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IRONING OUT WRINKLES IN INDIA'S PANDEMIC RESPONSE

Relevant for: Developmental Issues | Topic: Health & Sanitation and related issues

Much concern about the novel coronavirus in India is understandably about the number of cases and related deaths. It is important to remember that the vast majority (80%) of COVID-19 cases will be mild. The estimated mortality rate varies considerably between 3% to 0.25% of cases, and is much higher among the elderly. Mathematical models and the experience of China, Italy, and now the United States, suggest that COVID-19 is likely to infect a significant number of Indians, though this can change due to current physical distancing and lockdown measures. Notably, wealthier countries with stronger and better financed health systems such as Italy and China have struggled with containing COVID-19. As such, it is prudent to understand how well India's health system can respond to COVID-19, especially since it is unclear how long this disease will persist. We believe that there are some critical weaknesses in India's health system that can prevent a credible response to COVID-19.

COVID-19 | Interactive map of confirmed coronavirus cases in India

In truth, we do not really know how widespread the epidemic is in India because such a small number of people have been tested and many mild cases go undetected. To what extent India's ongoing efforts to control COVID-19 using physical distancing and isolation will be successful is yet unknown. It is likely that, as in other countries, there will be regional or sub-regional disease hotspots, rather than a nationwide outbreak. The higher number of confirmed COVID-19 cases in States such as Kerala and Maharashtra suggest this (though this could also be due to more testing). This highlights the importance of approaching India's COVID-19 response from the perspective of State health system capacity. Second, it is unlikely that States which experience a COVID-19 hotspot will have the resources to manage the outbreak independently. As such, it is critically important to put in place well-functioning between-State and within-State coordination mechanisms that enable efficiently leveraging resources such as doctors, nurses, equipment, supplies from elsewhereand direct them to regional/sub-regional hotspots.

Addressing the scarcity of hospital and intensive care unit (ICU) beds in India is critical for providing clinical support to severe COVID-19 cases. Without flattening India's COVID-19 epidemic curve, our current hospital capacity is so low that it will be quickly overwhelmed if infections surge. India has around 70 hospital beds and 2.3 ICU beds per 100,000 people. To put this into perspective, China (Italy) has 420 (340) hospital beds and 3.6 (12.5) ICU beds per 100,000 people, and both these countries struggled to care for the severely sick. According to our rough calculations, based on estimates from recent studies, in a hypothetical State with a population of 50 million (about the size of Andhra Pradesh), with the national-level endowment in hospital and ICU beds and bed occupancy of 50%, assuming there are currently 10 COVID-19 cases with a doubling rate of five days (5% of the cases hospitalised and 16% of hospitalisations need ICU care, median length of stay 12 days), without any mitigating measures, the ICUs will fill up in six weeks and hospital beds in about eight weeks from now. This will happen sooner in States with lower hospital capacity.

It is critically important that India puts in place a strategy to ramp up hospital and ICU capacity, as well as provision for essential equipment such as ventilators and personal protective equipment for health workers. In both China and Italy, hospitals were rapidly constructed to accommodate infected patients. It is doubtful that we can construct new hospitals as quickly as China or even staff them adequately. Therefore, it is important to consider alternatives, such as,

extending current hospital capacity, hospital trains that can easily move from one location to another, or converting university dormitories into treatment centres. Tapping the resources in the private sector is particularly important. India's health system is highly privatised and most of the country's health-care capacity in terms of human resources, hospital beds, laboratories, and diagnostic centres is in the private sector. Recognising this, several State governments have initiated action, such as enlisting private laboratories for testing and using the private hospital bed capacity to treat positive patients. More of this is needed, as well as, engaging private hospitals in planning and coordinating the COVID-19 response.

Health-care workers are a critical resource for the COVID-19 response. They go into communities to carry out preventive care, trace potentially exposed people, and treat the infected. The success of countries such as South Korea and Singapore in controlling the spread and mortality due to COVID-19 has been credited to the ability of health workers to locate, test and treat cases. This requires a substantial number of health workers, and India faces an acute shortage of them. India has around 3.4 qualified doctors and 3.2 nurses and midwives per 10,000 population; in contrast, China (Italy) has 18 (41) doctors and 23(59) nurses per 10,000 population. Moreover, health workers in India are mostly concentrated in the urban areas and there are huge disparities between States (Bihar has 0.3 and Kerala has 3.2 doctors per 10,000 population). Importantly, nurses have been in the forefront of caring for infected people elsewhere; India, has far fewer nurses than both Italy and China. These characteristics of India's health workforce will affect its COVID-19 response, particularly in rural India and in States with fewer health workers. While increasing the health workforce in the short term is difficult, it is important to consider task shifting and multi-skilling strategies where a variety of health-care workers (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy doctors, nurses, as well as general and specialist doctors) are engaged. Because it is highly likely that certain regions in India will become COVID-19 hotspots, to contain these outbreaks it is important that human and other resources can be flexibly shifted to these areas from other parts of the country.

Primary-care providers, whether they are formally trained (e.g. medical officers, nurses, auxiliary nurse and midwives, pharmacists), or lay workers (accredited social health activists) or informal workers (rural (not registered) medical practitioners, or RMPs, drug shops) will likely be the first contact health workers for COVID-19 patients. For example, more than 70% of the outpatient visits in India are to private providers, the majority of whom are RMPs. Engaging these primary-care providers in the COVID-19 response is important. For one, they are critical for contact tracing, a strategy that has been successfully used in South Korea and Singapore to contain the virus. Because primary-care providers will encounter patients in early stages or with mild forms of the disease, they play a crucial role in treating and referring patients. While this may not be easy to accomplish, COVID-19 response strategies should involve engaging these primary-care providers and providing them information on preventing the spread of COVID-19, danger signs or where to refer in case of serious illness.

Health workers also take on a disproportionate share of infections. Health worker safety is particularly important for India because it already faces a shortage of doctors and nurses. In China and Italy, the fight against COVID-19 has taken a huge toll on health workers. One of the enduring images from Italy is of an exhausted nurse lying face down on her desk. As a recent article in *The Lancet* notes, estimates from China's National Health Commission show that more than 3,300 health-care workers have been infected as of early March and, by the end of February at least 22 had died; in Italy, 20% of responding health-care workers were infected, and some have died. Health workers also face physical and mental exhaustion, which affects their morale, in addition to the infection risk. Protecting health workers in the forefront of the COVID-19 response will be critical. Procuring and ensuring the widespread use of personal protective equipment (e.g. masks, gloves, gowns, and eye wear) in the care of all patients with respiratory symptoms needs to prioritised. Such actions will be particularly important if there is a

prolonged response to COVID-19.

India like other countries faces important health system challenges in mounting a credible response to COVID-19. Many of these issues are not new. Addressing these health system issues will require much effort, financing, and, in some cases, not even entirely possible to remedy in the near future. How India deals with these health system issues in the days to come will make all the difference.

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