

## COMMENTARY

**COVID-19 Quarantine and the way forward**Sumit Aggarwal<sup>1</sup>, N R Ramesh Masthi<sup>2</sup>, Anusha Rashmi<sup>3</sup>

<sup>1</sup>Scientist (Talent search scheme), Program officer-HIV/AIDS and STIs, Co-program officer for Antimicrobial stewardship program, Division Of Epidemiology and Communicable Diseases, Indian Council of Medical Research, DHR, Ministry of Health and Family Welfare, Ansari Nagar, New Delhi -110029; <sup>2</sup>Professor and HOD, Department of Community Medicine, KIMS, Bangalore; <sup>3</sup>Assistant Professor, Department of Community Medicine, K S Hegde Medical Academy, NITTE University, Mangalore

[Abstract](#) [Introduction](#) [Methodology](#) [Results](#) [Conclusion](#) [References](#) [Citation](#) [Tables / Figures](#)

**Corresponding Author**

Dr Anusha Rashmi, Assistant Professor, Department of Community Medicine, K S Hegde Medical Academy, NITTE University, Mangalore  
E Mail ID: [anurash7@gmail.com](mailto:anurash7@gmail.com)

**Citation**

Aggarwal S, Masthi NRR, Rashmi A. COVID-19 Quarantine and the way forward. Indian J Comm Health. 2020;32(2-Special Issue):261-263.

**Source of Funding:** Nil **Conflict of Interest:** None declared

**Article Cycle**

**Received:** 07/04/2020; **Revision:** 15/04/2020; **Accepted:** 16/04/2020; **Published:** 20/04/2020

This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

**Abstract**

Quarantine is a tool that was used anciently and now used as a public health measure in a more strategic manner for containment of a disease. It requires a lot of planning for implementation depending upon the burden of disease, resources to carry out the same in a stringent manner. Benefits and outcomes need to be measured carefully while imposing quarantine especially of a larger scale. We have tried to put up the rationale behind the current quarantine measure carried out in the wake of COVID 19 and factors to keep in mind for the future.

**Keywords**

COVID-19; Quarantine

Quarantine refers to restriction of movement of individuals who are thought to have come in contact with the contagion. Quarantine as a practice dates back to 14th century when it was first used as a strategy to control the transmission of the very feared plague. Since then quarantine has been used in infectious diseases such as cholera, Influenza and SARS. This century old strategy has now turned into a powerful public health tool for the emerging and re-emerging infections.(1)

Lessons from the SARS pandemic in 2003 have led to specific modern quarantine principles.(2)

1. Quarantine is required when the disease/organism is highly contagious and virulent.
2. Separation of exposed healthy individuals from those who are ill becomes essential
3. Protecting the rights of quarantined individual

4. Quarantined individuals should receive all essential services and care, along with regular monitoring of symptoms, referral and quick diagnosis in case of suspicion.
5. Maximum duration of quarantine would be one incubation period from the last known exposure, but can be shortened if effective prophylactic treatment or vaccination is available and is delivered on time.

Along with certain mathematical models it is also suggested that timely implementation of quarantine can help in containment of infection(3) Day T el al(4) from their study on probabilistic models for determining conditions where quarantine is useful concluded that it would be an effective measure in situations where the  $R_0$  is large, huge number of

infections can be averted by quarantine and there is a good probability that the asymptomatic affected individual will be quarantined before he /she develops the symptoms.

It has also been said that an absolute quarantine may not always be essential.(2) A partial quarantine may also prove effective if the public are encouraged on voluntary social distancing measures. Such a partial quarantine may also prove to be better especially in our country owing to the huge population and work necessitating travel across cities for many for livelihood. Along with various quarantine measures already in place in the country it is also necessary to look into various social aspects as priority as this would also build of public trust among administrators and officials. This would include catering to needs of migrants during the quarantine, compensations and job security for quarantined individuals.

### **The situation in India**

It all started with international travellers being initially quarantined at home and subsequently designated hospitals. After the lockdown, the focus has shifted as almost all the travellers have completed their quarantine period. Currently quarantine is done in primary contacts of the cases depending on high risk/low risk in designated hospitals /hotels for a period of 14 days and subsequently home quarantine for another 14 days. The strategy is to pick up the cases, test, isolate and quarantine the primary contacts and prevent further transmission of the disease. In some states a seal is being put on their hand to identify them. If all the primary contacts can be traced and quarantined, then the transmission can be halted as seen in Kerala and few other states. However, the same cannot be said with regards to the other states in successful implementation of quarantine measures as the health infrastructure, manpower and resources differ. In India, it is huge challenge to identify all the contacts and quarantine them. The fear of being stigmatized and kept in a designated hospital has led to future potential cases not disclosing the information. In situations, technology and police is being used to track the movement of the cases in the previous 14 days and identify the contacts for quarantine.

As a good measure, quarantine has been implemented strictly across states in the country when the country started showing a rise in cases

since early March. In our country currently quarantine is not just implemented amongst cases and contacts but restriction on movement of people in general is in place. This has bought us the time required to implement measures of surveillance, find out hot spots, contact tracing, strengthen the hospitals with equipment's and PPE etc and enable the system to gear up for the future turn out of cases. It has allowed time for keeping a workforce ready for action along with back up's in place. It has also allowed time for dissemination of information to the people at large to allay fears.

On the flip side, quarantine of such large measure is bound to cause a lot of disruption of trading, small to medium scale business have been hugely affected, daily wage earners being at a loss, share markets have gone down, all of which will invariably have a socio economic impact and may lead to economic recession or may even lead to economic depression. In a country like India a prolonged quarantine may also have effects showcasing as riots, increase in criminal activities as for many it is a hand to mouth existence. The major outcomes however are yet to be seen in the future. These public health actions further improved by comprehensive preparedness planning, effective communication and public trust are quintessential components in containment of disease. Further, public must receive clear messages about their role and importance of quarantine as a means of reducing transmission of infectious disease. As is known, many countries were caught on the hind-foot due to abysmally low expenditure on primary health care as a percentage of GDP which is also the scenario in our country. It is highly recommended to look into increasing public health expenditure which will also pave the way for a better preparedness for the country in times of crisis.

### **Conclusion**

These strategies are the important part of the public health toolbox for suppressing transmission and stopping pandemics like Covid-19. Nevertheless, the implementation of modern quarantine can be resource intensive. Quarantine is most effective when it is in conjunction with other containment measures. Thus, it is essential that planning for the effective implementation of quarantine and other containment measures be undertaken at every level of government, and well in advance of the need. All these mechanisms should be supported with strong review and feed-back mechanism to improve the

whole system, which will ultimately strengthen the public health to handle such future situation.

### The way forward

As is known, a quarantine with border control and travel restrictions cannot run for too long. The country needs to have phase wise measures to exit out from the current imposed restrictions as sudden loosening of measures might again prove detrimental. In order to prevent frequent lockdowns, it is imperative to know the scenario on COVID 19 cases in the community for which strategic testing needs to become a norm. Prioritization on removal of restrictions needs to be done in consultation with public health experts along with economic experts.

### Authors Contribution

All authors have contributed equally.

### References

1. Tognotti, Eugenia. "Lessons from the history of quarantine, from plague to influenza A." *Emerging infectious diseases* vol. 19,2 (2013): 254-9. "[Internet].[cited 2020 Apr 15] Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3559034/>
2. Martin Cetron, Susan Maloney, Ram Koppaka, and Patricia Simone. Learning from SARS: Preparing for the Next Disease Outbreak: Workshop Summary: "Isolation and quarantine: containment strategies for SARS 2003"[Internet].[cited 2020 Apr 9] Available from <https://www.ncbi.nlm.nih.gov/books/NBK92450/>
3. Martin Cetron, Susan Maloney, Ram Koppaka, and Patricia Simone. Learning from SARS: Preparing for the Next Disease Outbreak: Workshop Summary: "Strategies for Disease Containment" [Internet].[cited 2020 Apr 9] Available from <https://www.ncbi.nlm.nih.gov/books/NBK92450/>
4. Day T, Park A, Madras N, Gumel A, Wu J. When is quarantine a useful control strategy for emerging infectious diseases?. *Am J Epidemiol.* 2006;163(5):479–485. [Internet].[cited 2020 Apr 15] Available from <https://academic.oup.com/aje/article/163/5/479/61137>