



Operation ASHA
Fighting Tuberculosis in India

The way forward: role of social sector in India

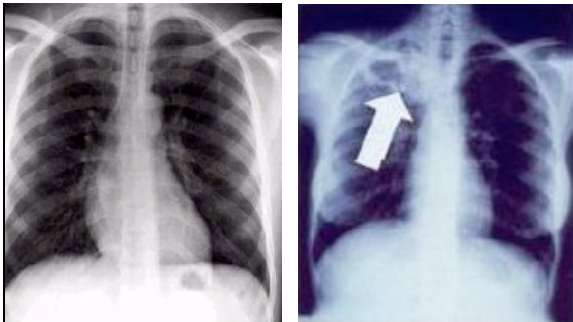
January 2010

TB: A brief introduction

TB (Pulmonary Tuberculosis) is a bacterial infection that “punctures” the lungs

Healthy Infected

Chest X-Ray



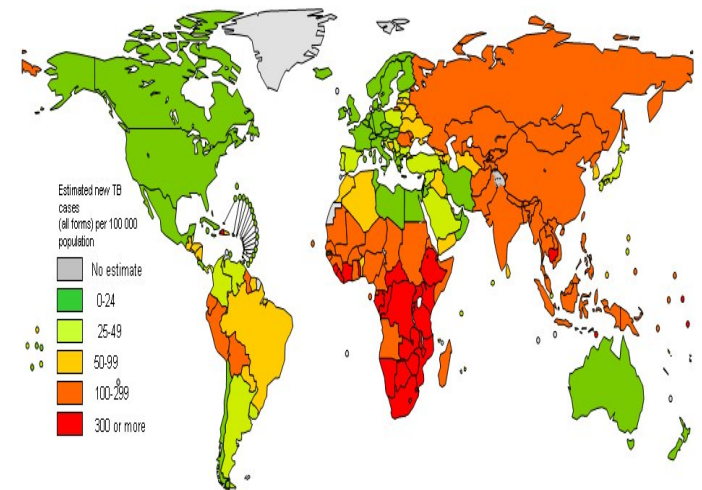
Lung Cross-Section



It is an airborne disease, and is usually transmitted through sneezing, coughing, spitting etc.



There are almost 25 million people around the world with active TB, concentrated in Asia and Sub-Saharan Africa



Source: WHO, CDC

TB: A brief introduction (Contd.)

Types of TB



Description

- Occurs to LTBI carriers with immune deficiency
- Patient under treatment infectious for 3-4 weeks
- Untreated patient infects 10-15 others

- Occurs to patients not complying with protocol
- Resistant to the two first-line antibiotics
- MDR can be just as infectious as the basic TB

- Highly virulent strain, resistant to three or more of the six second-line drugs
- Virtually untreatable

Primary cause

- Exposure to patient

- Failure to treat “basic” TB

- Failure to treat MDR-TB

Num. patients worldwide (vs. India)

- 13 MM total (3-3.5 MM)
- 8 MM new cases annually (2 MM)

- 5-10% of basic TB cases (150-300,000)

- 20-25% of MDR cases

Mortality rate

- 5-10%

- 80%

- Virtually 100%

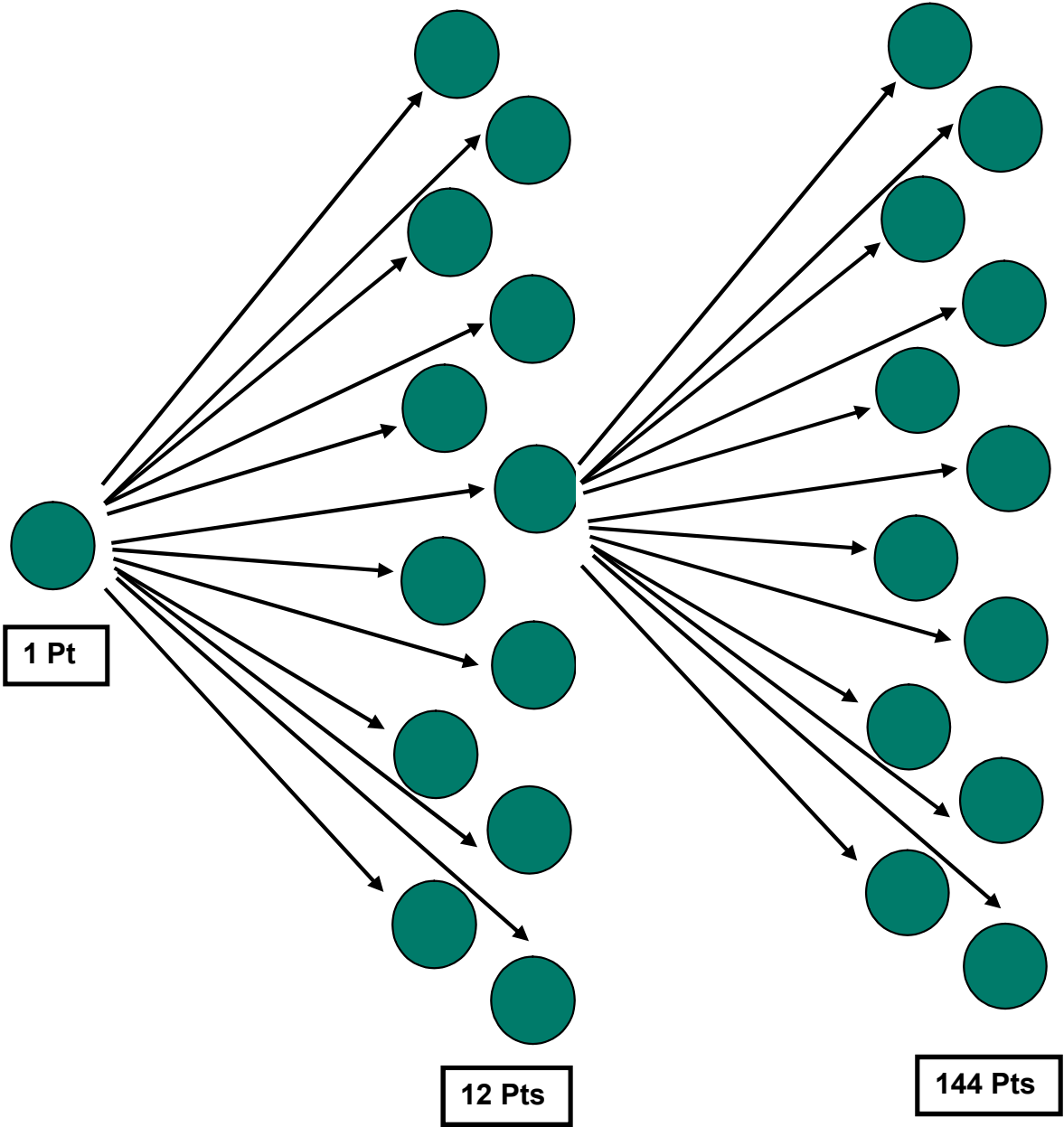
Treatment/ cost per patient

- 6-9 month program of two main antibiotics
- Rs. 15,000 (often subsidized)

- Cocktail of up to 6 second-line drugs
- Rs. 575,000 (most patients in poor countries die)

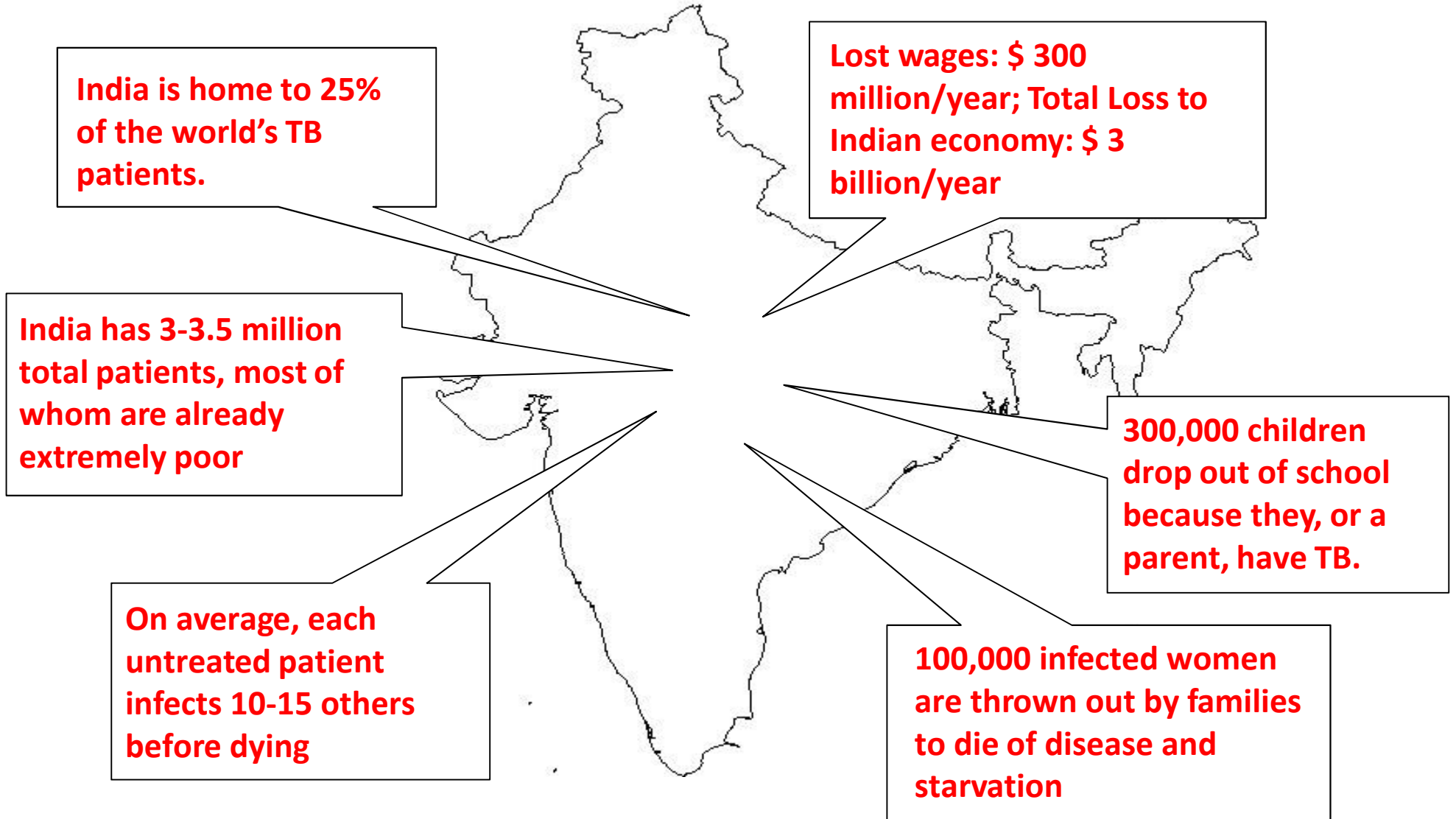
- N/A (virtually untreatable)

Geometric Progression of MDR Patients



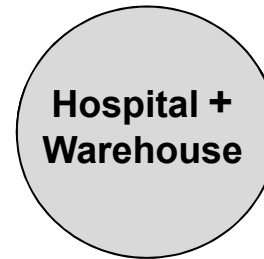
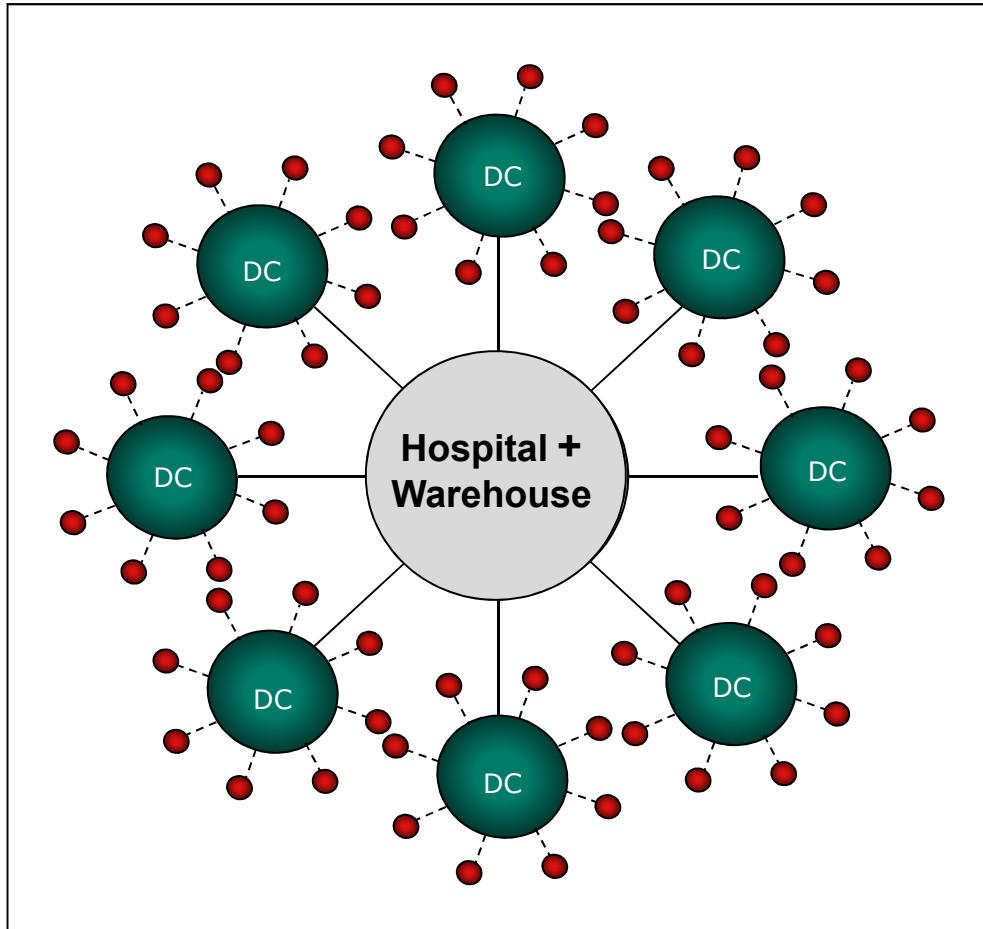
& so
on
so
forth

TB : The biggest health crisis confronting India



Government model provides medication and facilities, but breaks down in the “last mile” connectivity to slums

The DOTS* model: network of three types of facilities



Hospital +
Warehouse

DC

Diagnostic Centers: **Adequate**

TB Hospitals: **Adequate**

- Government facilities providing comprehensive diagnostics and treatment recommendation
- Warehouse for medicine supplies, provided free by government & donors

- Sputum tests for initial/rapid diagnosis
- 5 DCs required for every hospital ; typically present

Treatment Centers: **Inadequate in slums**

- Local “last mile” centers, distributing medication and ensuring compliance
- 5 TCs required for every DC; currently, only 1-4, with limited hours of operation
- Scarcity of TCs results in high default rates, causing relapse & drug-resistance

OPERATION ASHA'S FOCUS: TUBERCULOSIS

TB in India

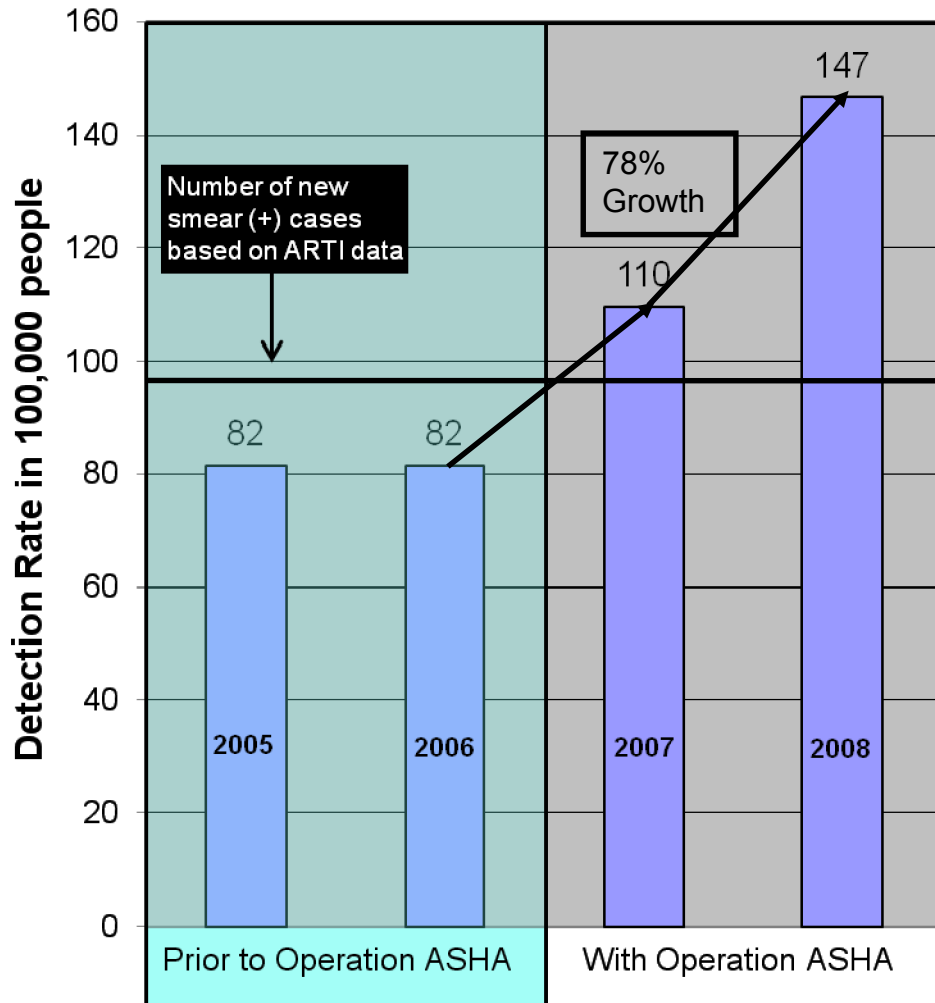
- India is home to 25% of the world's TB patients: 3-3.5 million patients, most of whom are extremely poor.
- On average, each untreated patient infects 12 others before dying.
- 300,000 children drop out of school because they, or a parent, have TB.
- 100,000 infected women are thrown out by families to die of disease and starvation.
- Lost wages= Rs. 15 billion/year; Total Loss to Indian economy: Rs.150 billion/year

Operation ASHA's unique 12-point model

1. WHO sponsored DOTS therapy
2. Close co-ordination with RNTCP
3. Dense network of strategic community centers
4. Trusted community leaders
5. Rapid-response testing/ education of patients' immediate circle
6. Well-trained corps of local counsellors
7. Performance based remuneration
8. Robust Feedback Loop
9. Very low-cost operating model
10. Sustainability in two years
11. Biometric devices to track compliance
12. Franchise-like operation for easy replication

Results: Higher detection rates

Annual Detection Rate of New Sputum + Cases
South Delhi



Results:	<u>Operation Asha</u>	<u>Other Organizations</u>
Default Rate	2%	Up to 60%
Treatment Success Rate: Sputum smear (+)	91%	85%

Operation ASHA employs an innovative 13-point model to tackle the “last mile” connectivity for urban slums (Contd.)

10. Low-cost, highly leveraged operating model so that cost of full treatment (7-month course) only Rs. 750 per patient

Results: Significantly lower cost per patient and higher “SROI”

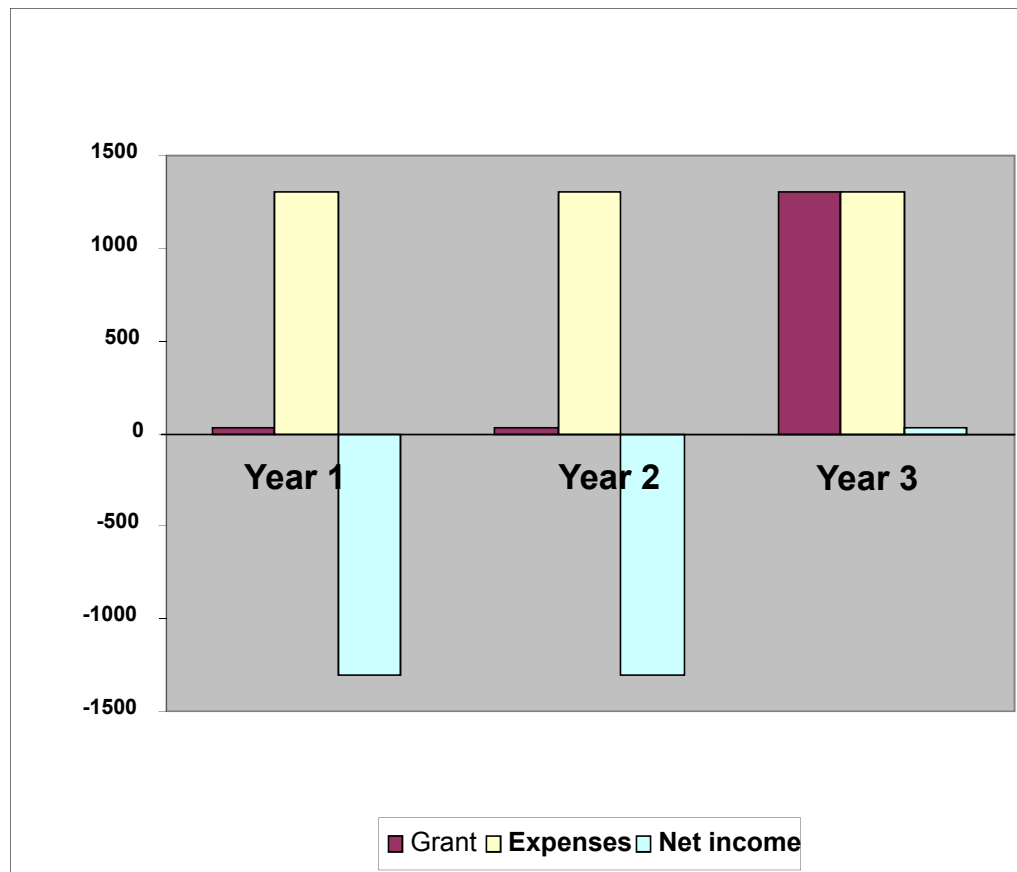
	<u>Operation ASHA</u>	<u>Other NGOs</u>
Cost per patient	USD 15	USD 300
Leverage	25	0.08
SROI: On NGO’s investment	22,500%	1125%
SROI: on total investment by all partners	3750%	1070%

Assumptions: TB treatment leads to increase in productivity, which in turn raises annual income by Rs. 7500; it also saves Rs. 75,000 in indirect expenses to the economy*; Discount rate = 8%

Each Center will become self-sustaining after 2 years, thanks to a Govt. of India program

11. A government of India program makes every center self-sustaining after two years.

Annual cost of operating one center (85-90 patients) incurred by Operation ASHA: years 1,2 and beyond

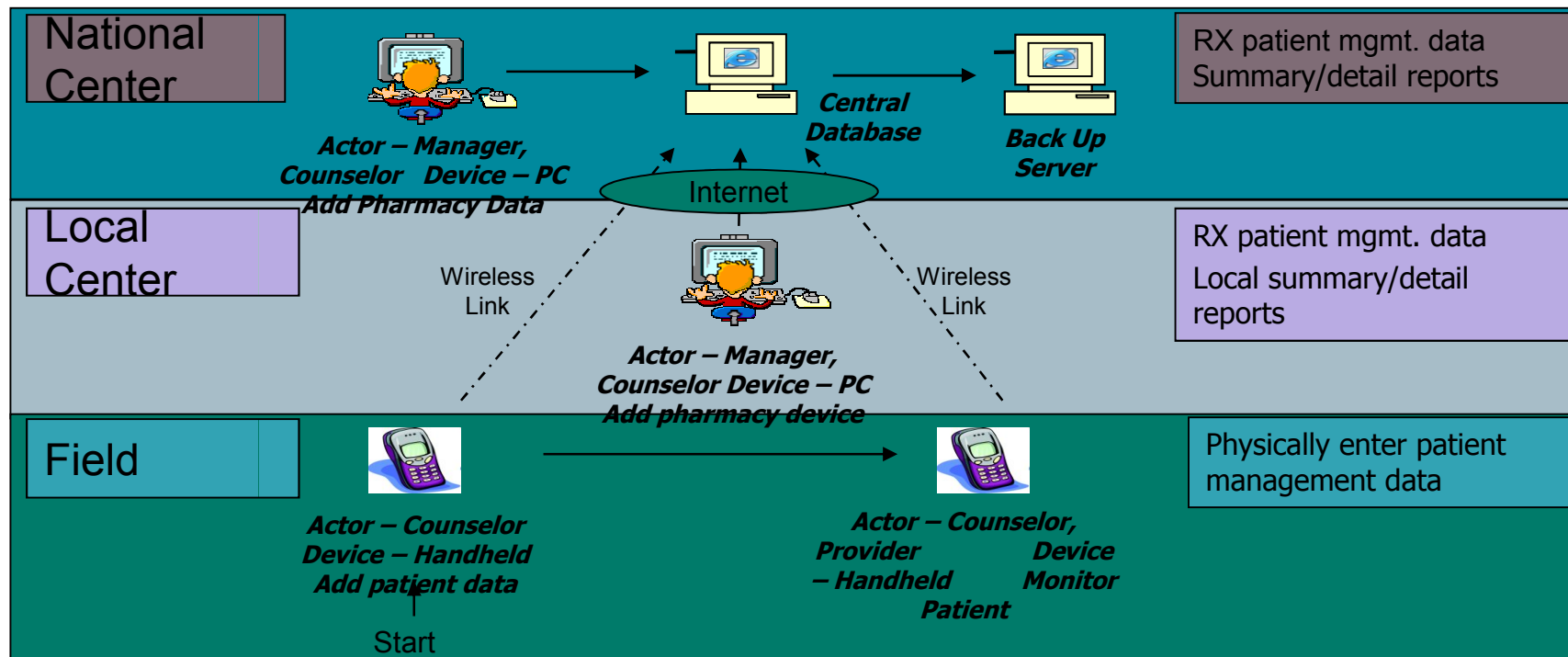


The Government of India awards grant of \$15 per successfully treated patient, two years after completion of treatment

Operation ASHA employs an innovative 13-point model to tackle the “last mile” connectivity for urban slums (Contd.)

12. Biometric devices for automated compliance tracking (to be deployed)

Result: With state-of-the-art compliance-tracking, we expect a 0% default rate, thus eliminating Drug-Resistant TB, which is almost fatal



Operation ASHA employs an innovative 13-point model to tackle the “last mile” connectivity for urban slums (Contd.)

13. Process-based franchise-like operation with detailed manuals.

Result: Rapid replication

Replication done in

- South Delhi (13 centers operating)
- Moradabad (5+3 centers operating)
- East Delhi (3 centers operating)
- West Delhi (2 centers operating)
- Gurgaon (1 center operating)
- Ludhiana (3 centers operating), Amritsar (2 centers operating)
- Alwar (1 center operating)

Proposed

Bhopal – 24	Gwalior – 20	Jabalpur – 24	
Jalandhar -4	Alwar – 3	Bhiwadi – 2	
Gurgaon – 3	Panipat – 3	Karnal – 3	Ambala -3
Kurukshetra - 3			

Victory unto Victory

“Operation ASHA is one of the best three public health care models in the world.”

*Dr. Barry Bloom
Dean, Harvard School of Public Health*

"I have seen Operation ASHA's centers in Delhi. Their work is truly remarkable. May this serve as an inspiration to reach an even larger number of persons in need."

*Dr. Ken Castro, MD
US Assistant Surgeon General, Division of Tuberculosis Elimination*

"I found Operation ASHA's work fascinating and excellent, and hope that it can expand as quickly as possible."

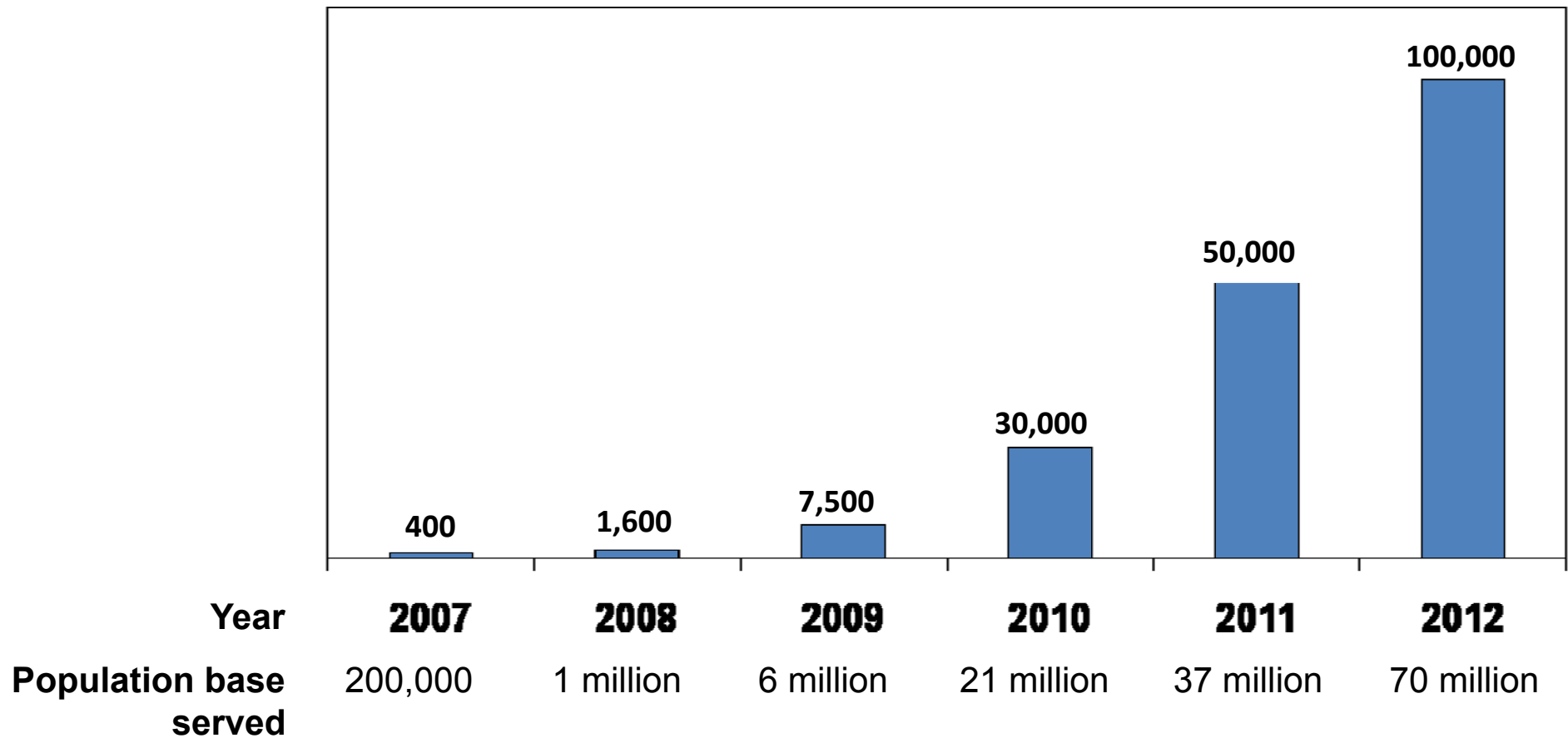
*Dr Mario C. Raviglione
Director, Stop TB Partnership, World Health Organization*

"It's commendable and inspirational that you've chosen to work in such a challenging and needy environment."

*Robin Mardeusz
Health Development Officer, USAID
New Delhi, India*

After two very successful years, we plan to aggressively expand and treat 100,000 patients by 2012

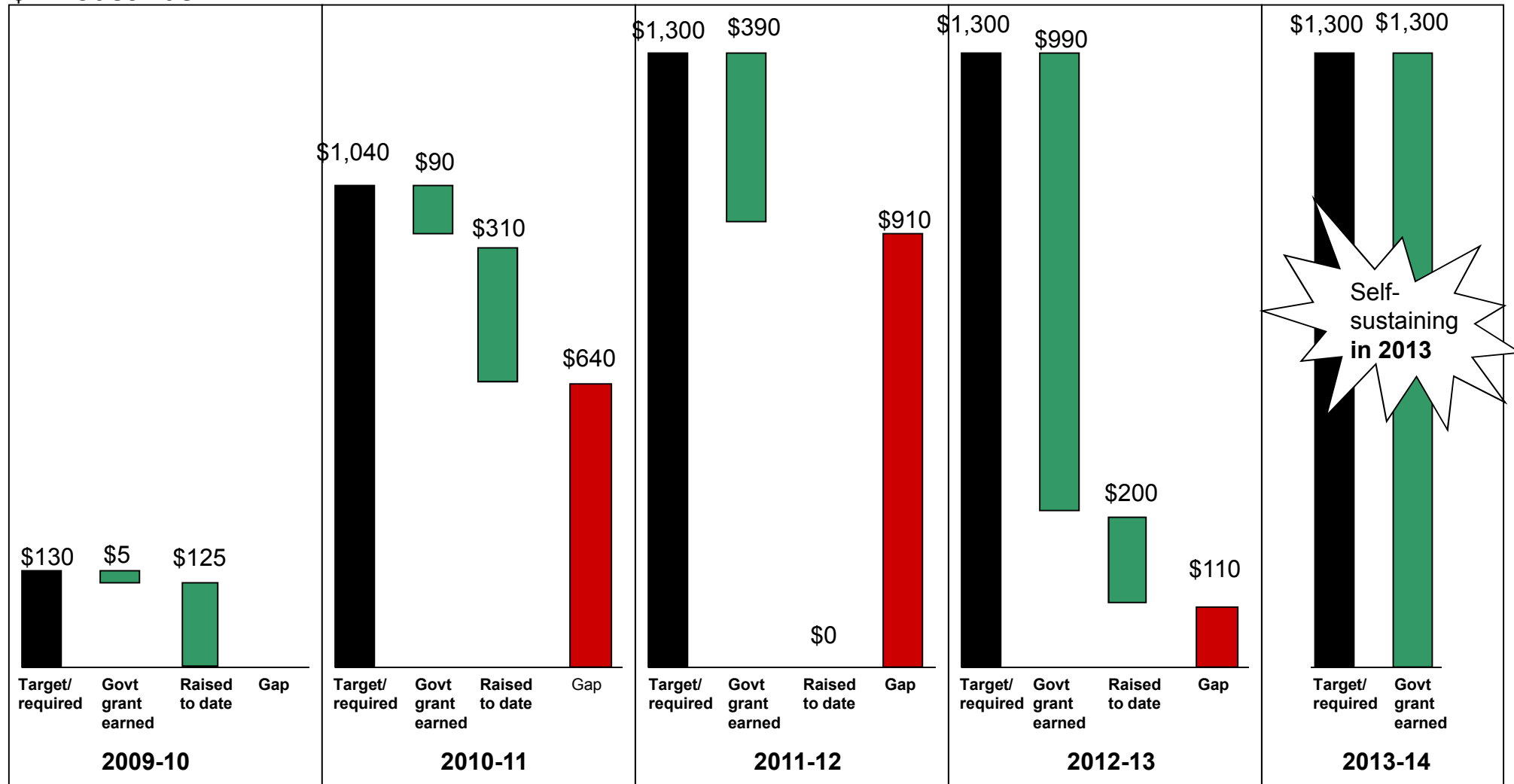
Total number of Enrolled Patients



We will become self-sufficient by 2013, but have significant funding needs in the interim



Funding Requirements, net of government grants and commitments to date
\$ Thousands



Advocacy

- In the news
- Article in Lancet Student
- Facebook: Chase Bank Comptetion

- In the US
 - »Chicago Public Radio
 - »Satellite Radio ReachMD
 - »Indian Ethnic Press

- In India
 - »Various newspapers

- Websites
 - »WHO: Stop TB Partnership
 - »Tata Tea: Jaago Re
 - »GiveIndia Foundation
 - »Ammado foundation

Advocacy

- Personal interviews and speaking assignments
 - »WHO
 - »Government of India
 - »State Governments in India
 - »IAS Academy
 - »Universities in the US
 - »Corporations in US, Europe and India
 - »Foundations in India

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