“A crisis is a terrible opportunity to waste”

- Paul Romer
SARS-CoV-2 - India has lucked out

Table 1: COVID-19 Global Statistics

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Cases</th>
<th>Total Cases/ 1M Pop</th>
<th>Total Deaths</th>
<th>Total Deaths/ 1M Pop</th>
<th>Death Rate = Total Deaths/ Total Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>2,263,749</td>
<td>6,840</td>
<td>120,688</td>
<td>365</td>
<td>5.33</td>
</tr>
<tr>
<td>Brazil</td>
<td>983,359</td>
<td>4,627</td>
<td>47,869</td>
<td>225</td>
<td>4.86</td>
</tr>
<tr>
<td>Russia</td>
<td>569,063</td>
<td>3,899</td>
<td>7,841</td>
<td>54</td>
<td>1.37</td>
</tr>
<tr>
<td>India</td>
<td>381,485</td>
<td>277</td>
<td>12,605</td>
<td>9</td>
<td>3.3</td>
</tr>
<tr>
<td>UK</td>
<td>300,469</td>
<td>4,427</td>
<td>42,288</td>
<td>623</td>
<td>14.0</td>
</tr>
<tr>
<td>Spain</td>
<td>292,348</td>
<td>6,253</td>
<td>27,136</td>
<td>580</td>
<td>9.2</td>
</tr>
<tr>
<td>Peru</td>
<td>244,388</td>
<td>7,416</td>
<td>7,416</td>
<td>226</td>
<td>3</td>
</tr>
<tr>
<td>Italy</td>
<td>238,159</td>
<td>3,939</td>
<td>34,514</td>
<td>571</td>
<td>14.1</td>
</tr>
</tbody>
</table>

Above table shows a relatively less COVID disease burden, morbidity and mortality in India
SARS-CoV-2 - A wake up call for change

➢ If India was infected on par with top 10 countries, >5 million patients & >380,000 deaths by now

➢ Only approx. 96,000 beds & 48,000 ventilators in public and private hospitals combined

➢ Countries that are far more affected are better equipped than us

➢ Shortage of beds and other critical care resources inevitable

Table 2:

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of ICU Beds/ 1M Pop</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>292</td>
</tr>
<tr>
<td>Germany</td>
<td>292</td>
</tr>
<tr>
<td>Italy</td>
<td>125</td>
</tr>
<tr>
<td>Spain</td>
<td>97</td>
</tr>
<tr>
<td>India</td>
<td>73</td>
</tr>
</tbody>
</table>
Why focus on Healthcare now?

- A higher rate of SARS-CoV-2 disease burden would overwhelm our underprepared healthcare system

- Absence of a credible primary & family care system and referral services will spread fear and panic inundating hospital system.
  
  (during Dengue season many poor people with other viral fevers flock to public hospitals and get admitted)

- Even in normal times our healthcare system is inadequate to address our needs.
Only **1.3% of total GDP** constitutes expenditure on **public healthcare**, lowest amongst BRICS countries.

Nearly **2000** children below the age of 5 years die each day due to preventable diseases; **800 to 1200** people die each day due to TB.

Epidemiological shift is leading to an increase in non-communicable diseases; burden grew to **60% in 2016 from 38% in 1990**.

Over **55 million Indians** descend into poverty annually on account of lost income due to poor health or high out-of-pocket expenditure incurred for treatments.
What do we need going forward?

A Model that is -

➢ Economical
➢ Effective
➢ Non-disruptive
➢ Built on our strengths
➢ Amenable to phased rollouts
India’s Strengths

➢ **Impressive Human Resources** - Total number of doctors at 1.2 million (of whom 200,000 are unemployed); number of doctors produced/year at 50,000; number of trained nurses produced/year at 60,000

➢ **World class pharma industry** - High output, low price and good quality drugs

➢ **Vaccine industry** - India supplies 40% of world’s vaccines at the lowest cost

➢ **Low cost** medical care compared to other countries
Simple and low-cost interventions are currently covered by insurance-based, risk-pooling schemes such as Ayushman Bharat and Aarogyasri.

Ayushman Bharat offers 1393 procedures free of cost across 24 specialisations.

What we need -

- Clear demarcation between secondary and tertiary care
- Universalisation of secondary care
- Integration of Union and State models
- Such schemes limited to secondary care
Primary Care - 4 key features

➢ First point of contact
➢ Long-term focused care
➢ Comprehensive care
➢ Coordinated care
Primary Care - Challenges

➢ Most of primary care is limited to **immunisations** and **maternal & child** care

➢ **Lack of credibility** due to inter-state variations in standards of PHCs, and limited access.

➢ **Absence** of qualified physicians where they are needed along with **lack of incentives** to work in underserved areas.

➢ PHC as an impersonal institution with lack of doctor-patient trust as demonstrated by **low doctor consultation rates** of 0.5 to 0.7/patient/year

➢ **Lack of accountability** in public systems leading to negligence, absenteeism & corruption

➢ Increasing **reliance on private providers** leading to high out of pocket exp.

➢ **Informal medical providers** leading to misdiagnosis and incorrect treatment
Primary Care - Proposed Model

- Integrated **Family Physician (FP)** - Primary Care Model
- Effective **competition** and **choice**
- Rs. 150 **per outpatient visit**
- Doctors will see about **50 outpatients/day**
- **Adequate manpower** with nurse and lab technician consultations
- Availability of **simple diagnostics**
- Availability of **prescriptions, medicines** and **vaccinations**
- **Referrals** to secondary and tertiary care in cases of elective non-emergency procedures
A small town with a population of 50,000 to 100,000 within a 10 km radius will have around 10 FPs.

Families and patients can visit the doctor of their choice based on reputation, trust & past experience.

Competition and choice of this kind will create an incentive for better performance.
Preliminary cost estimates have been made to calculate the additional expenditure required to establish and run a primary healthcare system in India.

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Outpatient Cost Incurred</td>
<td>Rs. 150</td>
</tr>
<tr>
<td>Per day Outpatient visits in a clinic</td>
<td>50</td>
</tr>
<tr>
<td>Number of trained physicians available</td>
<td>200,000</td>
</tr>
<tr>
<td>Annual Outpatient Cost (assuming 300 working days; 15000<em>150</em>200000)</td>
<td>Rs. 45,000 cr</td>
</tr>
<tr>
<td>Initial Infrastructure &amp; Training Cost (200000*100000)</td>
<td>Rs. 2,000 cr</td>
</tr>
<tr>
<td><strong>Total annual additional expenditure on primary healthcare</strong></td>
<td>Rs. 47,000 cr</td>
</tr>
</tbody>
</table>
➢ **Overcrowding** - A single doctor has to see 100 or more patients in a 3 hour period.

➢ **Underfunded** and **under-equipped** public hospitals (756 district hospitals with 166670 beds; 252 public teaching hospitals with 266132 beds).

➢ Cost per operational bed for private tertiary hospitals is approx. upto **Rs. 1 cr/year**.

➢ Total exp. on public tertiary hospitals is **Rs. 6 lakh to 8 lakhs/bed/year**.

➢ Public hospitals render **services valued at Rs. 4 for every rupee spent** by the exchequer.
Tertiary Care - Proposed Model

➢ Enhance allocation to Rs. 15 lakh / bed in district hospitals, and Rs 20 lakh / bed in teaching hospitals
➢ Cost-effective, publicly-funded tertiary care
➢ Hospital care only on referral except emergency cases
➢ Upgrade District Hospitals to centres of specialised care
➢ Public Teaching Hospitals as centres of excellence – education, research, and training
➢ Privately Funded Initiatives – Build, equip, maintain and lease it to the government
➢ Attract best talent as independent consultants on a rotation basis
➢ Pooling of high cost diagnostics and other facilities for optimal utilisation
### Tertiary Care - Additional Cost Estimates

<table>
<thead>
<tr>
<th>Description</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current cost per bed in District Hospitals</td>
<td>Rs. 800000</td>
</tr>
<tr>
<td>Total no. of beds at District Hospitals</td>
<td>166670</td>
</tr>
<tr>
<td>Expected Additional Cost per bed (phased over 3 years)</td>
<td>Rs. 700000</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td>166670*700000 = Rs. 11,666 cr</td>
</tr>
<tr>
<td>Current cost per bed in Public Teaching Hospitals</td>
<td>Rs. 800000</td>
</tr>
<tr>
<td>Total no. of beds at Public Teaching Hospitals</td>
<td>192520</td>
</tr>
<tr>
<td>Expected Additional Cost per bed (phased over 3 years)</td>
<td>Rs. 1200000</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td>192520*1200000 = Rs. 23,102 cr</td>
</tr>
</tbody>
</table>
Total Cost and Rollout Plan

➢ Modest, **economical** and non-disruptive
➢ Total additional expenditure of **Rs. 90,000 crore/year**, less than 0.5% of GDP
➢ Total public health expenditure of only **1.8% of GDP**
➢ **Phased implementation** over 3 years to reduce fiscal stress
➢ In primary care, **70,000 FPs** introduced annually and progressively extended
➢ In tertiary care, **33%** increase in per bed expenditure annually can be planned
➢ Concurrent **evaluation** and mid-course correction based on evidence
➢ Union and State share costs on a **matching basis**
➢ National framework to **integrate** existing structures with new initiatives
Expected Outcomes

➢ Immense **health and economic benefits** from modest investments
➢ **80%** outpatient care utilisation reduces burden on hospital care
➢ **80%** secondary care needs are met
➢ Comprehensive secondary care at a moderate cost with **PPP**
➢ **80%** tertiary care delivered by public hospitals
➢ Private sector will cater to the rich and insured population and overseas patients
➢ Mitigate impoverishment on account of ill-health
➢ Generate about **10 million new jobs** in healthcare and support services

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