Operation ASHA

“I spent my career in public hospitals, serving the poor. Then I left and joined a fancy private hospital and was shocked to find that the poor were not welcome. Nobody wanted them around at all, they would spoil the decor, so to speak. There are so many poor people all around the hospital and all around our lives. Everywhere in India, five-star hotels stand cheek-by-jowl with the slums. I thought, I should use my own medical experience to help.

If the severity of a disease is decided by the sheer number of people dying, than TB is very severe. Everyone was focused on HIV/AIDS at the time and TB was the poor man’s disease. I knew that it would be an uphill task.”

—Shelly Batra, Co-Founder and President

Characteristics

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<thead>
<tr>
<th>Country</th>
<th>India</th>
<th>Cambodia</th>
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<tr>
<td>Target Population</td>
<td>General population</td>
<td>Poor/low-income</td>
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<td>Infants and young children, ages 0 to 4</td>
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<td>Organization Type</td>
<td>Public-private partnership</td>
<td>Private not-for-profit</td>
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<td>Form of Care</td>
<td>Tuberculosis</td>
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<td>Electronic health records (eHealth)</td>
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<td>Chronic diseases</td>
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<td>Innovation Type</td>
<td>Align with patients’ locations and behaviors</td>
<td>Use proven technologies disruptively</td>
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<td>Use proven technologies disruptively</td>
<td>Leverage others’ networks and assets</td>
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<td>Website</td>
<td><a href="http://www.opasha.org">www.opasha.org</a></td>
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Description of Innovation

Operation ASHA (OpASHA) is a non-governmental organization (NGO) working to bring tuberculosis (TB) diagnosis, treatment and prevention to the poorest populations in India and Cambodia. OpASHA was founded in 2006 by Dr. Shelly Batra, a gynecology surgeon and Ashoka Changemaker, and Sandeep Ahuja, MPP. Operation ASHA combines the World Health Organization's standard treatment model, directly observed therapy short-course (DOTS), with a community-based approach and innovative technology to create an effective model for diagnosing and treating TB in urban slums, peri-urban areas and poor rural communities. The aim is to ensure effective delivery to the disadvantaged by providing the ‘last mile’ connectivity, and preventing drug-resistant TB by using technology for preventing default and ensuring complete treatment. Incomplete treatment of TB can lead to multi-drug-resistant (MDR) TB, a highly fatal disease that is difficult to diagnose and treat and for which treatment and medications are not freely available.

The model is designed to combat two critical barriers to successful TB treatment: access and stigma. Inaccessible treatment centers, open at inconvenient hours, can make it near impossible for patients to complete the six month treatment. Loss of wages and livelihood is a genuine concern for patients who must miss treatment, and when they start the treatment, they stop halfway through, when they start feeling better. Incomplete treatment of TB can lead to multi-drug-resistant (MDR) TB, a highly fatal disease that is difficult to diagnose and treat and for which treatment and medications are not freely available.

OpASHA increases access in urban areas by locating TB treatment close to patients and keeping centers open at convenient times. In sparsely populated areas, health workers deliver medicine directly to the patient’s house via scooter.

OpASHA removes cost barriers to treatment by leveraging government programs to provide all services free of charge to the patients.
work to receive treatment. OpASHA has brought treatment to the doorsteps of disadvantaged communities, using frequently accessed community resources, such as corner stores and temples to dispense medication.

OpASHA has also partnered with Microsoft Research and Innovators in Health to develop and implement a portable fingerprint identification system, e-compliance, that tracks and compiles patient adherence data for fast and efficient follow-up in the event that a patient misses a scheduled treatment, preventing further default and the spread of MDR TB. Piloted in one clinic in 2010, there are now 58 centers with eCompliance terminals operating in India with over 125,000 visits logged. By the end of March 2013, 106 centers will be equipped with eCompliance terminals.

Figure: Growth in Indian States and Cambodia since 2006

Founded in 2006, OpASHA currently serves over 6.6 million people in 3,000 slums and villages across India and Cambodia using 257 treatment centers in total. Most (205) of these treatment centers are located in India. OpASHA expanded into Cambodia in December 2010 and in first year of operations, established 46 TB treatment centers, enrolled 2,400 patients, and hired 46 full-
time community health workers as counselors. Consequently the TB detection rate in Cambodia increased by 30% in 2011. Operation ASHA treatment centers in Cambodia have successfully treated 28,000 cases of TB, enrolling over 8,000 patients in 2011 alone. They now have 52 mobile treatment centers in Cambodia and plan to establish 75 mobile centers in Cambodia by December 2013. OpASHA plans to scale further by helping partner organizations replicate their model. For example, in India, OpASHA aims to cover 6 million people in 2013-14, and provide training and best practices to collaborating partners, who then in 2014-15, will cover an additional 2 million people.

Providing Value to the Patient, Community, and Health System

Failure to complete or adhere to TB treatment regimes has led to the development of multi-drug-resistant (MDR) TB, highly contagious and very difficult to treat. The costs associated with MDR TB are astronomical. According to the Stop TB Partnership, by 2013 there will be 1.3 million cases of MDR TB in the world, requiring $16 billion to effectively treat.

The DOTS protocol requires patients to take each dose of medicine in the presence of a healthcare worker to ensure patient adherence and prevent development of drug-resistant forms of TB. This requires 60 visits over 6 months, which can present an impossible challenge to both rural and urban patients in areas with poor transportation and lack of access to affordable care facilities. Existing centers are often few in number, located far away from patients, and open only during working hours, a challenge for patients who hold jobs. OpASHA’s services save rural patients from having to travel long distances to take the proper medication. Urban residents no longer have to navigate outside of their community to access medication. This means patients can save time and money and also ensures their privacy, an important factor in retaining their jobs and livelihoods.

Operation ASHA’s services are provided free of charge to the patients. The organization has partnered with the National TB Program in both India and Cambodia to provide the crucial “last mile” connectivity for TB treatment that otherwise would not be available through government system alone. The treatment centers are an integral part of the national health systems in the countries where OpASHA operates and act as extension arms of government programs, going deep into the disadvantaged areas to provide needed services.
Each government saves time and effort and benefits from lower TB prevalence and a healthier population.

The need for effective TB treatment was evident to governments and the target population; however, OpASHA had to work hard to convince the relevant stakeholders that the OpASHA model would work in their communities. OpASHA has worked from day one to create an innovation that would be accepted by national governments and was in line with the traditions, customs and aspirations of the community. OpASHA held multiple discussions with government TB officers to understand what deliverables they cared about and developed a program that would help achieve and exceed government targets. OpASHA also integrated themselves into local communities by setting up centers in local businesses and areas of worship. Local youths were hired to supervise the centers, creating vested economic interests in the longevity of the programs within the community. OpASHA continues to consult regularly with center owners, community health workers and government officers to ensure the treatment program is meeting local needs.

Health System and Policy Context

India has one of the most privatized healthcare systems in the world. Public healthcare services are available with income-based subsidies and free services for the poorest households. However, public healthcare services remain unpopular, characterized by long waiting times, insufficient stock of free and subsidized pharmaceuticals, and substandard facilities and care. While the vast majority of people in India choose to seek private healthcare options, the high cost limits access for lower-income populations.

Similarly, Cambodia has a mixed-service delivery system. While free basic healthcare services are available at public health centers and health posts primarily for rural populations, the lack of healthcare workers, insufficient drug supply, and low quality of services limit uptake of public healthcare services. The majority of healthcare provision for urban populations is through private providers. As in India, high costs limit access for poor urban populations.

OpASHA has worked carefully to develop relationships with government officials and solicit government support for their programs in each country. The government of India has consistently provided support enabling OpASHA’s success, perhaps due to the fact that OpASHA’s senior management worked in the Indian government for many years. However, even with this support, bureaucracy has slowed the process of establishing themselves in certain states. In Cambodia, all NGOs and multi-lateral and donor agencies subsidize government staff payrolls, due to a lack of adequate funds within the Cambodian...
government. OpAHSA has found that this system provides a transparent way to build a cooperative and mutually supportive relationship with the government. By working with governments willing to provide free medication and subsidized or free diagnostic support and physician services, OpASHA has ensured that 60% to 80% of their costs are covered by sustainable government funding. Identifying additional investment capital has been challenging, however, funding by government-backed donors has recently increased. Identifying human capital, particularly semi-literate community health workers willing to work according to the rigorous model of OpASHA, has also been a challenge. OpASHA works with local business and community-level government staff to identify candidates.

Operating Model
Operation ASHA has developed unique operating models for urban and rural areas, well suited to low-resource settings. They establish centers in existing community structures such as corner shops, community health clinics and temples. Strategic locations in densely populated urban areas allow one urban treatment center to serve 5,000 to 25,000 patients within a 1.5 km radius. The treatment centers are placed so that no patient has to walk more than 10 minutes to receive their medication. In rural areas, Operation ASHA counselors travel from village to village on a motorcycle or scooter providing TB medication and testing services to patients at their homes. Trusted community leaders are employed as counselors who navigate the slums and villages where the treatment centers operate. The counselors’ local knowledge and social capital are OpAHSA’s most valuable asset in detecting new TB cases, administering treatment and preventing spread of the disease.

OpASHA employs nearly 153 local individuals as counselors, who receive two weeks of intensive training and must pass a verbal and written test. Once in the field, the OpASHA staff members at each treatment center require little supervision from the main office. Patient treatment and enrollment is tracked electronically and verified against records from government labs, hospitals and medicine warehouses. Counselor salaries are incentive-based, with bonuses and increased pay as they enroll and successfully complete treatment for more patients.

Operation ASHA provides patients and their families with rapid-response testing and education. Within two weeks of diagnosing TB, the counselor ensures that all members of the patient’s family are tested and actively seeks suspected infected individuals in the patient’s neighborhood and workplace. Everyone who tests positive is prescribed treatment with Operation ASHA or a provider of his or her choice.
In order to address the cultural stigma attached to tuberculosis patients, Operation ASHA counselors provide over-the-counter medications that reduce the side effects of TB medication as well as pain medication and antacids to anyone who needs them within the local community. These practices bolster community perception of Operation ASHA as a health center, not strictly a TB treatment center. Comprehensive education of families of TB patients and entire communities helps dispel myths regarding TB, reduce stigma, and ensure that patients are retained in their homes and jobs.

Operation ASHA's innovative technology system, eCompliance, is a portable biometric patient identification system capable of identifying each patient by their unique fingerprint and compiling patient adherence data. New patients’ fingerprints are saved in the system and by registering each treatment with a fingerprint, patient adherence can be closely tracked. When a patient misses a scheduled treatment, the system automatically sends the counselor and program manager a text message; the counselor follows up with a home visit within 48 hours, providing the treatment. The eCompliance system automatically generates reports that improve transparency and reliability, increasing productivity and eliminating human error. This initiative has reduced the default rate to 3%, 30 times lower than default rates found in other high-burden TB areas worldwide.

In addition to implementing the eCompliance system, OpASHA ensures high quality of services through quality auditors who complete randomly scheduled visits and report directly to the CEO. Feedback from program managers and government staff is also incorporated into a strict quality control system.

**Business Model**

OpASHA meets operational costs through government support, grants, and donor funding. All of the services offered through Operation ASHA treatment centers are free of charge to the patient. Working in close collaboration with the National TB Program in India and Cambodia allows OpASHA to leverage all necessary drugs, diagnostic and physician services, and hospital care from the governments, free of charge. This covers between 60% to 80% of OpASHA’s costs.

The National TB program in each country is funded by the government as well as multi-lateral donors including the World Bank and the Global Fund. The government of India also provides OpASHA with a grant for recurring expenses within each treatment center two years after work is started in any city. Donor funding is necessary to cover expenses in the first two years in India and throughout the project life in Cambodia. Donors to date include Eli Lilly and...
Company, the International Finance Corporation, a member of the World Bank group, and BiGTech’s software donor program.

OpASHA is working to become financially self-sustaining by advocating for increased government support for recurring as well as expansion costs. This would eliminate their need for donor funding to support start-up costs in new areas. They are also considering licensing of the eCompliance technology for other NGOs, governments, and hospitals, and launching a resource center to develop and disseminate best practices in public health.

Impact Metrics

Quality
- Treatment success rate
- Death rate
- Default rate
- Compliance rate: ratio of missed doses to doses taken under observation
- Bi-monthly quality audit report on behavior of provider and staff toward patients

Access and utilization
- Number of patients enrolled in treatment
- Number of new patient enrollments
- Population covered
- Number of suspected infections referred for testing
- Percentage of suspected infections testing positive
- Percentage of detected patients who are enrolled for treatment
- Percentage of detected patients who are lost (i.e. not enrolled for treatment)

User satisfaction
- Bimonthly quality audit report includes patient satisfaction

Achievement of positive health outcomes
- Treatment success rate
- Increase in body weight for patients from beginning to end of treatment

Cost and sustainability
- Monthly expenses
- Cost per patient
- Cost per treatment/DOTS center
Goals for Scaling and Replication

1. By 2013, biometric technology (eCompliance) will be used at all Operation ASHA treatment centers.

2. By 2015, the India program will cover a population of 10 million slum residents with over 18,000 patients enrolled and a 90% success rate.

3. By 2016, Operation ASHA will partner with a large donor (like the Global Fund to Fight AIDS, TB and Malaria, the Gates Foundation, or the Soros Foundation) to support a country-level pilot for a mid-sized country like Cambodia.

4. By 2018, preliminary results will be available from the country-level pilot. OpASHA will simultaneously provide support to the willing governments and NGOs to adopt eCompliance.

External Support Required for Scaling and Replication

1. Mentoring and support from business leaders to help improve our model

2. Networking with other innovators to learn and share best practices and help other innovators to add TB control to their work.

3. Access to potential funders to raise funding for expansion, developing and implementing new practices, upgrading technology, and rigorous impact evaluation to develop guidelines to impact global policies.

4. Training and technical assistance to develop guidelines and regimen for the new ranges of TB bacteria, like XDR and TDR.

Selected Media Attention and Awards


*Time Magazine (March 4, 2013). Drugs Don’t Work.*
http://www.time.com/time/magazine/article/0,9171,2136819,00.html

*Voice of America (Feb 26, 2013). In India, Fighting TB with Fingerprints.*
http://www.voanews.com/content/india-tuberculosis-fingerprints-monitoring-technology/1611046.html
http://www.guardian.co.uk/global-development-professionals-network/2012/dec/05/simple-technology-to-fight-disease?INTCMP=SRCH

The BBC World News Horizons (Nov 24, 2012).  


Awarded The Wall Street Journal’s Technology Innovation Award for Health-Care IT (Oct 16, 2012).  
http://online.wsj.com/article/SB10000872396390444024204578046912047765682.html?mod=WSJ_TechInnovationAwards1012_MiddleSecondSummaries


Winner, World Bank and IFC 2011 India Development Marketplace competition  
http://dm-india.com/winners/


ABC News Nightline (Dec 17, 2010). The Tuberculosis War: Fighting the Spread of TB.  

Winner, Ashoka Changemakers Patients Choices Empowerment Competition (2010)

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Operation ASHA provided the source data for this document and is responsible for the accuracy of the content.