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Preparing-for-the-possible-surge

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"Perfection is achieved, not when there is nothing more to add, but when there is nothing left to take away."

Antoine de Saint-Exupéry

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When will it end? That is the question everyone is asking about CoVid19. Hard to imagine, it began from one, just one infected person. Patient zero of Wuhan is said to have emerged sometime in Nov-Dec 2019. Today CoVid19 has the world in its grip. Daily death rates are alarming. While European countries claim they are beyond the peak and are opening up their businesses, elsewhere the virus is claiming more lives as we speak. It took just twelve weeks for the virus to bring the world to a halt, to put our lives and our societies on lockdown. More than 276,000 people have already lost their lives.

India got its first case on 30 January 2020 in Kerala. Most initial cases were imported cases of people returning from China. As of 09 May, we already have 59,662 cases, more than 1981 deaths and the scales are increasing by the hour. God forbid, but by the time you read this, these figures may already be doubling. The Indian Government took many early proactive measures and instituted a countrywide lockdown on 25 Mar 2020. The lockdown, which has seen three extensions, is currently until 17 May 2020. In many ways this period has been effective in keeping our CoVid19 figures much lower than what many had feared.

Low Numbers – So Are We Safe?

Why are our numbers so low? Are they real? If so, then what are the factors that have kept the cases under control? In fact, there are **many speculations** as to the reasons for this low casualty rate in spite of the virus being active in the country for more than three months.

- The figures are low because **hardly any tests have been done**. 80% cases have mild symptoms of cold, cough and fever. They might go undiagnosed. What is the percentage of population going to hospitals? Many are scared of

hospitals. Of getting ostracised as CoVid19 patients. Over the counter medicines like Paracetamol are commonly used. Many go to quacks as well.

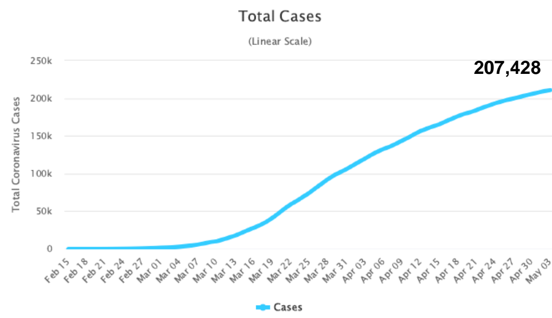
- We have **limited testing facilities**. While kits are being imported and also indigenously being developed, there is still a great shortage. Then there are the result delays of one to three days. India tested over 1.1 million samples for CoVid19 as of May 4, 2020 (data source © Statista 2020). These include multiple tests on patients. While the MoHFW and ICMR has planned to ramp up testing capability to nearly 100,000 tests per day, it is still leaving a huge populace out of the statistics.
- India's **population is comparatively younger** than some European countries eg. Italy, so our health status is better and hence mortality is less. The median age in India is 28.4 years as compared to 45.5 years of Italy.
- The Government **started the lockdown pretty early**. This was a difficult yet wise decision. The effect of the PM addressing the nation had a huge impact. People united as one in the fight against CoVid19. The media use, audio-visuals, radio information about corona, newspaper advisories, TV interviews - everything was bombarded on the Indian public and they took note. The decision for lockdown (including the extension) was unanimously accepted (even welcomed by the States) and majority have followed the rules and regulations.
- Tuberculosis is rampant in India so the first vaccination a baby gets is of **BCG** against tuberculosis. It is said that this is effective against **resistance to corona** as well. In the US and some European countries, BCG vaccination is not given and may be the reason for higher mortality.
- India is a country where malaria is endemic and many have taken **Chloroquine and its derivative Hydroxychloroquine**. This drug, which many Indians have been treated with, is supposed to be acting as a **prophylactic against the Covid-19** infection. This herd immunity against malaria is helping the Indian populace to keep CoVid19 at bay.
- **Indian food habits** (boiling/heating/cooking of all food, use of spices, use of vegetables, lentils and curries) and **social habits** (washing of hands and feet, Namaste) combined with **ayurvedic/unani or herbal medications** have helped increase our natural immunity and resistance to viruses in general and to CoVid19 in particular.
- On the flip side, the general immunity of Indians is high because they are living in unhygienic conditions where the access to clean drinking water, disinfectants and proper ventilation is low. But people are surviving because of their **innate immunity**. That may be helpful in resisting the CoVid19 infection.

The Coming Storm

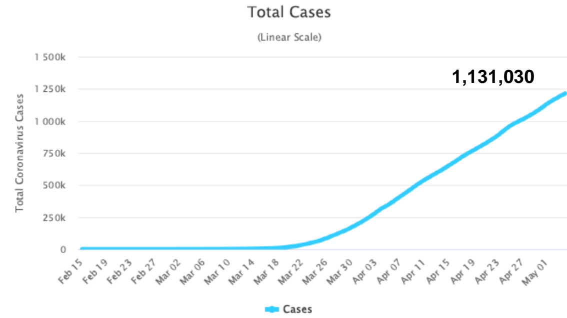
So is it over? Is the curve flat or going down now? When will it be safe to end the lockdown, to re-emerge? Are we safe? Or are we yet to see the surge? And what happens if there is a surge? Will there be an exponential rise in cases like those that we saw in Italy or Spain? Is India geared up for that? What are the salient issues?

All indications point to an oncoming storm. Daily figures since 01 May have shown a steep increase in cases and deaths. A study of the case patterns from

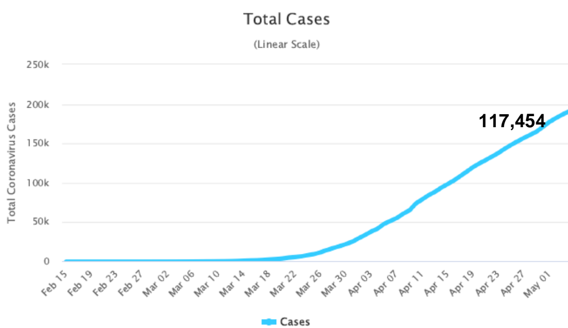
other countries compared to ours suggests that we are entering the exponential surge period.



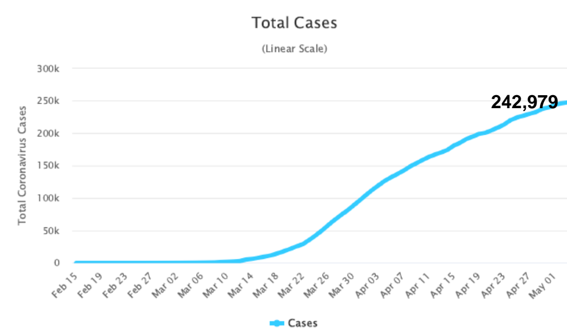
Italy : Rise in cases 15 Feb – 01 May



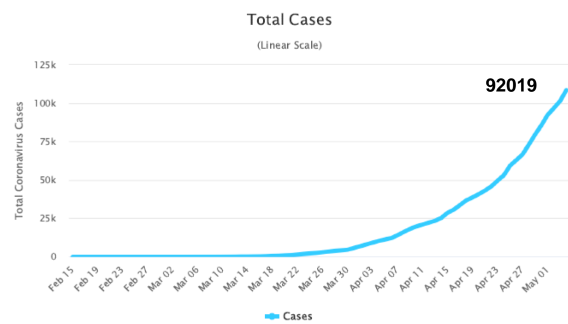
USA : Rise in cases 15 Feb – 01 May



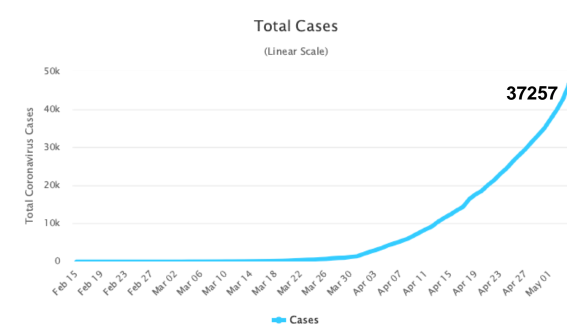
UK : Rise in cases 15 Feb – 01 May



Spain : Rise in cases 15 Feb – 01 May



Brazil : Rise in cases 15 Feb – 01 May



India : Rise in cases 15 Feb – 01 May

Note : Graphs and data sourced from www.worldometers.info

Essentially due to the early country wide lockdown, which was in the most part quite religiously followed coupled with strict containment strategies and maybe due to some other factors mentioned above, our spike has gotten delayed. We have gained time. We still have a week worth of lockdown ahead of us. However, this is the **critical period where we could grossly undo what we have achieved in the last forty days or so**.

Adding Fuel to Fire

India is going to experience an exponential rise in cases in the coming few weeks. This has been also voiced by **Director All India Institute of Medical**

Sciences (AIIMS) on 07 May 2020 when he said that the period **June – July is likely to be the CoVid19 peak** period for India. Already our doubling rate is down to 10 days and reducing daily. Some estimates talk of **three lakh plus cases by May end**. To compound the expected spike in cases, some domestic factors and decisions are as under:

- **Partial Lifting of Lockdown.** Ineffective implementation of lockdown, isolation and social distancing especially in cities and towns which have hotspot containment zones. If there is intermingling of population from these zones to other zones through markets, hospitals, work places and the like, there shall be uncontrolled spread of contagion. Surge shopping sprees at liquor stores and other shops of non-essential items are of concern. This is due to the partial opening of markets, easing of curbs and euphoric feeling of '*khul gaya'* in the general public. The opening of liquor shops and the huge lines (crowds) of customers is shocking, especially when many daily wagers are still grappling for one meal a day..
- **Migrants.** Bulk of the working class in cities is migrants. Sending migrants back ***after*** forty days of lockdown seems to be counterproductive, especially as now it is planned to commence construction works and other businesses. This conflicting decision of removing the working class and starting work may be a waste of effort and money while adding to infection surge. There shall be an expected rebound of migrants in the coming weeks.
- **Cross Contamination.** Migrant workers moving back to villages may be passive vectors carrying the virus to their homes. There is rudimentary healthcare in the rural areas. These multiple CoVid19 cases will spread the contagion there and return for work to the cities after a fortnight getting the virus back in a post lockdown scenario. Similar would be the case with the stranded persons returning from abroad, many of who (even though asymptomatic), may be passive vectors of CoVid19.
- **Asymptomatic cases** lying dormant at home in lockdown will now be out in the open environment and can spread the contagion at will without their own or others knowledge.
- Continued **lack of personal hygiene facilities/knowledge** and the **non-availability of timely medical care**.
- **Social taboos, fear of ostracism** and sure death on hospitalisation prevents possible cases to voluntarily come forth.
- **Complacency and fatigue** among healthcare, civic staff, police and administration on lifting of lockdown measures. This is a big threat. Due to already setting in fatigue and work stress, healthcare, civic staff, police and administration personnel are likely to get lax and susceptible to becoming victims themselves.
- Bravado and **misplaced optimism** in public that the **virus is gone**. General public can already be seen without masks and going for morning walks and strolls.

It should be noted with concern that our state of the CoVid19 cases has been growing sharply over the last week or so. Daily escalating reports and comparative analysis shows that our condition is precariously placed at the moment. The above

factors can compound the already escalating situation. We need to understand and plan for the **possible impact of a surge** in the cases. Some key issues are as under:

- Mass infected cases in thousands leading to **breakup of social and family structure**.
- Mandated house to house check for likely cases by **Special CoVid19 Response Teams**. Forcible evacuation of the infected as they will be taken away by the Special CoVid19 Response Teams to isolation camps for treatment.
- Below poverty line (BPL) groups, Daily wagers and migrants most affected. **Looting of stores and hoarding of goods** may begin.
- Enforcement of **strict curfews and prohibitory orders** leading to **public paranoia, panic buying**, inadequacy of food, essential goods, safe shelter and medical aid.
- Already stretched hospitals and healthcare will get **overwhelmed**. Shortages of doctors, paramedics, PPE, drugs and medical equipment. Lack of hospital space and mass isolation wards leading to **many victims without medical care**.
- **Mass cremations and funerals** may have to be undertaken. Could lead to **emotional and religious issues**.
- Many **NGOs and volunteer groups** may/are joining with civil administration for response enhancement. They will need **training and equipping** along with sustenance.
- **Essential services** on **emergency status**. Essential goods availability may be hampered.
- May lead to **riots, looting and law and order situations**. Law and order system will get over stretched.

Planning for the Worst case scenario

It is imperative to plan for this critical stage of a pandemic. We **cannot afford to have a systemic breakdown**. Deliberate and careful planning with all stakeholders is called for.

- **Risk Assessment**. Carryout realistic risk assessment of allocated area(s). Create risk mapping to identify slum areas, hospitals, markets, waste management, sewage treatment etc. Superimpose vulnerability factors as given below. Then plot on the map all available assets. Ascertain if assets are optimally located and vis a vis risk zones for rapid response. Where possible rearrange to best meet the requirement.
  - Hotspots and containment zones – sealing and isolation
  - Demographics. Population, income groups, societal clusters and habits, out of job groups (due to CoVid19) and daily essential service workers.
  - Health statistics. Status of average health, history of area, cleanliness index, availability of clinics and medical care
  - Anti-Administration and Miscreant groups may crop up adding to already deteriorating law and order situation – flash points need to be plotted.
  - Condition of roads, lanes and bottlenecks need to be identified including alternate routes.

- **Medical management**
  - Availability of **Special CoVid19 Response Teams**. Trained teams of personnel with adequate and appropriate equipment to go into affected areas and evacuate victims (infected and casualties) to hospitals/isolation camps/temporary morgues. Such teams do not exist as of now. They **need to be created, trained and equipped**. They may need mandates and police protection for carrying out their tasks. Infected persons may not be forthcoming to move to hospitals without family support.
  - **Availability of medics, paramedics, nurses and support staff**. Available medical staff is already stressed and need to be relieved. There is a need to muster private doctors and nurses, medical staff from medical colleges and from other organisations like Fire Brigades, Para Military Forces (PMF), NGOs and organisations like St John Ambulance. These can be requisitioned on an as required basis on the escalation of cases. We may also need additional medical volunteers – medical/nursing college students and retired medical personnel should be considered. Accelerated training of paramedical staff and laboratory technicians may be undertaken by specified and approved institutions.
  - **Hospital space, isolation camps and medical equipment**. Hospitals, clinics and paramedical facilities would get overwhelmed and exhaust capacity. Space constraints may call for additional areas to be demarcated for such purposes..
    - Keeping escalation of infected cases in mind, large isolation facilities may need to be created with many ICU stations. Conversion of train bogeys, warehouses, schools and malls into isolation wards/hospitals should be considered. Many of these **temporary containment facilities** may have to be **out of city limits to maintain isolation** requirements. Logistics for these would be a major issue.
    - **Huge quantities of medical equipment** from simple PPE to ventilators and life support systems to beds and linen need to be made available. Stocks should be created on emergent basis.
    - **The medical industry** needs to be operating at top output status to meet such demands.
    - **Distribution logistics** of such equipment needs strict monitoring and control.
  - **Adequacy of morgue/mortuary space and incineration/burial facilities**. May have to do disposal without last rites due to huge numbers and avoiding family contact. Availability and **adequacy of sealed mortuary vans** is a concern.
  - **Continued medical support for other medical emergencies.** Telemedicine, *Mohalla* clinics operated on time basis by group of doctors may have to be considered to avoid unnecessary movement of patients.
  - **Counselling care.** Support for victims and their families. May also need for people who are well but separated from near and dear ones. Elderly care needs priority.
  - **Armed Forces medical facilities should be planned for only as a last resort**. However, Medics and paramedics may be employed on limited scale for specific situations or in areas where adequate civil facilities do not exist.

- **Use of Other Agencies for Optimal Support.** Develop an intra-agency paradigm. Some lessons from the Italian experience can be used to strengthen our measures for the expected onslaught. These lessons when integrated with other thoughts bring out the following:
  - Allocate **PMF and CPO companies** to States to **supplement Police forces for operational tasks**.
  - Consolidate all personnel including Command and Control elements of Fire Brigades, Civil Defence and Home Guards to assist the Police and **supplement non-operational tasks**.
  - Create **Special CoVid19 Response Teams** from NDRF and SDRF personnel.
  - Use NDRF (and SDRF where available) **CBRN Teams for Bio detection, decontamination, sample collection** and isolation of areas.
  - Activate **NDRF and SDRF C3 network** and utilise their **Hazard mapping capability to enhance Municipal assets** and assist in detecting and isolating hotspots in conjunction with the **IDSP of the Ministry of Health**.
  - Take stock of all **dormant/underutilised Government services** and plan to utilise the manpower for **isolation, assisting medical staff, field hospital or containment zone management, door to door checks, frontline treatment and other logistic duties** including administrative tasks at Hospitals (including field or temporary hospitals and isolation units). Such extra staff will need **training in self-protection, recognition of cases, decontamination and isolation techniques**.
  - **Use such extra staff for logistics** like :
    - Procuring, segregating and issuing of PPE and other medical/protective equipment to hospitals and other agencies as per requirement (sparing hospital staff for primary duties).
    - Managing additional modified Ambulances (from trucks and vans) – Transport management.
    - Managing movement of sick, recovered and dead in isolation camps.
    - Assisting in transportation of stores and essential supplies for emergency purposes.
- Requisition **Territorial Army (TA)** units and **Military Veterans** who are able bodied and under 55 years of age for strengthening the security apparatus.
- **Essential Services in critical containment area(s)**
  - **Breakdown scenario** – Presume water, electricity and sanitation services continue.
    - **Water.** Water supply to non-municipal areas, which are served by tankers especially in summers, would be adversely affected. Private tankers would be off roads and these areas will be without water.
    - **Fresh goods.** Vegetables and fruits. Availability of bulk goods, distributors, cold storage facilities, retail vendor network functionality needs to be planned and sustained.
    - **Milk**. Fresh milk supplies, delivery networks, powdered milk availability and distribution points should be worked out.
    - **Groceries and household goods** - Availability of bulk goods, distributors, storage facilities, retail vendor network functionality needs to be planned and sustained.
    - **LPG.** Availability due to transportation issues. Distribution.
    - **Sustaining the transportation** network down to retail vendors – blocks, breaks and closures.

    - **Door delivery**. Feasibility in critical breakdown scenario. Alternate solutions. Vehicular delivery timings. Ration trucks
  - **Local sanitation.** Garbage pickup from residential areas. Coordination & timings will need to be worked out at ward and zone levels.
  - **Skilled emergency support**. Electricians, plumbers for immediate domestic repairs.
  - We may consider building a **resource availability matrix** for plotting on the risk map. Then develop a distribution – delivery – provision model. Use the Army ***Push*** model. (logistician/manager pushes goods to needy as per plan and anticipated wastages/requirements). With limited resources, a rationed push model can be worked out based on members in each household.
- **Impact of Climate on Stage 3.** With summer getting to peak conditions, management of patients and services is becoming a challenge. Power requirements and essential services shall be overstretched and may get overwhelmed in surge conditions.

India is experiencing **daily escalating cases since 01 May 2020**. The peak is still ahead of us and how high it will be is not known. It is a virus and it is not going anywhere soon. A vaccine is still months away (at the least). It is therefore imperative that we prepare for the worst and plan well to keep casualty figures to the bare minimum. We need to make a clear strategy of how the country is going to deal with an exponential rise in cases without causing disruptions and deaths. The Armed Forces have an onerous task of guarding the Nation from external threats. They need to remain focussed and fit for this. Hence, **support from the Armed Forces should only be sought in exceptional cases and when all civilian assets and other means have been utilised or overwhelmed.**

As the famous Professor Al Bartlett, a nuclear physicist and professor emeritus at the University of Colorado at Boulder had quoted ***"The greatest shortcoming of the human race is our inability to understand the exponential function."*** Let us not fail in this task to save humanity. Economy is not greater than lives. To quote our honourable PM, "***Jaan hai toh Jahaan hai"***.

Jai Hind!

Col Athavale has been a Key Adviser to the Government of India (MoD and MHA) on CBRN Security. He has been a Key CBRN Expert for the EU CBRN Risk Mitigation Centres of Excellence initiative in Eastern and Central Africa. A Visiting Faculty at select Indian and overseas universities, prolific writer and a speaker in international seminars and conferences on CBRN subjects, he holds PhD in CBRN Security and Incident Management. He has recently authored a pioneering book titled "Toxic Portents" on 'CBRN Incident Management in India'. Presently he is a freelance CBRN Security and Risk Mitigation Consultant based at Pune, India. His website www.chebiran.com has more details