

Dear Sir,

Operation ASHA is a 501(c)(3) non-profit organization that provides last-mile delivery solutions for health, serving the poorest of the poor. Its focus is Tuberculosis (TB), a fully curable infectious disease that has become a global pandemic. Operation ASHA is the third largest NGO for TB detection and treatment in the world. We started work in Cambodia in December 2010 and now serve 17% of the population and 17% of all TB patients in the country.

Our focus:

TB is the world's biggest health crisis. 10.4 million people contract TB annually; 1.8 million die. Stigma leads to great suffering. Women are abandoned, children forced to leave school, people lose jobs, and families are disrupted. According to the WHO, it will take 170 years to eradicate TB. A person dies of Tuberculosis (TB) every 20 seconds. Nobel Laureate Bishop Desmond Tutu states, "TB is the child of poverty". Cambodia is one of the 22 high burden countries for TB. Two-thirds of all Cambodians carry the TB bacterium, one of the highest rates in the world, and some 13,000 Cambodians die annually from TB. The Government has adequate infrastructure to deal with this and is keen to improve detection and treatment.

Our work and model in Cambodia:

We work as a strong and supportive collaborator of Cambodia's National TB program, which provides free medicines, diagnostics and physicians services. This gives a leverage of 1.5 times. In the government program, accessibility is a challenge. Our doorstep delivery model has treatment centres within community premises, open at convenient hours. In rural areas we have workers on bikes or foot. We hire and train local people as Community Health Workers (CHWs). In the Mekong delta, CHWs go on boats from island to island to serve patients. They carry out awareness, counselling, and take care of stigma and myths. They use an app called eDetection loaded on low cost tablets to screen people for symptoms of TB, and then carry sputum samples to government laboratories for testing. This helps in identifying those who need to get the TB test done. Sputum transport makes testing convenient for patients. All this improves the detection rate, which is vital as missing patients are one of the biggest challenges. Subsequently, CHWs facilitate consultation with TB specialists in the government facilities. Then our Managers are given medicines for diagnosed patients, again for free, and CHWs dispense every dose under direct observation. They use eCompliance, (biometric fingerprinting) for adherence. This gives real time information of missing patients to workers for follow up. Technology ensures accuracy; a fingerprint cannot be fudged.

A movie about our work can be seen by clicking the link below:

Our Results in Cambodia:

- We are serving 2.3 million people, where CHWs provide end-to end TB services
- Our work is in 6 provinces: Phnom Penh, Takeo, Kompong Thom, Kampot, Preah Sihanouk, and Kampong Speau, and covering 14 Operational districts: Bati, PreyKabas, Daun Keov, Kririvong, Ang Rokar, Preah Sihanouk, Chhouk, Korng Pisey, Kompong Speu, Kompong Thom, Preaek Pnov, Sensok, Por sen chey, Dangkor
- We have created jobs for 37 people. 31 disadvantaged local people have been trained and hired as CHWs. We have 6 local people working as office staff.
- In the past one year, 2387 people were found to have symptoms of TB. CHWs collected sputum samples from them and carried for testing in the labs. 722 TB patients were diagnosed and treated fully, thus giving them health and productivity.
- We have detected and treated a total of 14796 TB patients ever since we started work.
- We achieved a Treatment Success rate of 85% and default (drop out) of only 1%. These results far exceed those of others and prove high quality of work
- These results all obtained by biometric data where there is accuracy and transparency. We do not believe in paper records.
- We have trained 4000 Village health volunteers in our model, at the behest of the government. These are called VSHGs (Village Support Health Groups), who are field workers selected by the Government.
- We believe in justice and inclusion. CHWs belong to the community they serve, and many are women. We invest time and resources in addressing issues of stigma and discrimination. We carry out counselling of family members to prevent abandonment.
- We save jobs of TB patients by giving legal advice to their employers.
- We provide motorcycle ambulance service to 4,573 patients in remote rural areas.

· We have developed a TripTracker technology to monitor the movements and distance covered by each ambulance, thus using technology for accuracy.

· Our last mile delivery model eliminates out of pocket expenses of patients, who otherwise spend \$563 on average (INT J TUBERC LUNG DIS, 2009, 13(10):1281-1287). Thus, patients treated so far have saved \$8.3 million.

· Patients and the country's economy benefit greatly after treatment. The Indian Government estimates that for each patient earns an annuity of \$13,935, and the economy saves \$12,235. Precise estimates are not available for Cambodia. India and Cambodia are both low-income countries, so by following these estimates, patients in Cambodia have benefited by \$206 million, and the country has saved \$180 million.

(Estimates are also available for South Africa and Brazil, but those are middle-income countries)

· We are also supporting the Global Fund by working as fund holder for Global Fund Country Coordinating Committee since June 2014. Our finance team give them accounting support.

Evidence: Our results far exceed country averages, as proved by third party evaluations:

1. Study by the Centre for Strategic and International Studies: our default (dropout rate) is less than 3%, as compared to 36%. Our cost of detection and treatment is only \$80 per patient, which is at least 32 times less than others. (<https://www.csis.org/blogs/smart-global-health/achieving-tb-milestones-through-last-mile-delivery-india>).

2. Harvard Business School and the World Bank completed a randomized control trial which showed that the drop-out rate is lower by 20% among patients treated with eCompliance.

3. The Country Director of the World Bank in India wrote that "If Operation ASHA could be rolled out everywhere where there is TB, we could stop multi-drug-resistant TB and save so many lives. What Operation Asha does is literally to deliver the elusive last mile in service delivery, the mile that lies in between well-intended government programs and results on the ground. And they do it with relentless focus and incredible efficiency. What if we could develop Operations Asha for other problems as well. It would be incredible." (<http://blogs.worldbank.org/endovertyinsouthasia/last-mile-last>)

4. Research paper by Dr Marc Lipman et al from University College London, in Public health Action said: "The age and sex distribution of TB patientsreflect Operation ASHA's aim to reach patients who otherwise may never receive care." and "Operation ASHA works with highly vulnerable patients".

5. American Journal of Tropical Medicine : Research by Professor Yanis Ben Amore of Columbia University, US states: Key finding is that 'patients using eCompliance technology are 3.17 times more likely to be cured than others.' (<http://ajtmh.org/cgi/doi/10.4269/ajtmh.14-0413>).

6. Case studies by the World Bank and Professor Ravi Anupindi, University of Michigan, Ross School of Business may please be referred. file:///C:/Users/HP/Downloads/operation-asha-effective-efficient-and-scalable-model-for-tuberculosis-treatment-preview_copy.pdf

7. Government Evaluation of our work in India stated:

· 'Detection rate of Operation ASHA is 2.4 times higher than average detection in the country and 1.6 times higher than the WHO benchmark. This is because of active case finding by eDetection software.

· All patients who were detected by Operation ASHA were enrolled on treatment with zero initial default. In contrast, initial default across India is 18%, which means that 18% patients go untreated after detection, and suffer and die. (<http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002149>)

· Treatment Success Rate (TSR) of patients treated by Operation ASHA is 88%. In contrast, TSR in the country is 74%.

Budget:

The total budget for the project is \$664,909. Of this, the largest contributor will be the Government, which will bring in free diagnostics, physicians services and medicines. **Government support will account for \$411,434.** This is 64% of the total budget.

Operation ASHA already has a Country Director in place. He will spend 10% of his time in supervising this project. His remuneration will account for 1% of the total project cost. This being paid by existing donors.

Thus, the donor is requested to bring in 35% of the project cost, which is \$245,531. This will be invested in various activities. Obviously, the largest part of the donor funds will go into hiring and paying the salaries of CHWs. This will cost \$137,701 or 56% of the donor contribution. A technology officer is necessary to support training and routine work of CHWs and team supervisor. His role will be critical and his salary will account for 10% of the donor contribution. M&E officer, who will ensure that all targets are met, and corrective actions taken in case the project falls behind targets, will invest 20% of his time on this project. His salary will constitute 7% of donor contribution.

Apart from this, initial and refresher training (every 6 months) of CHWs will be carried out. They will work directly with the Government staff. So, it will be necessary to improve the capacity of Government staff. These two will account for \$8,926 or 3% of the donor contribution.

Community health workers (CHWs) will be supervised by a team supervisor. CHWs and team supervisor will be equipped with a tablet each, on which all the software applications will be loaded. The team supervisor and technology officer will also have a laptop each. The total cost of this equipment will come to \$9,700 or 5% of the donor contribution.

How shall we use \$250,000:

Globally, almost 40% of tuberculosis (TB) patients remain undiagnosed. Accelerating TB detection is an urgent need in Cambodia which has a very high prevalence of TB, that is 630 patients per 100,000 population. But the incidence (detection of new cases) is only 326 per 100,000. There is a huge detection gap; the number of unreached patients across the country is 58,862. They continue to suffer and die, and each untreated patient infects 12 -15 others annually, resulting in spread of contagion. Improving detection in Cambodia is therefore an immediate need.

We shall use \$245,531 to detect every missing patient in a population of 420,000 people. We shall hire and train 14 CHWs, 1 Team Supervisor, and 1 Technology Officer. CHWs will find all missing cases in the area work (which will be 1397 TB patients) over 3 years so nobody will be left to infect others.

CHWs will carry out the following activities; raising awareness, preventing stigma, finding people with symptoms of TB using the eDetection app loaded on low cost tablets, and finally carrying sputum samples from symptomatics to the government labs for TB testing. CHWs will be responsible for collecting the test reports and visiting new patients. They facilitate the check-up of new patients by specialist doctors in the government facility, thus providing the vital link with existing public infrastructure. They will carry out intensive counselling of patients and their families to cover all aspects of TB treatment, including the need for adherence, how to prevent infection to others, and how to prevent drug resistance. They will inform patients about the side effects of TB medicines well before starting treatment, and how to minimise these adverse effects. They will address issues of stigma, discrimination and myths. They will link every diagnosed patient to the National TB control program for further management. We shall carry out monitoring and evaluation activities on a regular basis, and do a data analysis including cost benefit analysis at the end of the project.

We shall disseminate our results to key stakeholders- the government, donors, and major international agencies that are in the frontlines in the fight against TB. Our priority for using additional funds is to establish low-cost, community-driven, technology supported, high performance model, which can work as demonstration model for expansion throughout the country and abroad. This is the biggest need in Cambodia and across the world, with 30-40% of patients missing detection and going on infecting others every day of their lives. This is the area on which World Health Organisation, Stop TB Partnership, United Nations, and all are currently focused.

Thanking you,

Yours truly,

Dr Shelly Batra

Dr. Shelly Batra, MD

President

Operation ASHA, India



Honourable Health Minister Mr Nadda & Honourable Chief Minister Himachal inaugurate eCompliance

<http://www.tedxwb.com/webcast>

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