

The Problem:

There is a lack of identification and treatment of Latent Tuberculosis in India.



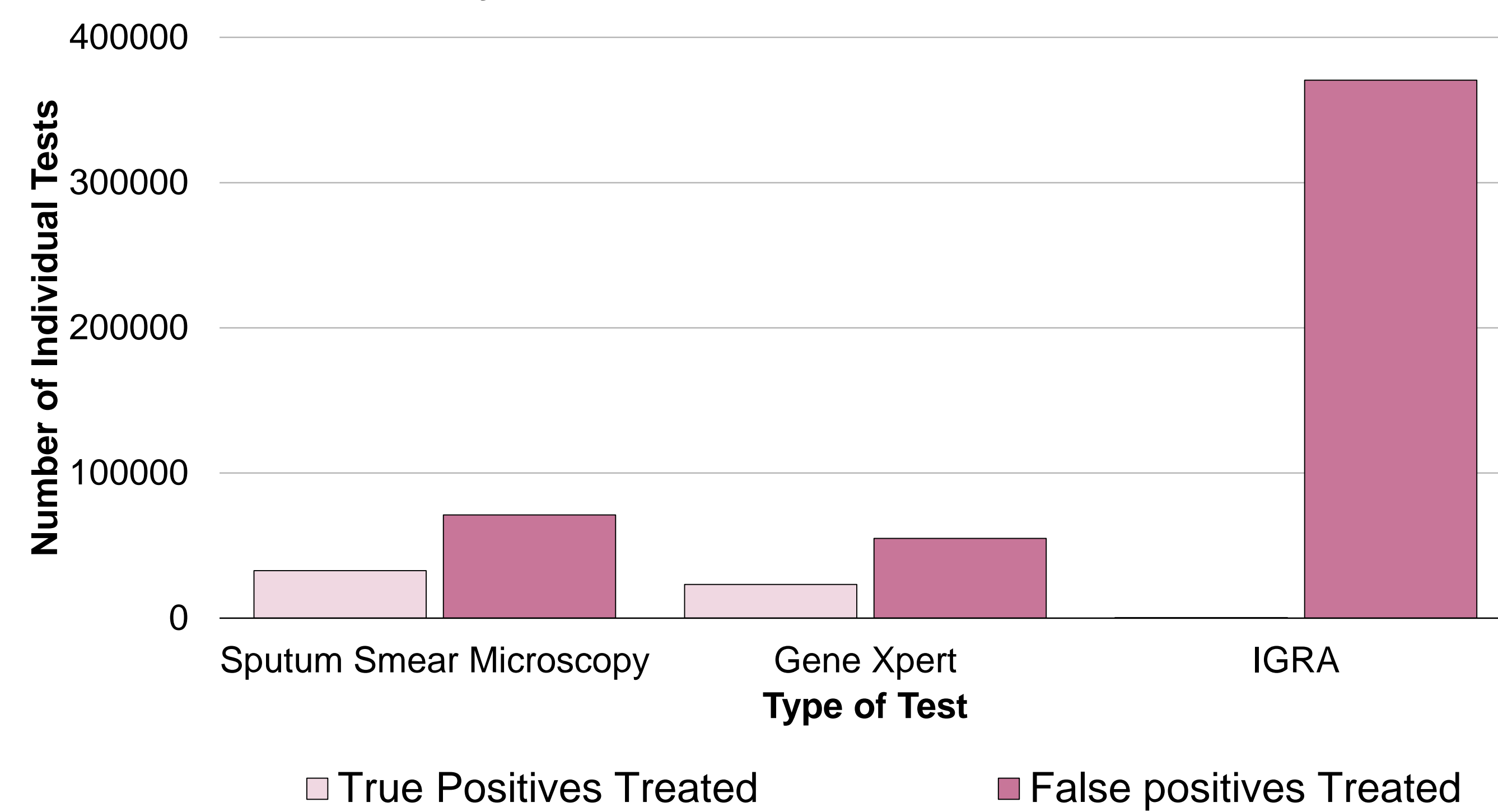
Xpert Machine used for diagnoses
Photo from:
https://commons.wikimedia.org/wiki/File:Genexpert_lightbox.jpg



Electron Micrograph of Tuberculosis Mycobacterium
Photographed by Microbe World

Test chosen because of cost & accuracy

Accuracy of Different Tuberculosis Tests³

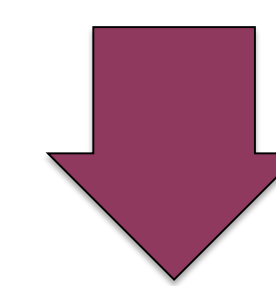


Goal

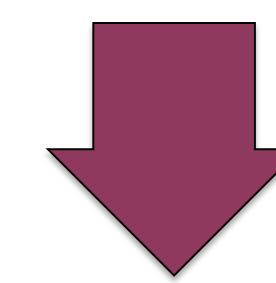
- With access to Xpert Machines, and a significant data pool more individuals can be identified and treated.

Plan with Era's Lucknow Medical College and Hospital

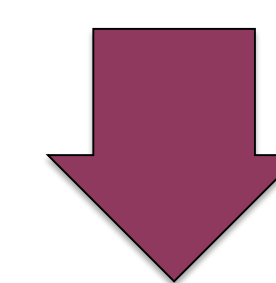
Train volunteers



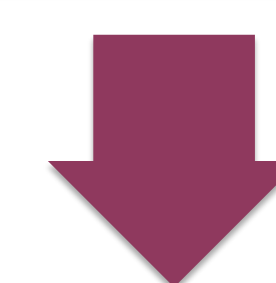
Develop Case Study



Establish Database



Treat TB

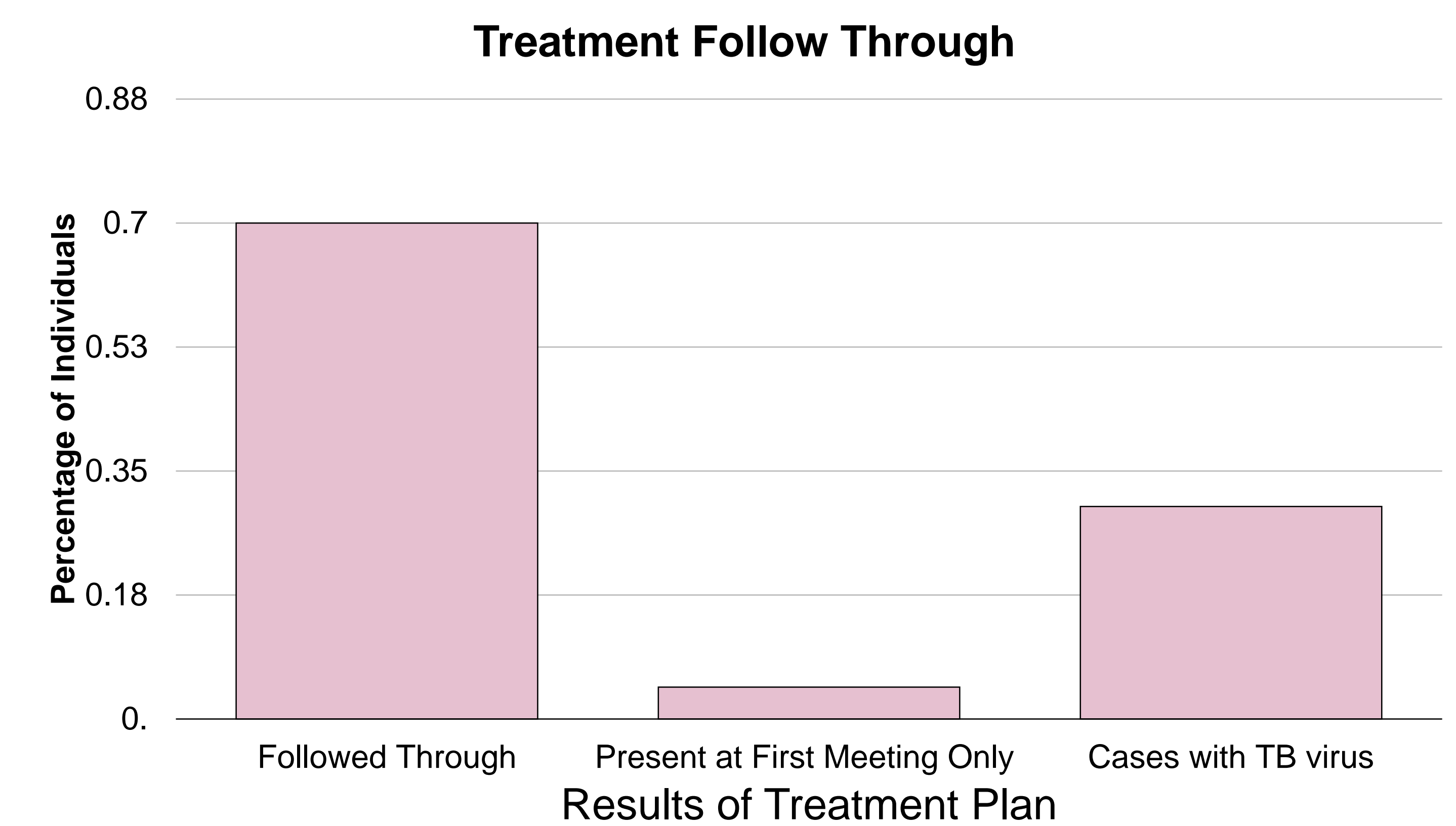


Follow Up Appointments

The Result:

Item	Quantity	Total Cost	Opportunity Cost (Time)
Xpert Machine	2	\$35,000	35 days
Xpert Cartridges	2,000	\$34,000	N/A
Xpert Training	30	\$45,000	9 days over 3 weeks
Paper	1 ton	\$710	N/A
Color Printers	4	\$230	N/A
Ink Cartridges	30	\$365	N/A
Participants	1,000	\$23,400	3 visits
Drugs	6 month supply for 400 people	\$10,050	6 months

Breakdown of the Total Cost of \$150,000



Future Implications

- Expansion to other colleges and hospitals
- Decrease the number of active and latent TB cases
- Expand rural outreach at Era's Lucknow Medical College

3. Little KM, Pai M, Dowdy DW (2015) Costs and Consequences of Using Interferon- γ Release Assays for the Diagnosis of Active Tuberculosis in India. PLoS ONE 10(4): e0124525. doi:10.1371/journal.pone.0124525, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4412573/>

Wizi09 (Photographer). (2016, April 22). Outils de diagnostic moléculaire de la TBC (GenXpert) [Digital Image]. Retrieved from https://commons.wikimedia.org/wiki/File:GenXpert_lightbox.jpg

References:
Microbe World (Photographer). (2011, October 11). Mycobacterium Tuberculosis [Digital Image]. Retrieved from <https://www.flickr.com/photos/microbeworld/6230487061>

Frederick, Tony, Global CDC (Photographer). (2014, February 22). Tuberculosis | India [Digital Image]. Retrieved from <https://www.flickr.com/photos/cdc-global/17193482339/in/photostream/>

1. Kumar VA, Kalaiselvan G, Dongre AR. Prevalence of Tuberculosis among Household Contacts in Pondicherry: Active Case Finding Among New Smear Positive Cases. Online J Health Allied Scs. 2016;15(1):4. Available at URL: <http://www.ojhas.org/issue57/2016-1-4.htm>