addition, lockdowns make the least protected populations like the disabled, the elderly, and marginalized women more vulnerable to abuse and violence. Further highlighting its unsustainability, prolonged lockdowns are associated with higher incidence of mental disorders and diseases associated with a sedentary lifestyle.¹⁰ Lockdowns also lead to cessation of virtually all economic activity, exacerbating health and social inequities. Therefore, other interventions need to be quickly implemented and policies protecting vulnerable groups during lockdowns need to be established. As the country is slowly reopening, there remains the threat of another surge in cases. Hence, there is a need to monitor epidemiologic indicators through seroprevalance surveys. Further, public health measures like mask wearing, good hygiene practices, and social

distancing become even more important to implement as these are still the most sustainable ways to prevent the further spread of the disease and minimize the impact of COVID-19.

Conclusions

The Philippines is a resource-limited country that has managed to avert thousands of cases and deaths.^{11,12} Without interventions, there would have been 44,000 COVID-19 cases in the country reported by end of April 2020 and more than 1 million hospital beds would have been needed by mid-May.⁽¹²⁾ With the implementation of a hard lockdown, disease transmission has slowed down ($R_t < 1$).¹¹

As the country transitions from lockdowns to a phased reopening, our lessons learned and recommendations can serve as guidance for crafting future interventions and policies. First, the health system is not prepared for massive health crises, requiring the government to build and strengthen capacities. With the two-month lockdown, the government was able to achieve the following in a short span of time: enhanced surveillance system and contact tracing; increased capacity in laboratories and testing, and primary and critical care; and sustained operations in primary care centers. Notable is the increased capacity in laboratories and testing: from one laboratory at the start of the pandemic to 62 laboratories after the lockdown has been lifted; and from less than 100 samples to more than 30,000 confirmatory tests per day. Because the focus has been largely on health systems strengthening however, there remain issues in the quality and availability of data, as well as communication to the public. These two are

vital to the pandemic response of a country and should likewise be strengthened. Policies are only as good as the data,^{6,13,14} and interventions are only as good as the support and understanding of the people. As we move away from lockdowns, we need to sustain efforts in increasing capacity in the different components of the pandemic response and effectively communicate to the public about the importance of public health interventions. These interventions or 'harm-reduction strategies' like mask wearing are realistic and sustainable, recognizing the needs of individuals while maximizing the protection of others and preventing an overwhelmed health system.

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Table 1. Developments during the two-month lockdown in the Philippines and remaining challenges

Component	Capacity at the start of the lockdown in March	Capacity after two months of lockdown in June	What needs to be done?
Disease surveillance	<ul style="list-style-type: none"> • Included COVID-19 as a notifiable disease • Created a dashboard showing the distribution of cases and select patient information 	<ul style="list-style-type: none"> • Established a public data repository that contains anonymized epidemiological information • Updated the dashboard to describe health systems capacity (e.g., availability of beds, mechanical ventilators, personal protective equipment in facilities, number of tests conducted, etc.) 	<ul style="list-style-type: none"> • Streamline reporting processes to minimize delays and errors in reporting
Contact tracing	<ul style="list-style-type: none"> • Less than 30,000 	<ul style="list-style-type: none"> • A total of 52,000 contact tracers recruited and 	<ul style="list-style-type: none"> • Hire more than 80,000 contact tracers to ensure

Component	Capacity at the start of the lockdown in March	Capacity after two months of lockdown in June	What needs to be done?
		<p>deployed to health facilities to interview admitted patients or suspected cases and/or encode data</p> <ul style="list-style-type: none"> • Developing mobile applications/platforms (e.g., COVIDKAYA, StaySafe.ph, ENDCoV, etc.) to complement traditional contact tracing 	<p>that the 1:800 ratio of contact tracers to general population is met</p> <ul style="list-style-type: none"> • Conduct intensified contact tracing activities, including the use of developed mobile applications and platforms
Laboratories	<ul style="list-style-type: none"> • One laboratory providing confirmatory testing 	<ul style="list-style-type: none"> • A total of 62 accredited laboratories, at least 21 (33.9%) of which are private facilities 	<ul style="list-style-type: none"> • Accredit and capacitate more testing centers

Component	Capacity at the start of the lockdown in March	Capacity after two months of lockdown in June	What needs to be done?
Testing	<ul style="list-style-type: none"> Less than 100 samples per day conducted 	<ul style="list-style-type: none"> All accredited laboratories can cumulatively conduct more than 30,000 confirmatory tests per day and have tested more than 580,000 samples thus far There are 162 other laboratories awaiting accreditation to further boost the capacity for testing 	<ul style="list-style-type: none"> Despite increased capacity, there are only around 10,000 tests being conducted every day due to shortages in reagents, equipment, manpower, and/or the mismatch between capacity of laboratories and actual demand for testing. Thus, there is a need to improve utilization to maximize testing capacity

Component	Capacity at the start of the lockdown in March	Capacity after two months of lockdown in June	What needs to be done?
			<p>through use in expanded community testing in areas where disease transmission is widespread.</p>
Quarantine facilities	<ul style="list-style-type: none"> No active quarantine facilities 	<ul style="list-style-type: none"> Converted government facilities and venues, schools, ships, and hotels that have stopped operations are now prepared to accommodate more than 50,000 people 	<ul style="list-style-type: none"> Build facilities for use during outbreaks and disasters
Primary care	<ul style="list-style-type: none"> The Department of Health (DOH), select health 	<ul style="list-style-type: none"> No further developments 	<ul style="list-style-type: none"> Provide support to local health units who plan to offer

Component	Capacity at the start of the lockdown in March	Capacity after two months of lockdown in June	What needs to be done?
	<p> maintenance organizations, volunteer groups, and some paid services offer online and phone consultations services for COVID-19 and other diseases to prevent further disease transmission and mitigate the burden on the health system </p>		<p> telemedicine services</p> <ul style="list-style-type: none"> • Encourage people to make use of primary care facilities, especially for people who have other conditions

Component	Capacity at the start of the lockdown in March	Capacity after two months of lockdown in June	What needs to be done?
Critical care	<ul style="list-style-type: none"> • The government mandated 12 DOH hospitals and three referral hospitals to focus on handling COVID-19 patients • No national data on beds reserved for COVID patients, intensive care unit (ICU) beds, and mechanical ventilators 	<ul style="list-style-type: none"> • A total 13,669 beds reserved for COVID-19 patients, 1,280 (9.4%) of which are ICU beds • A total of 428 (33.4%) ICU beds are currently occupied • There are 1,942 mechanical ventilators for COVID-19, of which 335 (18.3%) are in use 	<ul style="list-style-type: none"> • Allot more beds and mechanical ventilators to improve surge capacity

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