End TB Strategy

Contextualising the End TB Strategy for a Push toward TB Elimination in Kerala

Sunil Kumar

The END TB strategy challenges the world to envision the End of the Tuberculosis pandemic and points a general direction to where efforts should be directed. It describes the destination as the end of TB; a population prevalence of less than 10 cases of TB per Lakh, with no deaths and catastrophic costs to the patient. This target is to be achieved by the year 2035. The END TB strategy also describes a roadmap and lays foundation for a specific strategy to be adopted by each country. Each country is expected to then strengthen it by a more specific strategy appropriate to its needs to achieve the target. With a declining TB incidence, and being one of the low TB prevalence states, strong health system Kerala is ready for a final push towards TB elimination. This article describes the readiness of the state for TB elimination and our state specific END TB strategy and the activities designed around it.

Kerala is at a critical point where a strong push would accelerate the progress toward TB elimination.

A number of factors in Kerala indicate that general efforts toward control of TB has been able to reign in the spread of TB and additional efforts are required if the state is to end the suffering and cost due to the disease once and for all.

Kerala has attracted international attention for its outstanding achievements in population health despite its economic backwardness, often referred to as the 'Kerala Phenomenon'. Kerala has a high HDI of 0.79, and the population has characteristics of a developed nation. It has had a good track record of development indicators, especially in health and education sectors. The decadal population growth is about 4.8% with many districts showing a declining rate. It has achieved a low Infant Mortality Rate of 12/1000 live births with a life expectancy of 74.9 years. The Sex Ratio of the state is favorable with 1084 females for every 1000 males.

Primary Health care services have been systematically organized with a network that extends to the grass root level. There is approximately one health institution per 30,000 populations in the State, totaling to over a 1000 facilities. At least one is serving over 9000 multi-purpose health workers (MPW) at every 5000 population.

Dr. Sunil Kumar, State TB Officer/ Director-STDC, Kerala ***Email:*** *stoke@rntcp.org*

There are more than 300 hospital beds per 100,000 populations, which is probably one of the highest ratios in the developing world. All this constitutes only 23.3% of the facilities and 39.5% of the beds, the rest being a large private sector. Ownership of primary and secondary healthcare institutions is decentralized to Local Self Governments (LSG). Substantial budget provision is ensured to equip the LSGs to assume these responsibilities. This democratic decentralization has led to mass participation in health care activities of the state and increased the public accountability and government stewardship of public health programs.

With increasing number of DMCs, examination of presumptive TB rose to one of the highest in the country; over 1200 cases are being examined per lakh population annually. Correspondingly the number of TB cases detected has been falling. Currently about 30 presumptive TB cases need to be tested to find a case of TB. TB cases in the private sector have also been falling indicated by falling private drug sales and notification.

The epidemiologic characteristics of TB in Kerala have also been changing. Data from the program suggests a shift in the age distribution of cases, with lesser proportion of children developing the disease. Correspondingly the proportions of TB cases that are elderly have been showing the disease. This could indirectly indicate a declining transmission with lesser number of children getting newly infected.

All these suggest that newer strategies are required to find the remaining and potential TB cases and eliminate TB. The background of high social development and strong health system make it the best point where an additional effort would have the greatest yield.

Drivers of the current TB Epidemic:

The TB situation in Kerala is considered to be driven by a few factors which are specific to the population. Among these Diabetes, Pollution and Chronic Respiratory diseases, Smoking and Alcoholism, Migration and HIV needs to be addressed specifically.

Kerala has an ageing population and a high estimated prevalence of Diabetes of 20%; more than double the national average. This could be one of the biggest roadblocks for TB elimination. The complex interplay between diabetes and TB needs to be better understood; however, good Diabetes control is essential for good response to TB treatment.

Air pollution appears to be under control in Kerala in general; however urban areas are particularly at risk. Air Quality Index (AQI) measured 11 Cities shows that 71% of them weren't able to achieve good quality AQI. Consequently studies indicate falling AQI and rise in Respiratory diseases.
Smoking and Alcoholism: Prevalence of Smoking has been declining, and stands at around 28% of Adults using Tobacco. Current statistics suggests that about 11% of the population have an at risk pattern of Alcohol use and 4% have a substance use disorder. Both these substance addiction are known risk factors for TB.

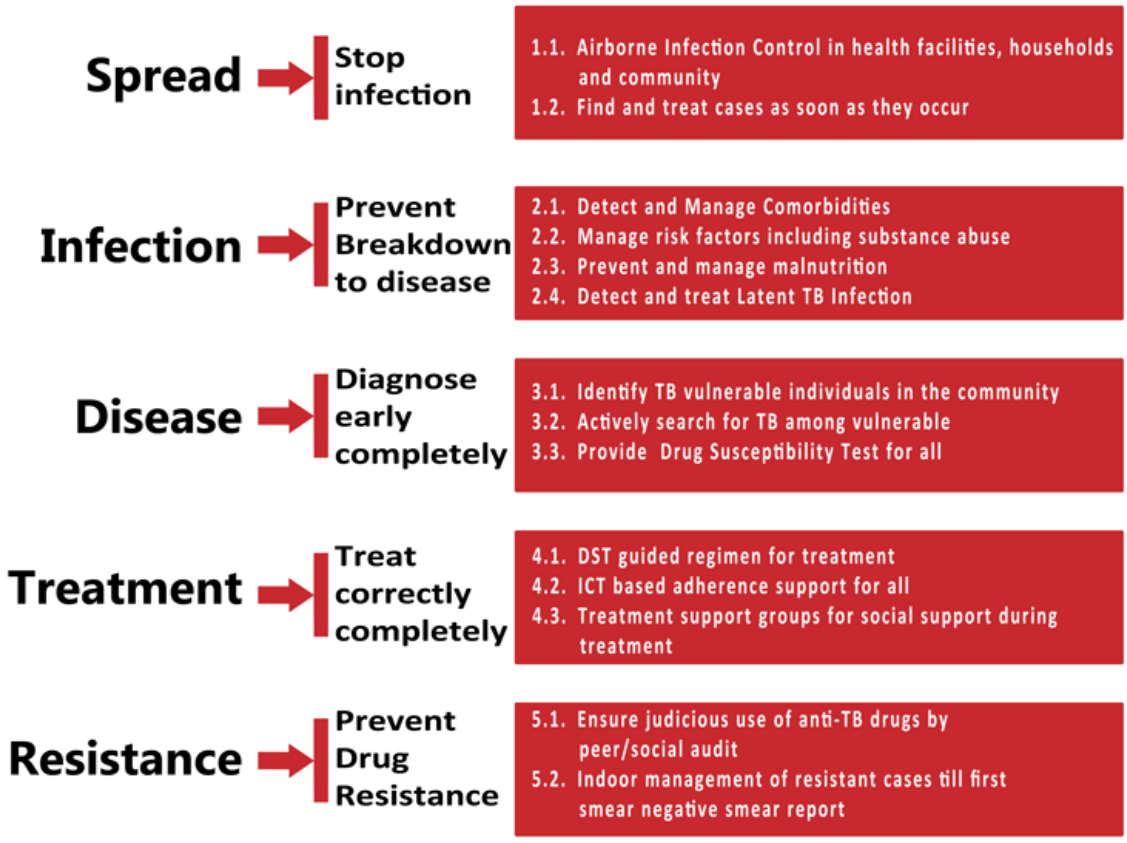
Migration:

In Kerala, a significant number of people migrate outwards and inwards. Being well educated and skilled, a large number of natives migrate outwards seeking better earnings abroad and elsewhere in India. The number of Kerala emigrants estimated to be living abroad as estimated by a migration survey in 2014 is 2.36 million. On the other hand a large number of people migrate inward from the other states especially for manual labor and construction. An estimated 4 million migrants from other states work in Kerala around 75% of them belong to five states- West Bengal, Bihar, Assam, Uttar Pradesh and Odisha.

HIV:

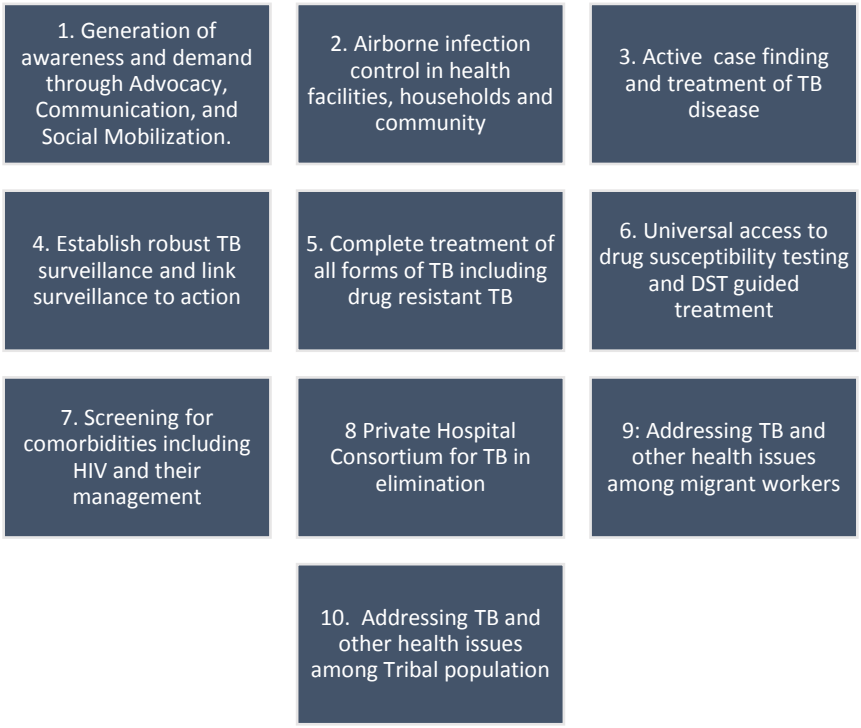
Kerala is one among the states with lowest HIV transmission with just about 1000 cases. About 2% of the TB cases have been found to have HIV co-infection. While both the diseases appear to be under control, it could be a potential area where decreased efforts would wreak the maximum damage.

Five point Kerala END TB Principles:



The principles of Kerala's END TB Strategy are rooted in the natural history of TB itself. Efforts will be focused at spread of infection, disease breakdown, complete diagnosis, complete treatment and emergence of resistance. The principles are illustrated in the figure above.

Kerala's END TB strategy contextualised to its setting has ten components as illustrated in the figure below.



Activity Plan for Ending TB in Kerala:

Phase 1:
TB movement from the Civil Society coupled with TB Vulnerability mapping and building a population wide TB surveillance system:

The first phase of the Kerala END TB Mission would comprise of a community level movement declaring the active efforts to end TB and the civil society taking complete ownership of the program. This would be achieved with Local TB elimination bodies taking over the control of activities. They will be empowered with resources pooled from multiple sources and with the support of the health system have tools to monitor and make interventions where necessary.
This movement would be coupled with a population wide campaign with one primary objective and two secondary objectives. The primary objective would be to obtain a current population wide TB vulnerability map, which would be subsequently put on active surveillance. The secondary objectives would be to conduct active case finding for the entire population of Kerala and to generate awareness of TB targeted at every single individual.

The above activities will be supplemented by an active private sector engagement program where the strengths of both the sectors are combined. TB diagnostic and treatment services will be unconditionally extended to people seeking care in the

private sector. The private sector will be supported to provide care with its own surveillance and public health action mechanism. The ability of the private sector to provide high quality individual level services would become an asset to the overall aim of ending TB.

The above three activities would be in addition to the developments in the program in general. This would include aspects such as implementation of Universal DST, Roll out of new DRTB Treatment regimens, measures ICT based self-treatment monitoring for all TB patients, state specific TB burden estimation and implementation of Airborne Infection Control in health facilities and the community. The surveillance system and community ownership thus put in place will continue till the target of TB eradication is achieved.

Phase 2:
Phase-2 will build on the successes of phase one by building upon and strengthening weak links through activities such as a specific strategies for migrants and tribal population.

Phase 3:
This would essentially be a mop up of remaining infection in the community. This phase would incorporate further and advanced activities directed at prevention of breakdown of TB from TB infection. This would include measures such as implementation of screening and treatment for Latent TB infection.

The three phase activity plan does not necessitate the entire state to be in a particular phase at a time. Each region or district may progress to higher phases and more advanced activities as local contextual factors permit.

What is the expected impact?
The next milestone set for the state is the year 2020. By that time we expect that the total number of cases of TB to have decreased to less than 2020 people both in the public and private sector (from about 35000 cases in the year 2016). By 2020 the community would be driving anti-TB efforts in Kerala complemented by an effective and strong surveillance system. We have the strong political will of the government and commitment of the health system to achieve it.