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## Commentary

## Containing the impact of COVID-19: Review of Ghana's response approach

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The World Health Organization (WHO), on 11 March 2020, declared the Coronavirus Diseases 2019 (COVID-19) as a global pandemic. Based on applied case definitions and testing strategies, there have been 14,684,741 COVID-19 cases, including 610,110 deaths globally (as of 21 July) [1]. The spread has seen all governments scrambling to contain the pandemic while minimizing its social and economic impact. The most common strategy has been scaling up testing, closure of international borders, closure of schools and non-essential services, instituting social distancing protocols, ban on public gatherings and functions, and mandatory partial or full lockdowns. To manage the social and economic impact, governments have also resorted to offering stimulus packages and handouts to small businesses and individuals most impacted by the pandemic.

In Africa, although the impact (i.e., infection rate) is still considerably low compared to other regions of the world, governments have taken maximum control measures. With the low testing capacity and general weak healthcare systems, African governments have resorted to partial or total lockdowns to limit community spread and have closed international borders to stop imported cases. Ghana, however, is an exception. Despite being amongst the most impacted countries in Africa so far with a recorded case of 28,430 as of 21 July [2], the government has refrained from instituting a national lockdown. It has instead resorted to pronouncing directives as well as touting a so-called approach of '3T's' (i.e., Tracing, Testing, and Treatment) as its primary COVID-19 re-

sponse approach. Although the cases keep rising (Fig. 1), Ghana's response approach has attracted global commendation as among the best response in the world with the WHO even studying some of Ghana's techniques, particularly, its pool testing method [3]. This article maps Ghana's response strategy in both containing the pandemic and minimizing the social and economic impact.

**Ghana's COVID-19 response approach**

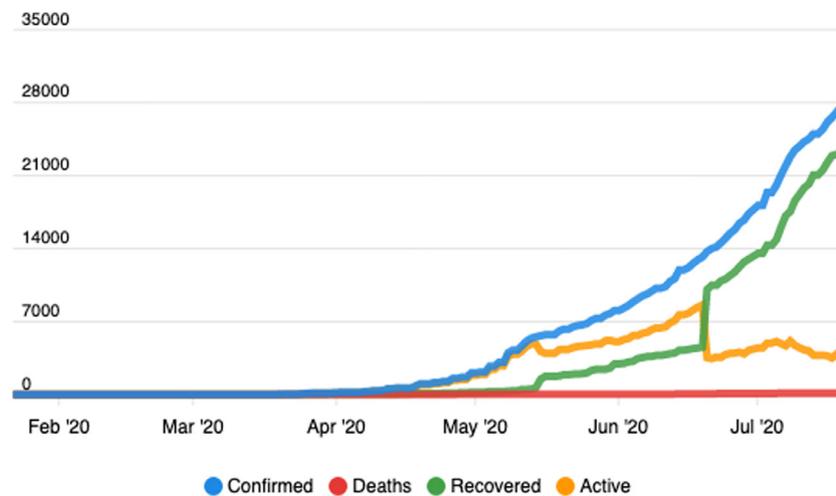
At present, Ghana has no documented strategic plan for fighting the COVID-19 pandemic. Instead, governments have resorted to pronouncing directives and touting the implementing of a targeted and proactive so-called approach of 'Tracing,' 'Testing,' and 'Treatment' as its primary COVID-19 response – where 'Tracing' means aggressive contact tracing to identify infected and high-risk people in the communities; Testing means enhancing the testing capacity of the country; Treatment means isolating and treating persons who have tested positive. According to the government, this targeted approach has helped trace and track high-risk individuals, accounting for its response success so far as exemplified by the lowest casualty rate. After careful analysis of actions, directives, and speeches by government and public health officials leading the fight, Ghana's response strategy can be categorized into five-part policy programs.

*First, limit and stop the importation of new cases*

Before recording its first two COVID-19 cases on 12 March, Ghana implemented measures to prevent the pandemic from entering the country. The initial step was the decision not to evac-

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**Fig. 1.** Ghana's COVID-19 history chart.  
Source: Fact Check Ghana (2020, 21 July).

uate Ghanaians stranded in the epicenter in Wuhan, China. The government also banned all travels of state officials. After the first recorded case, the President in a public address on 15 March outlined measures to curtail the spread of the virus. Amongst the measures were restrictions on entry into Ghana by other nationals (except for resident permit holders) travelling from countries that have recorded at least 200 coronavirus cases, and mandatory 14-day self-quarantine for persons who are otherwise allowed to enter Ghanaian territory [4]. The rise of imported cases compelled the President to order the closure of the country's borders to human traffic effective midnight, 22 March. The decision to close down Ghana's borders and the mandatory quarantine helped curtail imported cases as 105 cases were recorded from arrivals [5].

#### *Second, prevent community spread*

The second significant step taken was aimed at containing community spread. Markets and lorry terminals across the country were fumigated. However, in the wake of reported community spread, a law (Imposition of Restrictions Act, 2020 [Act 1012]), was passed on 21 March to restrict movement. A partial restriction of movement was imposed on the two most populous cities (Accra and Kumasi), restricting non-essential service persons' movement for two weeks. The aim was to help scale-up contact tracing of persons who have come into contact with infected persons to test them and, if necessary, isolate and quarantine them for treatment [6]. All public gatherings, including conferences, funerals, festivals, and religious activities, were also banned for four weeks and has since been extended to 31 May. However, private burials could be held with a maximum of 25 people while observing the social distance of one-meter. Furthermore, schools were authorized to shut down. All establishments, including supermarkets and restaurants, were charged to observe enhanced COVID-19 hygiene protocols put forward by WHO.

#### *Third, isolate, treat, and take care of the sick*

The government has created new isolation and treatment centers. The purpose is to immediately isolate suspected cases and those infected with the virus to minimize community spread. Government efforts have been boosted by the private sector and other civil organizations like the church. Through the private sector, the government is putting up a 100-bed hospital to be completed within six weeks for the isolation and treatment of COVID-19 pa-

tients [7]. Some churches have also released their multipurpose facilities to be converted and used as COVID-19 isolation and treatment centers. Further, a US\$100 million facility was procured from the World Bank under the 'Ghana Emergency Preparedness and Response Project' to provide financial and social support and free health services to COVID-19 patients and their families in quarantine [8].

#### *Fourth, ensure self-reliance and expand the domestic capability*

The government is championing local innovation and production of Personal Protection Equipment's (PPEs), development of test kits, and equipping existing state laborites. The Ministry of Trade and Industry has since selected some manufacturing companies to produce sufficient PPEs for the frontline health workers locally [9]. Commercial banks, with the support of the Bank of Ghana, have since granted a credit facility and stimulus package of GH¢3 billion to local companies, particularly those in the pharmaceutical, health, services, and manufacturing industries to cushion their production efforts [10]. Additionally, to protect all health personnel at the forefront of the pandemic fight, an insurance package has been instituted for them. All health workers have also been exempted from taxes on their emoluments for three months. Additionally, all frontline health workers will receive an additional allowance of 50% of their basic salary within the same period. The Ministry of Transport is also making available, for free, buses to shuttle health workers to and from work along specific routes [11]. The Ministry of Gender, Children, and Social Protection has educated Ghanaians on how to make hand sanitizers at home [12].

#### *Fifth, limit the impact on social and economic life*

To minimize the pandemic's social and economic impact, the Coronavirus Alleviation Program bill was passed as a resilience and recovery plan to boost businesses and households. On the 26 March, the government announced the absorption, for three months, the water bills of all Ghanaians, and the electricity bills of all lifeline customers, and provided a 50% subsidy for all other customers. The government has also extended the tax filing date from April to June. Further, through negotiations with the banks, a 2% reduction of interest rates by banks was agreed on, effective April 2020. Additionally, banks have granted a six-month moratorium of principal repayments to entities in the airline and hospitality industries, i.e., hotels, restaurants, car rentals, food vendors,

**Table 1**  
Ghana's COVID-19 cases and outcome as of 21 July 2020.

Category	Cases	Recovered	Severe	Critical	Dead	Active
General surveillance	11,343	24,901	25	8	153	3376
Enhanced contact tracing	17,087			(4 on ventilators)		
Total	28,430	24,901	25	8	153	3376

Source: Adapted from Fact Check Ghana (2020, 22 July).

taxis operators, among others [13]. Besides, a GHc600 million soft loan scheme has been offered to Micro, Small and Medium Businesses in the country. The scheme is expected to have a one-year moratorium and two-year repayment period [14].

## Discussion

The first policy of limiting the importation of the virus was successful as the country succeeded in halting any more reported imported cases during the first wave of the pandemic. During the second wave of the pandemic, the number of newly reported cases was 685 in the 14 days to 26th October [15]. To contain community spread, the government opted against imposing a national lockdown and instead instituted one of the most robust COVID-19 surveillance and enhanced contact-tracing systems. Regarding the contact tracing, it has adopted a strategy publicly dubbed as “chasing the virus.” This strategy tasks a set-up unit called “COVID-19 Contact Tracers” under the Ghana Health Service to trace every person suspected of having come in contact with any confirmed positive person to test, isolate, and treat them if necessary. The essence of this strategy is that a significant number of total confirmed cases (little over 60%), mostly asymptomatic, did not self-report to any health center, but were traced and tested by the health officials (Table 1). The success of the approach is evident in the country's low case-fatality rate of 0.5% as of 21 July, one of the lowest in the world – bested by only ten countries worldwide, including two from Africa; Namibia (0.3%) and Rwanda (0.3%) who only have a confirmed case of 1344 and 1629, respectively [16].

The initial partial limit of movement in the two largest cities facilitated a more aggressive program of enhanced contact tracing and testing suspected individuals. The policy of expanding domestic capability and self-reliance has also yielded some results. Local scientists and technology developers have responded, achieving some significant technological innovativeness and breakthroughs in the COVID-19 fight. For instance, local scientists and developers have successfully developed rapid diagnostic test kits, ventilators, and solar-powered hand-washing machines. Besides, Ghana was the first country in the world to use autonomous drones for long-range haulage of COVID-19 test samples taken from suspected persons in the remote areas of the country to laboratory centers in the cities – drastically reducing round-trip day journey to under 30 min [17]. Local production of PPEs and homemade hand sanitizers' initiative by various ministries also means that people can access these products for self-protection against the virus. Last but not least, the decision to provide food to the vulnerable and absorb electricity and water bills has helped minimize the social and economic impact.

In a nutshell, Ghana's COVID-19 response approach, in general, has been a success in minimizing the impact of the pandemic. Although the confirmed cases keep rising (Fig. 1), it is worth noting that over 60% of the cases (Table 1) were personally traced and tested by health officials. The implication is that these significant numbers, mostly asymptomatic, ordinarily would not have reported to any health facility to be tested due to their asymptomatic condition. The strategy of early detection, contain by isolating, and early treatment can serve as an example for other countries to minimize critical cases and case-fatality rates.

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## Declaration of Competing Interest

None declared.

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