

Are we prepared? Lessons from Covid-19 and OMAG position paper on epidemic preparedness

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ABSTRACT

Covid-19 has once again brought into focus our limited preparedness to deal with epidemics. Most nations, across the globe, have responded with a resolve to come stronger out of this crisis and leaderships across the world have shown great commitment to protecting its people from Covid-19. Covid-19 has also taught us a few things for the future. One such learning has been that a strong shift in focus towards non-communicable diseases driving health infrastructure across the globe for the last few decades has come at neglect of communicable diseases. In that sense, therefore, the current pandemic has been a wake-up call. Organised Medicine Academic Guild (OMAG), an umbrella organization of professional associations gathered a group of health experts to develop a policy document on epidemic preparedness to limit the influence of epidemics like Covid-19.

Keywords: Covid-19, epidemic, lessons, OMAG, position paper

Background

Organised Medicine Academic Guild (OMAG) is an umbrella organization of professional associations working on cross-cutting issues related to human health and comprising academic specialties interested in getting rid of the existing

concept of working in silos currently pervading in the Indian health sector.^[1]

The development of an integrated approach to epidemic preparedness is one of the core objectives of OMAG. Currently, the key stakeholder in epidemic preparedness in India is the National Centre for Disease Control (NCDC). Outbreak investigations are a key component of the services delivered by NCDC.^[2] NCDC through its Epidemic Intelligence Service (EIS) program has been raising the correct voices since the recent past

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on epidemic management, the benefits of which may be realized in the future. Apart from NCDC, other key stakeholders in India's fight to prevent epidemics is the Indian Council of Medical Research (ICMR) as it continues to be the solely dedicated body to adequately address the research needs, concerns, and goals of the medical professionals in India.^[3] ICMR leading our fight against the Covid-19 through the establishment of laboratories across the country (using the Viral Diagnostic Research labs) in a short span of time was exemplary. In addition, the National Health Systems Resource Centre (NHSRC) was established in 2007 to assist in policy and strategy development in the provision and mobilization of technical assistance to the states and in capacity building for the Ministry of Health.^[4]

Despite the institutions and frameworks in place, one important observation in wake of the COVID-19 pandemic has been that our reactions have largely been ad hoc. Undoubtedly pandemics like this will keep evolving, thereby attracting frequent updates, but an epidemic preparedness with a formal structure would always help.

Purpose of the Document

The World Health Organization (WHO), on 30 January 2020, announced that the COVID-19 outbreak was a Public Health Emergency of International Concern. As of 30 March 2020, cases of COVID-19 have been reported in more than 199 countries and territories. In the earlier part of the epidemic, the most cases were reported from China or among individuals with travel history to China.^[5] However by the end of March 2020, the number of cases in China declined while the number of cases from Europe and the USA has increased and overtaken the total numbers reported by China.

Governments across the world have surveillance programs in place, although their strengths, usefulness and relevance in the current crisis may be debatable. The Government of India also runs an Integrated Disease Surveillance Program (IDSP), a disease surveillance scheme under the Ministry of Health and Family Affairs in India, to strengthen disease surveillance for infectious diseases and to detect and respond to outbreaks quickly.^[6] The scheme, at present, is being run through a Central Disease Surveillance Unit and State Surveillance Units where data are collected and analyzed. A large amount of data collected on disease reports can identify the outbreak of a disease, identify its causes and take corresponding preventive and responsive measures. However, like surveillance programs running in other countries, IDSP has been found wanting on many occasions primarily for its lack of being an intensely monitored program and its inability to detect cases at a time when the disease would not have already caused sufficient damage to the health of people and before any control measure could be initiated.

Countries across the world have demonstrated that epidemics like the current, COVID-19 can be slowed or stopped through

integrated actions based on a transparent healthcare delivery system and using multiple stakeholders. However, COVID-19 if anything has glaringly exaggerated a lack of a firm policy on epidemics across the globe; reasons mainly economic. India is no exception to this. We have mounted a strong response and demonstrated a strong national commitment based on the others learning, which is not in keeping with our stated national aim of leading the way.

OMAG having realized this lack of a policy capable of weathering all storms, gathered experts from academic disciplines in healthcare to develop a policy document on epidemic preparedness. The idea is to strengthen the efforts of the Government in overcoming healthcare crisis like COVID-19. The committee deliberated on the current situation and while appreciating the efforts of the national and state governments in meeting with the challenges of COVID-19, suggested long-term measures to improve our epidemic preparedness.

The committee comprised the following:

Moderator: Dr Sunil Kumar Raina, Founder Member OMAG

Members

1. Dr. Raman Kumar, President, Academy of Family Physicians of India and founder member OMAG.
2. Dr. Sagar Galvankar, Chief executive officer, INDUSEM and founder member OMAG.
3. Dr. Suneela Garg, President Elect, IAPSM
4. Dr. Ramesh Bhatt, Past President IADVL and founder member OMAG.
5. Dr. AC Dhariwal, Advisor, NVBDCP and Former Director, NVBDCP and NCDC and founder member OMAG.
6. Dr. DJ Christopher, President Indian Chest Society
7. Dr. Bakul J Parekh, President Indian Academy of Paediatrics
8. Dr. Vimal Krishnan S, principal secretary general, EMA, India, and founder member OMAG.
9. Dr. Praveen Agarwal, dean and vice president, ACEE, India, and founder member OMAG.
10. Dr. Ishwar Gilada, president, AIDS Society of India and founder member OMAG
11. Dr. Udhay Bodhankar, president, Commonwealth Association of Health and Disability and founder member OMAG.

Recommendations of the Experts

The committee stressed the need to develop a national policy document to help focus on epidemic preparedness and aim to better understand existing capacities in the area of detection and response to epidemics.

The policy document is expected to help national authorities (i) identify gaps in epidemic preparedness, (ii) perform risk assessments, (iii) plan for additional investigations, response and control actions, (iv) build and strengthen institutional capacities and (v) strengthen health infrastructure to meet new challenges.

The committee understood that the development of some core domains fulfilling the objectives outlined is mandated to help plan better. Therefore, the implementation of the policy will be structured around four core domains, which are both complementary and mutually reinforcing. Implementation of strategies broadly to attain the objectives outlined may take the form of multiple capacity development actions. All of these can be taken at one point in time or by adopting a more incremental approach that includes a mix of technical and cross-cutting measures that may be both short- and long-term in nature.

Core Domains

Strengthening of existing capacities and development of new capacities

The policy will focus on capacity development measures aimed at strengthening existing settings like the IDSP and Epidemic intelligence services (EIS) being currently run in the country.^[2]

The policy also envisages setting up new settings to develop strategies, create policy dialogue forums and create offices for implementation of the policy. This will also include help settings develop or revise legislation, provide support for decentralization initiatives in the implementation of new or existing guidelines, help develop capacity development strategy or facility, etc.

The policy implementation will also identify potential partnership approaches such as twinning arrangements between different types of institutes to help support institutional objectives in implementing guidelines set forth. Importantly, new settings in the form of community-based organizations to help implement policy initiatives need to be identified. The role of civil society in epidemic preparedness can never be overemphasized.

Creating leadership in implementation

In this context, leadership is neither identified as necessarily being synonymous with having a position of authority nor intended to apply to individuals only. It is institutional and informal and can demonstrate itself in many ways at multiple levels – centred on the elements implementing policy guidelines and something similar to National Security Advisor. The Government of India's Niti Ayog vision document (from 2017-18 to 2019-20) has also suggested the need for the NCDC to act as a focal point with greater authority and resources for disease surveillance, monitoring of health status, educating the people, providing evidence for public health action, and enforcing public health regulations.^[7] The leadership is envisioned to function as a mentor for implementing policy guidelines and initiatives. It will develop strategies to target individuals, groups, communities and even organizations to enhance implementation of guidelines. This will be provided through targeted leadership development programs focusing on brokering partnerships, supporting individuals and institution that can “champion”

and provide leadership for advancing key themes and messages, or building broad-based multi-stakeholder coalitions that can act as change agents in supporting reform, and advancing the implementation of guidelines. These “champions” will also ensure the sustainability of the efforts.

In addition, the leaders will be required to identify the strategies strengthening community participation/mobilization to strengthen implementation of policy guidelines, suggest strategies and mechanisms to strengthen implementation of guidelines, conduct public awareness/mass media campaigns for awareness building and behaviour change, mainstreaming the program components as part of the healthcare delivery mechanism under the National Rural Health Mission framework and monitoring and Evaluation including surveillance.

Creating knowledge

This will be the key domain for policy implementation and will help re-enforce other domains. ICMR has shown us the way by responding rapidly to the current crisis through the development of a protocol for restricted public health emergency use in the wake of COVID-19.^[8]

Under this domain implementation will include:

- a. Creation of knowledge through research and its enhancement through workshops; formal and informal. The working groups will be tasked to create knowledge suited to the needs of the settings.
- b. Mainstreaming of the knowledge thus created into institutional/organizational functioning, for example, by integrating it with the school/college/university curriculum.
- c. Development of modules/training/teaching material for use by the leaders and “Champions”.
- d. d. Conducting training and workshops for health and social workers, Self Help Groups, NGOs, school/college/university teachers etc.
- e. Training of future trainers.
- f. Conduct workshops/IEC activities through advocacy workshops among Panchayati Raj institutions (PRI) to implement guidelines, strengthen school/college/university-based programs in prevention.
- g. Redesigning the epidemic prevention strategy including task sharing and transfer.

Accountability and transparency

Facilities for monitoring implementation of guidelines will be developed at each setting. Since our understanding of epidemics keeps changing daily, even hourly in its currency, we need answers to important questions so we can respond as effectively as possible. As per a report, India did not rank favourably in a recent study of transparency in health systems across 32 countries.^[8] The methodology of arriving at such conclusions while open to challenge, do threaten our national aim of leading healthcare initiatives across the world. Reasons for doing so could include potentially negative impacts on business and tourism, loss of public confidence etc.

In this type of crisis (Covid-19), we will need our experts to speak to us continuously, almost every day to keep us well informed and to allay fear and panic. Similarly the political class, like they are doing in the current crisis, must continue to take a hard look at the costs and benefits of various interventions being tested and advocated. Countries and their financial interests cannot be allowed to dominate epidemic preparedness across the globe. The most obvious role of financial interest has been seen to be in selecting outflow of information regarding the epidemics. As also, financial interests exert a powerful influence on laws and policies that address the risk factors governing epidemics.

Strategies

Broadly the key steps in the implementation of the policy will include identifying the public health goals to be achieved through engagement with non-state actors; profiling, due diligence and risk assessment of implementation strategies; balancing the risks and benefits of engagement; risk management; monitoring, evaluation and accountability; and transparency and communication.

Policy Strategy Guidelines

Invest in public health

China imposed a lockdown for COVID-19 and it has been effective in China, where the number of daily new cases went from around 2000 just a few weeks ago to less than 100 in recent days. But other countries should not be taking the wrong lesson from China by attributing its success to the Government's unprecedented restrictions on daily life in several cities, most famously Wuhan because in other cities, they went back to fundamentals of public health.^[5] These included:

- ensuring that there was enough testing capacity to quickly identify cases,
- isolating infected patients, tracing anyone who had contact with them and,
- placing those contacts in quarantine facilities
- Also, in places where clusters of cases were emerging, authorities prohibited mass gatherings.

All these efforts needed finances. So what will India need in terms of finances to prepare for epidemics like the COVID-19? As per recent estimates, it will cost about \$1 a person per year for at least a decade to build the health protection systems needed in a country like India. It is huge money but a tiny fraction of what a preventable epidemic such as COVID-19 can cost. It is estimated that SARS costs \$40 billion; the potential cost of COVID-19 exceed \$1 trillion.^[9]

Strengthen primary care

The key factor in managing epidemics is to reduce the number of people who get infected. More the number of infected patients

more will be the load on healthcare facilities. The load is mostly shared by the tertiary care set up which is already overburdened. If it turns out that many of those infected become severely ill, this would justify drastic measures such as closing or curtailing hours of schools, limiting public gatherings and reducing social contact. What we therefore need is to create a primary care team that communicates with the general people on small issues that make a big difference, for example, washing hands, covering coughs and, if we are sick, staying home or wearing a mask when we go out. Further, the primary care team can educate and actively communicate with the public through risk communication and community engagement. As isolation facilities will always have some limitations, strengthened primary care will strengthen preventive medicine thereby reducing load on isolation facilities. A strong primary care team will ensure that routine healthcare services do not suffer during an epidemic.

Creating flexibility in standalone vertical national programs

Creating flexibility in programs like National Tuberculosis Elimination Program (NTEP) earlier Revised National Tuberculosis Control Program (RNTCP) and develop an inherent capacity within the programs to rise to the challenges of the epidemics will help better respond to epidemics. The idea is to help develop standalone national programs into flexible programs, for example, RNTCP should have the capacity to extend its program protocols to influenza and other respiratory illness. This will reduce need for the creation of new resources every time an epidemic arrives.

Strengthening patient management

The lower the risk of death from infection, the less is the disruption to our social life and economy. Therefore, the spread of infections during epidemics can be minimized by quickly isolating those who are ill. COVID-19 also taught us that taking care of co-morbidities will improve patient management and prevent deaths.^[5] Therefore, an emphasis on maintaining routine healthcare services at optimum during an epidemic is needed.

Furthermore, the World Health Organisation reflected on the shortage of personal protective equipment (PPE) for use in managing the potential patients with COVID-19 infection.^[5] Strengthening medical college facilities in the country in case of management during epidemics through the development of isolation facilities with dedicated human/material resources will improve the patient management.

Govt-industry connect

Businesses should prepared to maximise telecommuting, increase cross-training and operate with as many as 40% of their staff ill or quarantined to stabilize the economy in epidemics like the one we are facing now.^[9] In addition, businesses also need to rapidly respond to the requirements of epidemics. Epidemics will raise shortages as in current case, a shortage of masks, sanitizers etc., Industry should be prepared to respond to the challenge by

escalating the production of all the protective measures required. Mission-critical enterprises need practical plans to continue to operate and respond to the needs of the public during epidemics. Continuing to plan, teach, learn, research and work will reduce disruption.

Protect healthcare workers

Infections in healthcare facilities are not uncommon. Infections happen to healthcare workers as well to the patients at the health facility. Developing and strengthening triage, treatment, cleaning and overall infection prevention protocols is the key. As already stated a shortage of PPE is likely, we need to ensure healthcare workers have enough. Simultaneously, medical masks should be made available to household members caring for sick relatives and people who are ill and need to go outside. For healthcare workers, newer, longer-lasting technologies such as elastomeric and positive air pressure respirators could address an otherwise inevitable shortage of medical masks.

National protocols emphasizing on the need for ensuring the safety of healthcare workers at the workplace should be mandatory. Preventing healthcare workers from infections will strengthen efforts to manage epidemics.

Research

The development of a vaccine is always a year away from the occurrence of the epidemics, and success is uncertain. Treatments that hold promise need to be evaluated rigorously. As already stated, protocol testing by ICMR is an example.^[10]

In a moderately severe pandemic, there wouldn't be enough ventilators to support patients' breathing. Health facilities and health departments can prepare for a worst-case scenario by preparing – with training, equipment, and detailed operational plans. The research-based management protocols and standard operating procedures with national need and relevance will help gain time till vaccines and drugs arrive.

CT imaging was rolled out in China as a frontline diagnostic tool. In a study of 1014 patients with both CT chest and PCR, the sensitivity of CT was 97% relative to positive RT-PCR and its introduction led to a surge in diagnosed cases in Hubei, China. It led to rapid diagnosis as RT-PCR results had a delay (24-48 hours).^[11]

Protect health services

This is equally important as happened during the 2014-2016 Ebola epidemics in West Africa; more people died because of disruptions of day-to-day healthcare than died from Ebola.^[9] Technology needs to become much more accessible, and with strengthened primary care patients with chronic conditions can be managed in primary care settings in case there are disruptions at tertiary care level. Task sharing and task shifting with newly established health and wellness centres sharing healthcare load during epidemics will help protect health

services. Routine vaccinations and other preventive services need to be preserved.

Support needs

Healthcare personnel and their families will need support, especially those who handle isolation. Same may apply to patients in isolation and their families continuing to support individuals and groups ranging from community centres to nursing homes will be required. The “Ayushman Bharat PMJAY” program of the Government of India will be the key in supporting needs.^[12]

Strengthen surveillance

These needs to be done through case finding, contact tracing and management conduct active case finding, contact tracing and monitoring; quarantine of contacts and isolation of cases. Consider testing for epidemics using existing disease surveillance systems and hospital-based surveillance. Strengthening of existing EIS through the creation of a flexible post-graduation curriculum in public health, community medicines, respiratory medicines, and emergency medicines will improve forecasting, preparedness and surveillance. Trained manpower will be better equipped to deal with adverse situations.

Strengthen laboratory testing

All medical college facilities need to be strengthened through a lab-based national disease surveillance network (NaDSuN). The laboratories should have the capacity to upgrade and test in case of an epidemic. Further, the concept of the walk in laboratory through strengthening our existing ambulance service needs to gain ground. This will not only reduce the load on our laboratories during epidemics but will also reduce patient-healthcare worker interact.

Increasing national capacity to deal with epidemics

Epidemics are extraordinary times and therefore call for extraordinary measures. Steps such as setting apart isolation care ward facilities in medical college hospitals and other government healthcare facilities are being undertaken and rightly so. There are important lessons to be learnt from how China tackled the problem at the original epi-centre of this epidemic at Wuhan city. A 1000-bed mobile hospital occupying 25,000 m², with several isolation wards and 30 intensive care units was constructed in 10 days.^[13] Another hospital was built thereafter. The key to the speed of construction was the use of prefabricated units. The policy envisages engaging technical experts to develop contingency plans ready and identify suitable locations to set up these hospitals.

Technology

Technology needs to take centre stage in epidemics. It may not only be used for patient management but also for creating platforms for transferring correct information and allaying fears.

Again COVID-19 has shown us the way. Using technology to its advantage, the Government was able to conduct a national workshop for trainers using telemedicine portals across the country. Data will be the key. Technology can come to our rescue by acquiring, processing and analyzing available data on epidemics to help prepare better.

Summary

COVID-19 has raised unprecedented situations, the responses have been extraordinary. India has made all-out efforts to be on the right side of the curve. No matter what, the Government is making all-out efforts to respond to the situation. The current list of countries exposed to COVID-19 got longer to 113 by 11 March, with nearly 35% of the confirmed global COVID-19 cases currently coming from outside China, the country from which it started. The global spread and possible worsening of the epidemic in the days to come is not improbable. OMAG asked experts from its member association to come out with a document listing long-term goals and the strategies to achieve these factors. The document thus prepared is based on the recommendations of these experts.

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Conflicts of interest

There are no conflicts of interest.

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