Fast Facts

Project: Link TB with Technology
Lead Organization: Operation ASHA (OpASHA)
Country: Cambodia
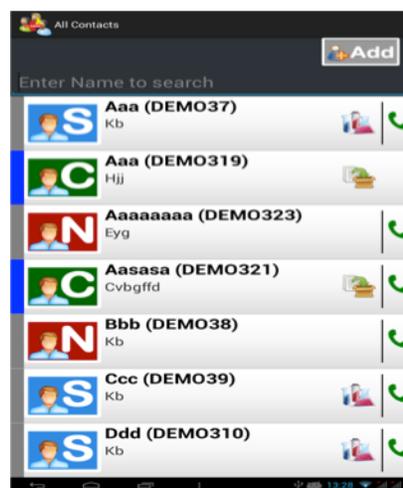**Budget:** AUD 30,000.00

Situation

Cambodia and South Africa has the highest TB prevalence in the world according to World Health Organization (WHO, 2014). TB spreads very quickly through breadth exhaled by patients with active mycobacterium TB in their lungs. Each undiagnosed/ untreated patient infects 12 others, on an average, leading to a geometric progression. There is an urgent need to scale up detection of these hidden patients to limit potential outbreaks in the community.

Solution

Operation ASHA has developed an App to bridge the gap between Government's TB programme and undiagnosed TB patients. Using the App, the field supervisors visit families of existing patients, factories where patients work and also go door-to-door in areas they serve. They use the App to educate the community on symptoms of TB, ask them to answer a basic questionnaire, and subsequently facilitate sputum testing and diagnosis of suspects. The App serves to connect patients and form a wireless link with the microscopy centres so that no patient is lost to follow up. By filling the existing gaps, the project team planed to terminate the chain reaction and not allow any person suffering to fall through the net.

Interface of eDetection app

The eDetection App serves to stem TB spread using low cost communications network (3G and tablets) and systematic screening to reach the 80% of the population living in rural Cambodia. The App's geo mapping function allows the mobile field supervisors to identify and react quickly to community hot spots with high TB prevalence to prevent outbreaks. The App also prompts users of the follow-ups required for each TB patient especially useful so that patients don't fall through the cracks due to human error.

The real time data entry from the App facilitated better patient management and follow-ups on detection and diagnosis. It serves to remind field supervisors on the key follow-ups such as diagnostic tests to carry out based on the in-built TB algorithm. This improves efficiency of care delivered. With the features above, the likelihood of human error in screening will be reduced. As the App also prompts the field supervisor on next steps required, it ensures that each patient is followed up diligently.

The key objectives of the project were to:
- Increase TB case detection in Cambodia.
- Improve treatment outcomes for TB patients through early detection.

Outcomes

- Increased TB detections: Using the App (in 11 months), the project team screened 17,373 people for TB and sent 953 people for diagnosis. 406 people were tested positive for TB and enrolled into the TB treatment program. The intervention group comprised of 6 randomly selected field supervisors and the control group comprised of 4 randomly selected field supervisors. All field supervisors were working in the same Prey Kabas Operational District, Takeo Province and assigned to a health centre.
- 10% more people were screened under the intervention group compared to the control group.

Project team with local community

- 16% more people were sent for diagnostics under the intervention group compared to the control group.
- 44% more TB symptomatics were tested positive for TB under the intervention group compared to the control group.
- There is a marginal increase in case detection rates of 0.55% under the intervention group compared to control group.
- The project team also tested the sputum positive rate, after three months and six months after first screening, through random sampling, they found 5% displayed signs and symptoms of TB.
- Based on the number of TB cases found, the project team estimated that 4,8721 cases of TB were prevented in the community.

Project Contact

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