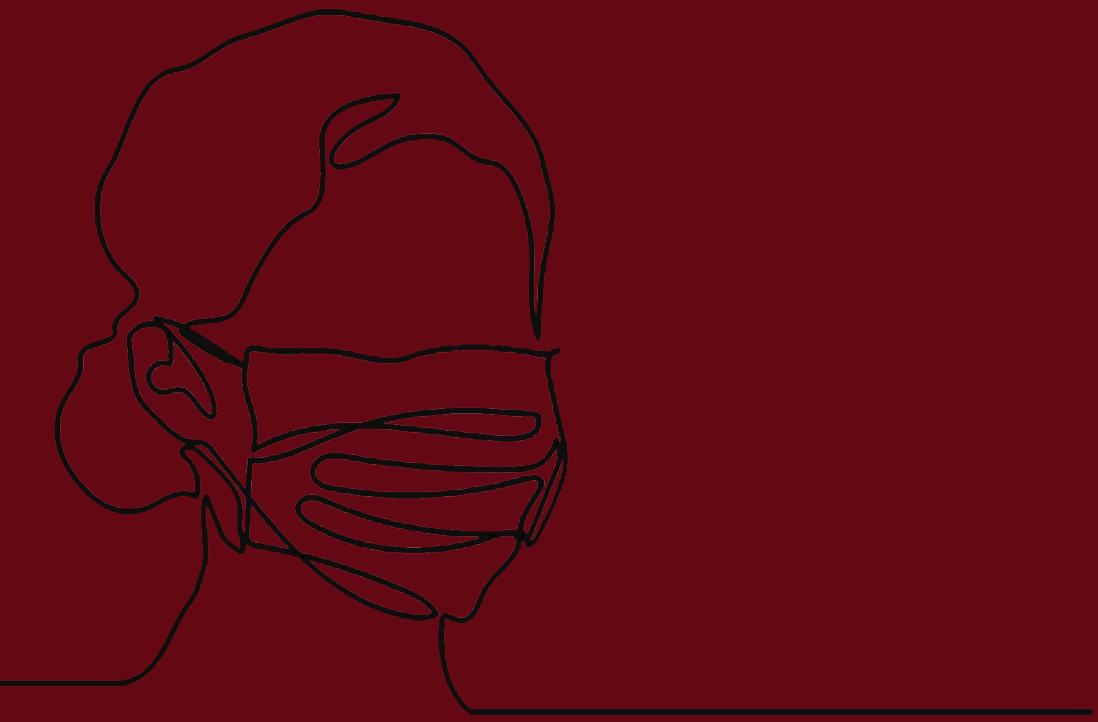
THE *LANCET* COVID-19 COMMISSION
INDIA TASK FORCE

Country-wide Containment Strategies for Reducing COVID-19 Cases in India

APRIL 2021



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India Task Force

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COVID-19 COMMISSION

Task Force Members and Staff

TASK FORCE MEMBERS

Giridhara Babu, Indian Institute of Public Health, Bangalore
Chandrika Bahadur, UN Sustainable Development Solutions Network (SDSN), New Delhi (Chair)
Nirupam Bajpai, Centre for Sustainable Development, Earth Institute, New York
Malay Bhattacharyya, Indian Statistical Institute, Kolkata
Dhruva Chaudhry, Post Graduate Institute of Medical Education and Research, Rohtak
Jishnu Das, Centre for Policy Research, New Delhi
Sapna Desai, Population Council, New Delhi
Suneela Garg, Ministry of Health and Family Welfare, New Delhi
Raman Gangakhedkar, Indian Council of Medical Research, New Delhi
Suneela Garg, Ministry of Health and Family Welfare, New Delhi
Sheela Godbole, Indian Council of Medical Research National AIDS Research Institute, New Delhi
Sandeep Juneja, Tata Institute of Fundamental Research, Mumbai
Rajan Khobragade, Government of Kerala, Thiruvananthapuram
Sampath Kumar, Health Secretary, Meghalaya
Oommen C Kurian, Observer Research Foundation, New Delhi
Partha Mukhopadhyay, Centre for Policy Research, New Delhi
Kavita Narayan, Ministry of Health and Family Welfare, New Delhi
K Srinath Reddy, Public Health Foundation of India; *Lancet* COVID-19 Commission, New Delhi
Daksha Shah, Brihanmumbai Municipal Corporation, Mumbai
Rohit Kumar Singh, Ministry of Culture, Government of India
Mohammed Suleman, Government of Madhya Pradesh, Bhopal
Chinmay Tumbe, Indian Institute of Management, Ahmedabad

SECRETARIAT AND TASK FORCE STAFF

Shweta Khandelwal, Program Manager, India Task Force, New Delhi
Neha Sharma, Consultant, India Task Force, New Delhi

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The following report has been posted online by the Commission Secretariat, and has not been peer-reviewed or published in *The Lancet,* nor in any other journal. This reports intends to bring together expert views on key topics as the COVID-19 pandemic unfolds.

For more information about the India Task Force, kindly write to shweta.khandelwal@phfi.org or sharmaneha1844@gmail.com. For more information about the *Lancet* COVID-19 Commission, please go to covid19commission.org.

OVERVIEW

The COVID-19 pandemic in India has now reached devastating proportions with widely publicized shortages of hospital beds and oxygen in many locations. Reported deaths have crossed 3000 each day, and it is widely believed that this itself is an under-estimate. Therefore, the immediate priority is to decrease the number of deaths prior to the downturn in cases, which is still expected to take a while. In this document, we present a checklist of actions that cumulatively can be taken, beyond the current binary discussion of lockdowns to reduce this burden.

India's effective reproductive rate (R) for COVID-19 stands at 1.44 as of April 25, 2021. At this rate, each infected individual is infecting another one and a half persons. The rate of increase in reported new cases averaged 6.8% for the month of April nationwide, while the rate of increase in reported new deaths averaged 8.3% over the same period.[1] With over 2.7 million active cases, the healthcare system is under severe strain. It is imperative, therefore, to reduce the continuous rise in new cases.

There has been much discussion around the world on the efficacy of lockdowns, and the relative tradeoffs between controlling the spread of the pandemic and the economic costs of shut down.[2] We do not believe there are binary choices to be made, or that there is one single policy option of a complete lockdown. A series of actions are needed. Some of these require closures; some require targeted containment; others need effective public messaging to influence individual behaviors. These choices also depend on the state of the pandemic in a country. In the case of India, R is greater than 1 in every state of the country (except for Chhattisgarh). This means that containment measures are critical to reduce the spread of COVID-19 in every state.[3] It also means that India needs a coordinated response across all states in a systematic, synchronized manner. The exact steps taken may differ based on local contexts. In areas where infections are spreading rapidly, short, severe closures may be required; where case counts are low, containment measures may be appropriate. Specific action may differ at the district level. But it is critical that all states act in unison, and as part of a coordinated strategy, spearheaded by the Government of India. No state is safe until all states work together.

We outline a series of steps as part of a checklist in the attached table based on the state of the pandemic. This table can be used at the state or district level to identify specific actions relevant for a specific situation based on key epidemiological trends. We specifically recommend that the following variables are considered: new cases per day (7-day moving average), rate of increase in new cases per day (2-week moving average), test positivity rates per day (2-week moving average), number of tests per million per day, and utilization rates of ICU beds. Suggested thresholds are based on global trends, Government of India guidelines, and epidemiological research. We advise that states and districts be categorized as low risk, medium risk, and hot spots based on the criteria above, and an appropriate mix of steps be taken from the list below. And finally, we recommend that all steps with significant economic consequences, be taken after a) in-depth consultations with all stakeholders in society; and b) ensuring that there are programs and safety nets in place for the most vulnerable and for those that will bear the brunt of the economic costs of closures.

This checklist also draws on recommendations of the *Lancet* Commission on COVID-19 Task Force on Public Health Measures to Suppress the Pandemic.[4] The note below provides evidence and discussion of the priority actions needed immediately, recognizing that some actions are common across all risk levels, in a bid to stem the spread of the infection to currently low risk geographies.

MEASURES TO COMBAT: MEDICAL PREPAREDNESS AND VACCINATIONS

1. Medical Preparedness

Saving lives is the most urgent priority right now. Our medical system and staff are overwhelmed. A detailed analysis of what is needed to deal with the current surge is outside the scope of this note. We do strongly recommend that across all categories of states and districts, estimates are prepared to predict the demand for medical services based on projections of the rise in cases and proportions of severe illness, based on trends and variant information. A robust primary care system for supervised home care and triaging of patients is vital to ensure that hospitals are only receiving the most critical patients. In low and medium risk settings, there is still time to ramp up supply to prepare for future peaks, and to train medical staff, interns, and residents as back up. In medium risk settings, we propose setting up oxygen generating plants within hospital premises at the district level, with fire safety protocols in place, to plan for future surges. In COVID hot spots, we recommend suspension of elective procedures, and restrictions on out-patient care for the duration of the surge, to relieve the pressure on doctors, nurses, and the hospital staff. In such cases, the risk of reinfection is high, even for vaccinated staff, given the high rates of exposure. Strategies to improve safety of ICUs and OTs, and to prevent hospitals from becoming super spreader sites, especially in vaccination centers,

and collection points are critical, as are steps to equip staff with quality PPEs, and improved sanitation. Finally, setting up of temporary, dedicated COVID facilities, using stadia, large halls, in partnership with the private sector may be required in certain areas where demand is likely to outstrip available in the medium term.

2. Vaccination Campaign

As of May 1, 2021, the Government of India has allowed vaccinations to be made available to the entire adult population. While this is a welcome development, this presents two practical issues: first, supply constraints; second, limited supply raises the question of prioritization and targeting, with a focus on the 45+ age group.

A discussion on how best to resolve the supply constraints is outside the scope of this note, and discussed by the Task Force in accompanying documents. Prioritization is an important element of a successful containment strategy. As part of a successful containment strategy, we recommend that coverage is first ramped up in hotspot and medium risk geographies to reduce the severity of the illness and relieve the pressure on the medical system (although with a lag effect). For low risk areas, as long as there are supply constraints, we recommend prioritizing vulnerable populations (age 45+, or with co-morbidities) before expanding to the general population, with a phased expansion based on supplies.

A successful vaccination campaign will depend heavily on coordination and guidance from the Government of India. We recognize that procurement has so been delegated to the states, but we believe the Center has a crucial role in supporting states estimate demand, negotiating and coordinating procurement across states, negotiating as appropriate, patent waivers, compulsory licenses, patent pooling or voluntary licenses, and local production clearances for the broader set of vaccines, incentivizing and supporting local manufacturing capacity, and ensuring smooth supply chains (including bulk purchases and forward contracts as needed). Given the heterogeneity of case loads across and within states, we believe that a coordinated strategy, drawn in close consultation with states, where the Government of India steers its design and supports execution, is our best bet to meet the goals of mass vaccinations.

MEASURES TO MINIMIZE INTERPERSONAL CONTACT AND IMPROVE HYGIENE

3. Complete Ban On Gatherings Of Greater Than 10 Persons, And Closures Of All Venues Where Such Gatherings Can Take Place

Experience from across the world has taught us that super-spreader events are triggers for waves of infection.[5-7] Large gatherings (more so indoors, but also outdoors) bring people together in proximity. Where people travel long distances to congregate, such gatherings help spread the virus as people return home, raising prospects of spreading infection along the journey and back in their home community. We recommend a complete ban on gatherings of greater than 10 persons at any given place, as well as closures of all venues that can host such gatherings for all medium risk and hot spot geographies. This includes family gatherings, especially in the context of new variants with higher levels of infectiousness. We recommend that this ban be in place for as long as necessary to bring the epidemic to an end. For low risk areas, we recommend limited gatherings, subject to local situations, organized in the outdoors. We recommend continued closures of enclosed venues that can host such gatherings.

4. Closures Of Indoor Spaces (Offices And Office Buildings, Schools, Restaurants With Indoor Dining, Shops And Shopping Malls, Places Of Worship), Barring Those Providing Essential Services

COVID-19 is now documented to be an airborne disease, spreading most effectively in confined, indoor spaces, where the virus can circulate for long periods of time. Confined spaces with poor ventilation, or air conditioning systems are riskiest for transmission. In those states where all the epidemiological parameters are high (COVID hot spots), we recommend closure of all such spaces. Based on the experience of lockdowns from around the world, we know that such closures need to be in place for 6-10 weeks before case counts reduce.[8] We recommend that all districts in the country which are COVID hot spots enact these closures immediately and in a synchronized, coordinated manner, for the same, pre-announced duration of time, so that there is a systematic reduction in cases in the hardest hit parts

of the country. In such circumstances, it is important to note the following: a) that such decisions are made on the set of epidemiological variables listed above, and communicated transparently as such; b) that they are time-bound; c) that all essential services with regard to food production, distribution, and sale, medical services and facilities, and essential mobility services are available during such closures; d) that these measures are taken with a plan to ease and support the working poor within these jurisdictions; e) that these measures are taken in consultation with key stakeholders (business owners, labor unions, civil society); and f) that these measures are taken as a last resort, in limited ways, with every effort, using the other measures of this checklist, to prevent the pandemic from reaching levels that require such closures.

5. Physical Distancing And Hygiene

Early in the pandemic, modes of virus transmission were known to be droplets, and to a lesser extent fomites.[9] Measures therefore focused on minimizing interpersonal contacts and improving hygiene. Governments used measures minimizing physical contacts (including using barriers and visual prompts to facilitate physical distancing), screening for symptoms before entry into indoor spaces, and personal and environmental hygiene measures (making hand washing facilities and masks readily available). These combined measures were very effective in reducing transmission in all countries where they were implemented and followed by the populations. We recommend that similar measures, especially those that encourage distancing and hygiene are part of an ongoing aggressive strategy to keep numbers low across the country, including those states (and particularly in tier 2 and 3 cities in these states) where numbers are currently low.[10]

6. Mandatory Universal Mask Wearing In Confined Spaces And Outdoors; Focus On Cross-Ventilation Of Indoor Spaces

Universal mask wearing is a documented, successful strategy to reduce transmission of infection upon contact.[11] India has a mixed record on compliance, especially in the first few months of 2021, as fears of the pandemic receded. We strongly recommend a renewed call for universal, mandatory mask wearing in all confined, indoor spaces as well as outdoors, especially in crowded areas. We recognize that cloth masks by themselves offer only partial protection, and call on expanded use of well-fitted N95 (or equivalent masks) or double masking with surgical and cloth masks, especially in high risk settings. We call on free distribution of surgical or N95 masks at the community level by local governments. Media communication should demonstrate the appropriate and effective use of masks.

COVID-19 spreads most effectively in closed, poorly ventilated spaces. We recommend a sustained campaign on the importance of cross ventilation in all indoor spaces (offices, shops, transport hubs, restaurants etc.).

7. International And Domestic Mobility

Most countries that successfully contained the spread of COVID-19 (including India) restricted access to international travelers in the early phase of the pandemic.[12] Once the pandemic reached the stage of community transmission, these measures were no longer as critical in restricting transmission. However, as new variants emerge around the world, it is important to monitor incoming travelers. In COVID-19 hot spots, we strongly recommend that all international travelers be expected to quarantine for seven days in institutional quarantine, upon entry, and on submitting a negative RT-PCR test on day 8, be allowed to continue another week of home quarantine (with daily follow ups from the local administration to check for symptoms).

We do not recommend restrictions on domestic travel, especially travel by train, or road, which is the primary means of travel for the poor. We recommend testing be made readily available in low risk areas at all bus stations, railway stations, and airports, with Rapid Antigen Tests (RATs) deployed for random testing. We do not recommend that individual states demand negative RT-PCR tests as prerequisites to enter their states since such requirements place unnecessary demand on the testing infrastructure, and do not preclude the possibility of acquiring infections along the journey. We encourage the Government of India to ensure physical distancing within planes and at airports, including closures of smoking rooms, and based on flight traffic, and the epidemiological variables above, and especially for routes between high burden states.

MEASURES TO CONTAIN: TESTING, CONTACT TRACING, ISOLATION, AND QUARANTINE

8. Scaled Up Testing

Large scale testing is an essential element of the overall strategy to understand the state and the trajectory

of the pandemic, as well as to get an accurate picture of whether ongoing interventions are working.[13] The most reliable testing technology to date is molecular RT-PCR. Antigen tests have the advantage of delivering rapid results, are simple to use and low cost. However, these tests have moderate sensitivity, resulting in higher levels of inaccuracy of results. Given the convenience of antigen tests, we recommend double sampling and other methods to improve sensitivity.[14] RT-PCR testing is best in clinical settings and to confirm infection in both symptomatic and asymptomatic cases. Antigen tests have been used to quickly test population groups to successfully identify a suspected new cluster of infections and take steps to suppress the virus.[15]

As numbers have risen, testing infrastructure is under strain across India. At its peak, nearly 1.7 million tests were conducted across the country. This number has come down in recent days due to the lack of human resources, and in several cases, test kits. We recommend an immediate expansion in the supply of RT-PCR tests where possible, made across a series of price points to relieve demand. Currently, hospitals require RT-PCR positive results before admitting patients. We recommend symptomatic admissions be permitted, based on antigen testing to ensure patients receive timely care, especially with delayed testing results. In cases of symptomatic patients with negative RT-PCR tests, HRCT Scans have shown high sensitivity and could be used for correct clinical management. The challenge of finding enough staff to collect and process samples remains difficult to solve in the immediate term. The set of diagnostic tools could also be expanded to include new, tools such as saliva-based tests. All states need to prioritize expanded testing, and transparent reporting of results on an expedited basis.

9. Decentralized Contact Tracing And Isolation

Testing must be accompanied by rapid contact tracing (forward and retrospective), isolation, and quarantine of close contacts. Isolation of confirmed cases is a necessary step in the containment of the virus but it is not sufficient: quarantine of close contacts of cases is also strongly recommended for an evidence-based incubation period.[10] Even a symptomatic case should ensure that they isolate themselves until the RT-PCR results are available.

Ideally, contact tracing helps identify persons who may have been exposed to COVID-19, helps assess their exposure risk, arrange a test (routinely or symptom-based), and subsequently ensure either quarantining (if test-negative or asymptomatic) or isolation (if test-positive or symptomatic), within the evidence-based incubation period from the last point of exposure. When systematically applied, and in a context where there are high levels of public trust in the authorities leading the process, contact tracing has the potential to prevent up to 80% of all transmissions and break new transmission chains.[16,17]

Contact tracing is much more difficult to do once cases surge. We therefore recommend that states with low caseloads invest immediately in decentralized, community level contact tracing teams, using community-based organizations. These teams should link to a more centralized database, especially in those districts where there is a high degree of incoming migration. Contact tracing teams should undergo training and be supervised by the district/state health system. In all states, based on confirmed positive cases, we recommend that local administrations coordinate with and mobilize communities for forward tracing, so that at-risk individuals can be tested and quarantined. We recommend that in urban areas this is done through resident welfare associations and urban local bodies, and in rural areas, through panchayat bodies. In both settings, contract tracing should be coordinated with the work of local health workers who regularly engage with community members. Decisions on contact tracing norms should be locally determined.

We recommend that quarantine and isolation is managed and enforced at the local level through the community leaders, where trust is high, and compliance is more likely. In dense urban settings, where possible, we recommend community COVID centers be deployed to host quarantined persons. Typical quarantine/isolation periods run for two weeks; some states offer the possibility of a week-long quarantine/isolation based on an RT-PCR negative test on day 8. In hot spots where cases are surging we recommend that only the immediate family or household and very close known contacts are tested and isolated.

MEASURES TO ENGAGE AND PLAN: COMMUNICATION, LEADERSHIP, DATA

10. Public Communication And Engagement For Collective Responsibility And Action (Demand-Side Mobilization)

Building trust with the public is vital early in the pandemic to gain widespread cooperation, to avoid the need for coercion, and to generate the most effective local

approaches for addressing the pandemic.[10] For instance, while "lockdowns" are generally recommended to contain the pandemic, what a lockdown can and should entail necessarily differs from locality to locality. Local political leaders, civil society members, associations, and other influencers may be the most effective innovators in identifying ways to reduce disease spread. They may also be best equipped to help communities design coordinated ways to treat those infected, if or when health systems become overwhelmed and home-care is required. Ideas generated locally may have the best chance of achieving local support and compliance. Furthermore, the engagement of more local people in seeking solutions to what is, fundamentally, a collective societal problem, may help build the sense of individual responsibility, agency, and urgency required to motivate behavior change.

As a foundation for engaging local leaders and groups, transparent, clear, and consistent messaging from the state is required, along with systematic engagement of local leaders. This has been a cornerstone of all successful strategies to manage COVID-19 around the world. It is a recognition that beating the pandemic requires individual behavior change, which in turn depends on trust in public institutions, and effective, honest communication with the public.[18]

We recommend the following:

- Transparency in reporting of cases, hospitalisation, and mortality numbers, led by the latest scientific evidence, using publicly available, credible data, and dispelling of false information. Data should be disaggregated by age and sex to assess population-level trends.
- Regularity of communication, with daily official briefings from a credible, non-partisan, centralized source within government.
- Recognition of the diversity of the Indian population and the differential impact of the pandemic on different states, but also on different segments of the population, and an acknowledgement of the impact of the pandemic on the poorest and most vulnerable.
- Launch of a high-profile campaign with clear, consistent, and forceful messaging on the importance of wearing masks inside closed spaces as well as outdoors; on the importance of good ventilation in indoor spaces; and on the urgent need for vaccinations to reduce the severity of disease, and address vaccine hesitancy, helmed by public figures at the state and national level in all languages.
- Recognition of the dynamic nature of the pandemic, and communicating a reliance on science and evidence to make or change decisions, explaining the rationale for changes to build public trust and compliance.
- Coordinated communication between the center and states is essential. They should speak in one voice, articulating common messages through multiple media channels (TV, radio, social media).
- Clear engagement with civil society, through NGOs, community-based organisations and women's groups to support community mobilisation and participation. This should be done at the national, state and district level through a campaign to involve citizens in prevention on a large scale.
- Group specific communication on behavior change that specifically targets different segments of the population, based on their lifestyles, and preferences.

11. Political Leadership

Political leadership is critical for a successful strategy to end the pandemic. Countries that have successfully battled COVID-19 have done so in large measure because their leaders have pro-actively taken responsibility, carried the political dispensation and the public with them, and made decisions under very difficult circumstances with high degrees of uncertainty.

We recommend the following:

- The Prime Minister convenes a COVID war-room comprising Chief Ministers and Chief Secretaries, of all high burden states, and the leadership of all political parties, to meet daily to jointly evaluate the state of the pandemic, and coordinate their responses. The Government of India COVID-19 Task Force and the Empowered Groups facilitate the work of the war room.
- Similar COVID war-rooms have already been set up in several states. We recommend that they are constituted in all states, comprising key departments, and leadership of all political parties, as well as District Collectors of high burden districts to jointly coordinate responses.
- An independent technical team comprising the country's most respected epidemiologists, forecasters, public health specialists, economists, and social scientists be constituted immediately

to provide projections, data analysis, and other information and recommendations that can feed into the war room decision making.

- The central and state Governments consult widely with a range of stakeholders (business owners, labor unions and representatives, sector representatives, students, community and religious leaders, and civil society) to both hear their suggestions, but also to discuss policy options, both of which will help in better, broad based decision making. These consultations should be regular and public in nature, to build confidence and cohesion in decision making.

- Finally, clear lines of responsibility and accountability are required. At the national level, it is essential that the Government of India drives the overall response to COVID-19, especially in terms of convening and coordinating state responses. At the state level, a nodal officer from the bureaucracy and a nodal officer from the health system need to be identified to work in tandem to coordinate the response at the state level. A similar leadership structure needs to be set up at the district level.

12. Data For Decision Making

COVID-19 is a fast-moving pandemic. India' second wave is proof that it can take countries by surprise, despite preparedness over previous months. Real-time, reliable, credible data is an essential element of a comprehensive toolkit to defeat the pandemic.

We strongly recommend:

- Credible and regular projections of the trajectory of the pandemic are done regularly to give decision makers a basis to evaluate the relative success of different policy measures.

- There is a system to share anonymized microdata with a larger pool of researchers to understand more nuanced trends of hospitalizations, disease severity, long COVID-19 characteristics, in a bid to better prepare the health system and the administration with the consequences of the surge

- The need to ramp up genome sequencing to 5% of all tests on a monthly basis and ensure that the data on variants of concern (VoCs) from genomic surveillance is shared across to the districts so that intervention minimize their spread to other areas can be undertaken.

- Creation of an open dataset for real time, including non-traditional methods (observational data for example) to capture variables that are currently being under counted, such as mortality numbers. For mortality specifically, we recommend using ASHA workers and informational aggregation from crematorium associations, for example) to gather more accurate data systematically.

- Ensure transparency in the sources of data, and encourage crowd sourcing of information to get quick, real time intelligence and evidence for decision making.

There is no single response that can defeat the COVID-19 pandemic in India. This checklist is presented with the intent to move beyond the policy discourse on lockdowns alone to highlight the range of actions needed for an effective response, especially in places with different disease burdens. We hope it can provide guidance to policy makers at the Center and state on how to move ahead and plan to overcome the current wave, as well as minimize future waves of the pandemic. We urge the Government of India as well as state Governments to join forces for coordinated, planned action based on emerging evidence from the ground.

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