

**Manage TB**  
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**Lecture – 72**  
**Global Tuberculosis Control Strategies**

Welcome to the session on the Global Tuberculosis Control Strategies. I am Dr. Paul Kumaran working at the National Institute for Research in Tuberculosis.

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## Definitions

<u>Control</u> /	<u>Elimination</u>	<u>Eradication</u> //
Reduction of disease incidence, prevalence, morbidity or mortality to a <u>locally acceptable level</u> as a result of deliberate efforts  <u>Continued intervention</u> measures required	Reduction to <u>zero</u> of the <u>incidence of a specified disease</u> in a <u>defined geographical area</u> as a result of deliberate efforts  <u>Continued intervention</u> measures required	<u>Permanent reduction to zero</u> of the <u>worldwide incidence of infection</u> caused by a specific agent as a result of deliberate efforts  Intervention measures are <u>no longer needed</u>

Ref: Walter R Dowdle. The principles of disease elimination and eradication. WHO Bulletin 1998; 76 (suppl 2): 22-25

*“pre-elimination” of TB, defined as < 10 TB cases / million / yr*  
*“elimination” of TB, defined as < 1 TB case / million / yr*

Ref: Towards tuberculosis elimination: an action framework for low-incidence countries. WHO/HTM/TB/2014.13

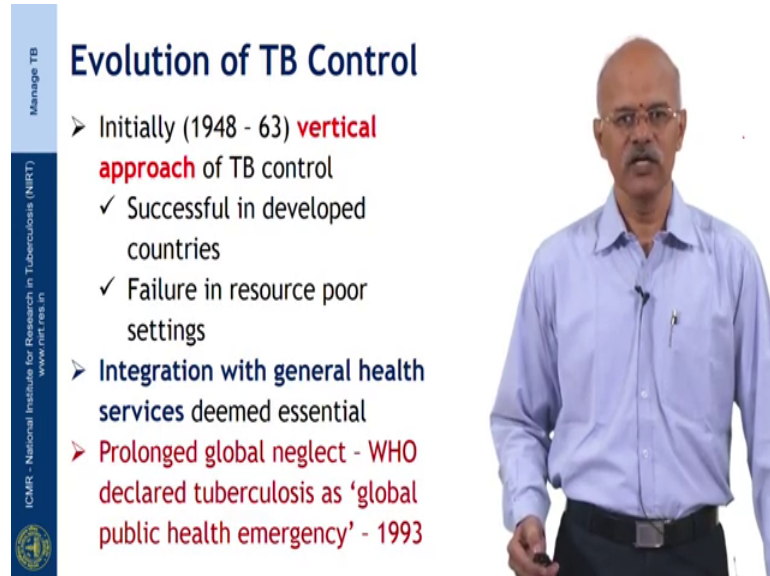
Before going to the global strategies, let us start with some of the definitions. Control of any disease is reduction of the disease incidence prevalence, morbidity, or mortality to a locally acceptable level as a result of deliberate efforts.

Whereas, elimination is the reduction to zero of the incidence of a specified disease, in a defined geographical area as a result of deliberate efforts, but a eradication of a disease is a permanent reduction to zero of the worldwide incidence of infection, caused by a specific agent as a result of deliberate efforts.

So, for control we need continued intervention measures over a period of time and, also a same continued intervention measures are required for elimination purposes, but for eradication the intervention measures are no longer needed. The pre elimination of tuberculosis is defined as less than 10 tuberculosis cases per million population per year,

and the elimination of the TB disease is defined as less than 1 tuberculosis case per million per year.

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The slide features a vertical blue bar on the left with the text 'Manage TB' at the top, 'ICMR - National Institute for Research in Tuberculosis (NIRT)' in the middle, and the website 'www.nirt.res.in' at the bottom. The main title is 'Evolution of TB Control'. The content includes a list of points: 'Initially (1948 - 63) vertical approach of TB control', 'Successful in developed countries', 'Failure in resource poor settings', 'Integration with general health services deemed essential', and 'Prolonged global neglect - WHO declared tuberculosis as 'global public health emergency' - 1993'. A man in a light blue shirt and glasses stands to the right of the slide.


**Evolution of TB Control**

- Initially (1948 - 63) **vertical approach** of TB control
  - ✓ Successful in developed countries
  - ✓ Failure in resource poor settings
- **Integration with general health services** deemed essential
- **Prolonged global neglect - WHO declared tuberculosis as 'global public health emergency' - 1993**

When we look into the evolution of tuberculosis control, over a period of a century initially the vertical approach for TB control was practiced, this is where the TB control program managers, were dealing with the TB patients, directly resulting for tuberculosis control. This was successful in developed countries, but was a failure in many resource poor settings.

So, the integration with general health services was deemed essential for any TB control program and, because of the prolonged global neglect for TB control WHO was forced to declare tuberculosis, as a global public health emergency in 1993.

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### Evolution of TB Control ...

- **DOTS strategy** integrated with the general public health system
  - ✓ RNTCP implementation started since 1997
- Strengthened public sector integrated programmes
  - ✓ Drug susceptible and resistant tuberculosis, expanded partners
- UN established the MDGs in 2000 for 2015
  - ✓ 6c: **"halt and reverse" tuberculosis incidence**

Then came the dot strategy, which is was integrated with the general public health system and in India, the revised national TB control programme implementation started since 1997, later there were strengthening of the public sector integrated programs, for drug susceptible and resistant tuberculosis with expanded partners came into the picture. The United Nations established the millennium development goals in 2000 for 2015, in which the golf was to halt and reverse tuberculosis incidence.

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### Evolution of TB Control ...

- Stop TB Partnership 2001 adopted MGD as, by 2015
  - ✓ 50% reduction in TB prevalence compared to 1990
  - ✓ 50% reduction in TB mortality compared to 1990
- WHO End TB Strategy 2014 for 2035
  - ✓ **Goal to 'end global TB epidemic'**
- UN established the SDGs in 2015 for 2030
  - ✓ **End the global TB epidemic**

Following the stop TB partnership in 2001, adopted the millennium development goals as by 2015 50 percent reduction, in the prevalence of tuberculosis compared to the status in 1990 and a 50 percent reduction in the tuberculosis mortality compared to the scenario in 1990.

Now, the WHO end TB strategy in 2014 for the year 2045 was with the goal of achieving end global TB epidemic, subsequently the United Nations also established the sustainable development goals, in 2015 for 2030 to end the global TB epidemic.

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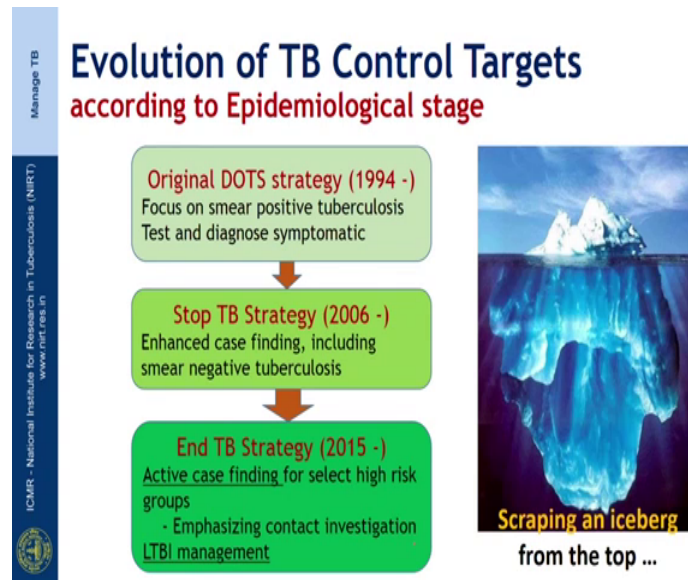
<u>DOTS Strategy</u> From 1994	<u>STOP TB Strategy</u> From 2006	<u>END TB Strategy</u> Beyond 2015
<ul style="list-style-type: none"> <li>➤ Government commitment</li> <li>➤ TB Case detection <u>passive case finding</u></li> <li>➤ Standardized short-course chemotherapy</li> <li>➤ Regular drug supply of essential ATT drugs</li> <li>➤ Supervision and evaluation</li> </ul>	<ul style="list-style-type: none"> <li>➤ Pursue high-quality DOTS expansion &amp; enhancement</li> <li>➤ Address <u>TB/HIV, MDR-TB and other challenges</u></li> <li>➤ Contribute to health system strengthening</li> <li>➤ Engage all care providers</li> <li>➤ Empower people with tuberculosis &amp; communities</li> <li>➤ Enable and promote research</li> </ul>	<ul style="list-style-type: none"> <li>➤ <u>Integrated, patient-centred TB care and prevention</u></li> <li>➤ Bold policies and supportive systems</li> <li>➤ Intensified research and innovation</li> </ul>

Now, looking at the global TB control strategies, when we start in the early 90's we had the dot strategy, wherein we had the political and the governmental commitment for control of the disease. The key TB case detection was passive case finding and, we used standardized short course chemotherapy for treatment of TB patients, regular drug supply was insured, for essential anti tuberculosis treatment drugs and, supervision and evaluation where the focus during the dot strategy.

Moving on from 2006 onwards, we started expanding to the stop TB strategy, which had to pursue high quality dots expansion and enhancement, it had to address TB HIV multidrug resistant TB and other challenges post during the treatment of tuberculosis. It contributed to the health system strengthening and, it engaged all care providers. It empowered people with tuberculosis and communities, and enabled and promoted research for TB control. Now, beyond 2015 we are adopting the end TB strategy, which

is an integrated patient centred TB care and prevention program, with bold policies and supportive systems in place followed by intensified research and innovation. So, that we are able to control the global burden of TB disease.

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Looking at the evolution of tuberculosis control targets according to epidemiological stage, original the dot strategy focused on smear positive tuberculosis and the chest symptomatics where tested and diagnosed.

In the stop TB strategy, we had enhanced case finding including sputum smear negative tuberculosis patients and, in the end TB strategy we have enhanced to active case finding mode for select high risk group population, emphasizing on the contact investigations and, we started treating, or managing the latent tuberculosis infection also.

This methodology is like scraping an iceberg from the top. So, that we are able to create an epidemiological impact of TB control.

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## Sustainable Development Goals and End TB strategy

**Vision:** A world of 'zero' deaths, disease and suffering due to TB

95% reduction in mortality, 90% reduction in incidence by 2035 compared to 2015

Indicators	Milestones		Targets	
	2020	2025	2030*	2035
Reduction in number of TB deaths (%)	35	75	90	95
Reduction in TB incidence rate (%)	20 (<85/L)	50 (<55/L)	80 (<20/L)	90 (<10/L)
TB - affected families facing catastrophic costs due to tuberculosis (%)	0	0	0	0

\* Targets for SGD

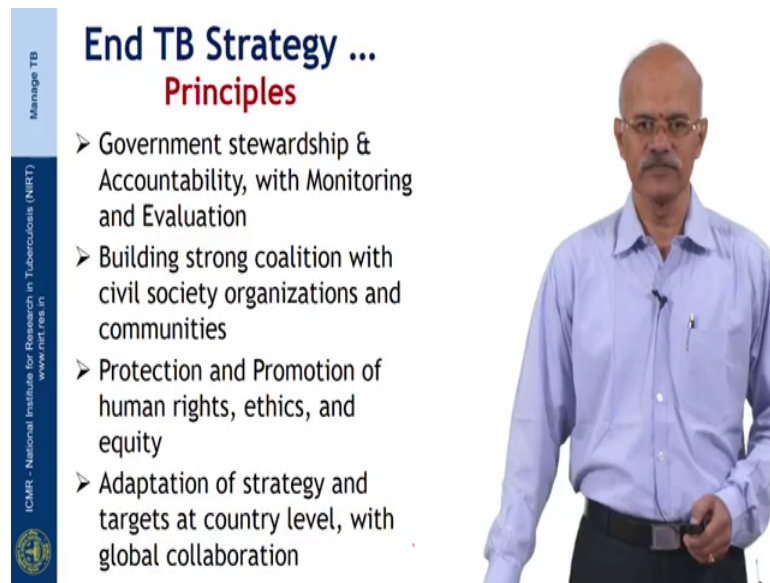
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When we are looking at the end tuberculosis strategy and the sustainable development goals, the vision for a world of zero deaths disease and, suffering due to TB, approaching a 95 percent reduction in mortality, 90 percent reduction in incidence by 2035 compared to 2015. The milestones as 2020, 2025, 2030 and 2035 for a 5 year gap period for the reduction in number of TB deaths is from 35 to 95 percent.

The reduction on TB incidence rate is from 20 to 90 percentage, which will be for less than 85 per lakh population to less than 10 per lakh population, there should not be any TB affected families facing catastrophic costs due to tuberculosis.



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**End TB Strategy ... Principles**

- Government stewardship & Accountability, with Monitoring and Evaluation
- Building strong coalition with civil society organizations and communities
- Protection and Promotion of human rights, ethics, and equity
- Adaptation of strategy and targets at country level, with global collaboration

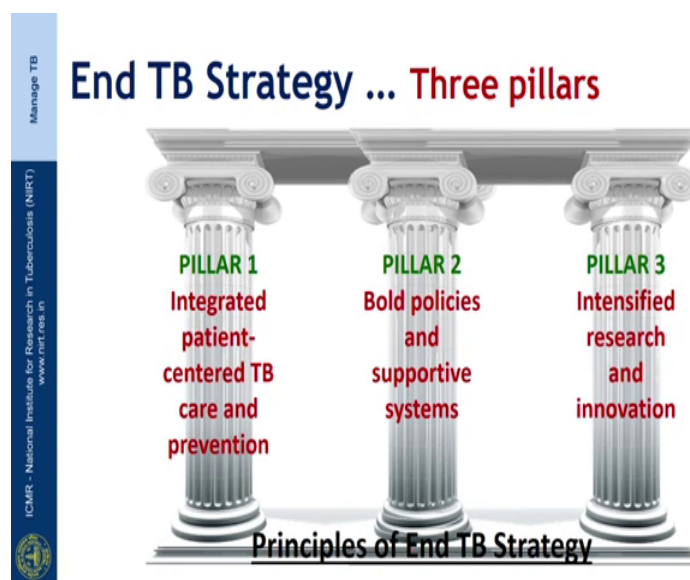
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So, there are four principles with regard to the end TB strategy, which includes government stewardship and, accountability with monitoring and evaluation of the program, building strong coalition with civil society organisations and communities for TB control, protection and promotion of human rights, ethics and equity, with adaptations of strategy and targets at country level with global collaboration.

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**End TB Strategy ... Three pillars**

**PILLAR 1**  
Integrated patient-centered TB care and prevention

**PILLAR 2**  
Bold policies and supportive systems

**PILLAR 3**  
Intensified research and innovation

**Principles of End TB Strategy**

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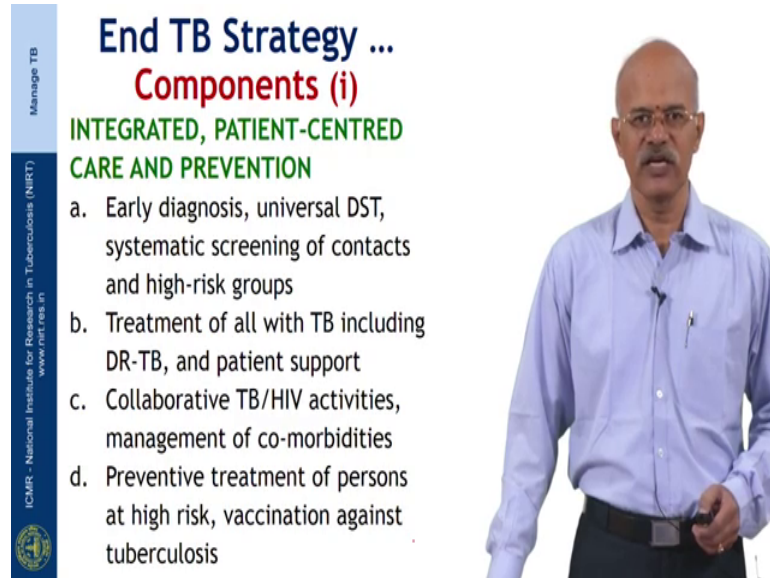
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There are three pillars for the end TB strategies, which includes pillar one as integrated patient centred TB care and prevention. The pillar two as bold policies and supportive

systems, supporting the TB control programme. And the pillar three as intensified research and innovation needed for further control of TB disease.

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**End TB Strategy ...**  
**Components (i)**  
**INTEGRATED, PATIENT-CENTRED CARE AND PREVENTION**

- a. Early diagnosis, universal DST, systematic screening of contacts and high-risk groups
- b. Treatment of all with TB including DR-TB, and patient support
- c. Collaborative TB/HIV activities, management of co-morbidities
- d. Preventive treatment of persons at high risk, vaccination against tuberculosis

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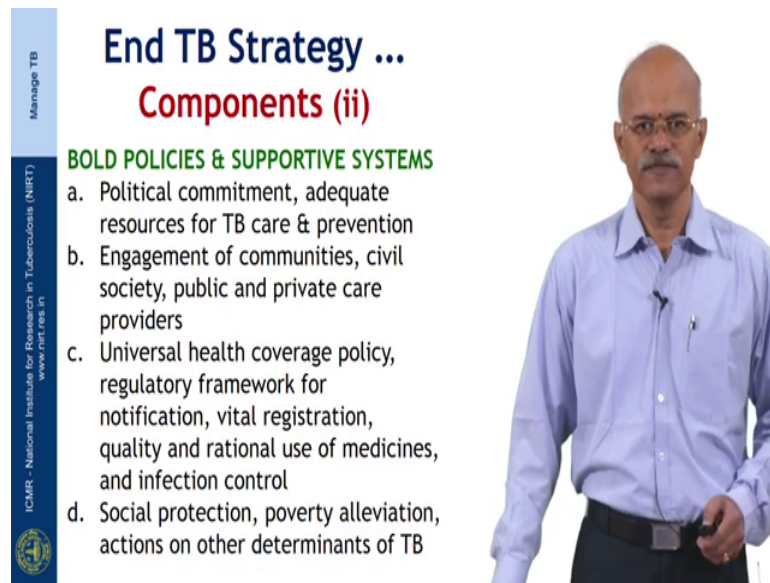
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There are ten components for the TB end TB strategy, against the three pillars for the integrated patient centred care and prevention.

We need to have early diagnosis and treatment in place, universal drug susceptibility testing needs to be done, systematic screening of contacts and a high risk groups needs to be done. Treatment of all with tuberculosis including drug resistant TB and patient support; Collaborative HIV TB activities management of co-morbidities along with tuberculosis and initiation of preventive treatment of persons at high risk and vaccination against tuberculosis.



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## End TB Strategy ... Components (ii)

**BOLD POLICIES & SUPPORTIVE SYSTEMS**

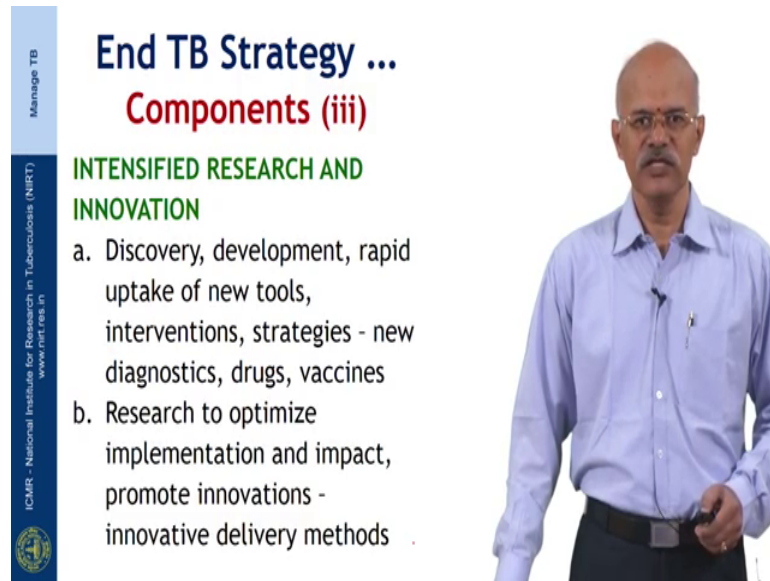
- Political commitment, adequate resources for TB care & prevention
- Engagement of communities, civil society, public and private care providers
- Universal health coverage policy, regulatory framework for notification, vital registration, quality and rational use of medicines, and infection control
- Social protection, poverty alleviation, actions on other determinants of TB

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When we look at the components for the bold policies and supportive systems, there should be a high level of political commitment, with adequate resources for TB care and prevention, there should be engagement of communities civil societies public and, private care providers in TB control program.

And there should be an universal health coverage policy, regulatory framework for notification, vital registration quality and rational use of medicines and infection control to be in place, with social protection poverty alleviation actions on other determinants of TB.

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## End TB Strategy ... Components (iii)

### INTENSIFIED RESEARCH AND INNOVATION

- Discovery, development, rapid uptake of new tools, interventions, strategies - new diagnostics, drugs, vaccines
- Research to optimize implementation and impact, promote innovations - innovative delivery methods



Intensified and research and innovation is needed for discovery development rapid uptake of new tools interventions strategies like, new diagnostics, new drugs, and new vaccines for TB control and, research is needed to optimize implementation and, impact to promote innovations, in terms like innovative delivery methods for drugs.

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## End TB Strategy ... ABC for implementation

- **Advocacy:** Advocate for and achieve -
  - ✓ High-level political commitment
  - ✓ High level National mechanism to direct adaption and implementation of strategy
  - ✓ Multi-sectoral collaboration
- **Baseline preparedness:** Assess -
  - ✓ TB situation: 'Know your epidemic'
  - ✓ Status of response & health system capacity
  - ✓ Policy and regulatory environment
- **Co-ordination and Collaboration:** Collaborate -
  - ✓ Across relevant ministries and departments (health, finance, food, education, ...)
  - ✓ Patients, Affected communities, Civil society, Private sector
  - ✓ National and International supporters / partners

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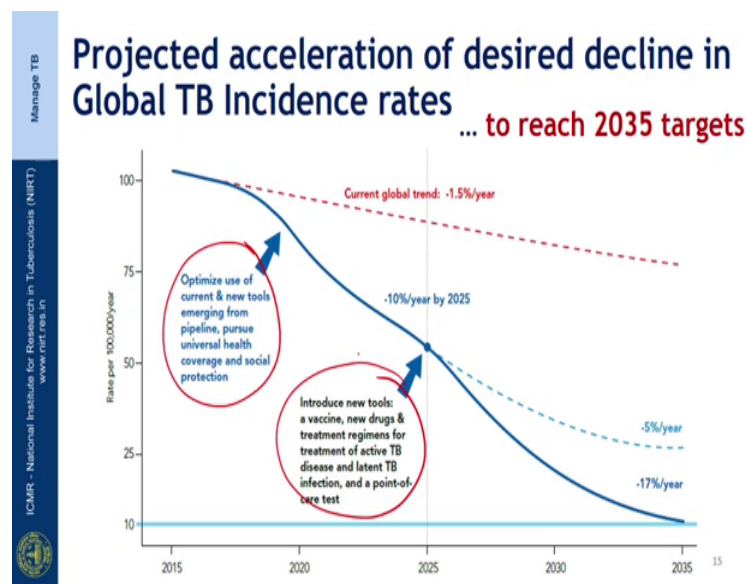
So, when we are to implement the end TB strategies, some of the implementation activities in terms of ABC like advocacy, baseline preparedness and coordination and collaboration with other stakeholders are needed for effective TB control measures. With

regard to advocacy, we need advocate for and achieve, high level of political commitment, high level of national mechanism to direct adaptation and implementation of the end TB strategy. And we need multi sectoral collaborations.

The baseline preparedness will be in terms of assessing the TB situation, as to know your epidemic, status of response and health system capacity and to assess the policy and regulatory environment.

Based on the assessment we need to be prepared for implementing the end TB strategy, then we need to collaborate across relevant ministries and departments like health finance food and education, we need to collaborate with patients affected communities, civil societies private sector and, there should be a national and, international supporters and, partners in advocating and implementing end TB strategy.

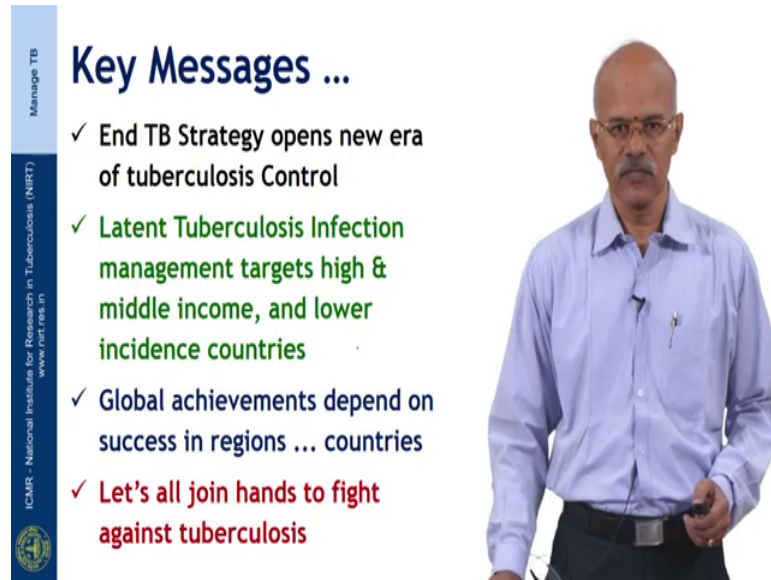
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Now, let us look at the global scenario of tuberculosis. Currently the global TB incidence rate is around 100 per lakh population per year and, the declining trends is marked as a red line. We need to achieve the targets of the end TB strategy by following, the blue line with the current scenario by optimizing the use of current and new tools emerging from the pipeline, pursue universal health coverage and social protection, still we will be not able to achieve the end TB targets.

So, in order to achieve the end TB targets, we need to introduce new tools like the vaccine, new drugs and treatment regimens for treatment of active tuberculosis disease and latent TB infection with a point of care testing.

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**Key Messages ...**

- ✓ End TB Strategy opens new era of tuberculosis Control
- ✓ Latent Tuberculosis Infection management targets high & middle income, and lower incidence countries
- ✓ Global achievements depend on success in regions ... countries
- ✓ Let's all join hands to fight against tuberculosis

So, the key messages for the global TB control strategies is that the end TB strategy opens, new era of tuberculosis control. It concentrates on the latent TB infection management targeting high and middle income countries and, also the lower incidence countries.

And the global achievements does not depend only on the complete regions, but it depends on the success of the implementation, in the regions and in the individual countries. Let us all join hands to fight against tuberculosis.

Thank you.