







MSH would like to acknowledge all of our Challenge TB staff, National TB Program staff, partners, and all other contributors to these success stories.

Thank you to our partners in Bangladesh: IRD and KNCV, and Ethiopia: KNCV.





*All persons pictured have given consent for use of images.

COVER PHOTOGRAPH: DOMINIC CHAVEZ

Foreword

Tuberculosis remains one of the world's top infectious killers. MSH works in 22 countries with international, national, and local partners to strengthen the capacity of health systems to prevent the spread of TB and improve the lives of those affected by it.

This collection of 11 stories from Afghanistan, Bangladesh, Ethiopia, and South Sudan reflects the work done by MSH and its partners through the USAID-funded Challenge TB (CTB) Project. CTB works across the globe and hand-in-hand with national TB programs, ministries of health, local stakeholders, and other partners in efforts to stop the disease.

These are the stories and faces of people affected by TB and the individuals who work with them to end TB. Although no data or technical approaches are shown in this booklet, the impact of the work done by MSH and partners every day is shown in each person who can live their life TB-free.

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SAVING LIVES AND IMPROVING THE HEALTH OF THE WORLD'S POOREST AND MOST VULNERABLE PEOPLE BY CLOSING THE GAP BETWEEN KNOWLEDGE AND ACTION IN PUBLIC HEALTH.

This collection of stories reflects MSH's and its partners' efforts worldwide to detect, treat, and stop the spread of tuberculosis (TB). TB is the Number 1 killer today, but it is curable and preventable. These 11 stories highlight our efforts in Afghanistan, Bangladesh, Ethiopia, and South Sudan to fight the disease through innovative programs that adapt proven interventions to change the lives of people with TB.

AFGHANISTAN

Community-based approach can significantly increase universal access to TB services

Geographic, cultural, and security challenges and barriers frequently result in finding fewer TB cases among communities in Afghanistan, especially in the city of Kandahar.

The National TB Program, with significant technical and financial support from the USAID-funded Challenge TB (CTB) Project, launched a community-based approach to increase universal access and bring TB services to the doorsteps of TB patients in Kandahar.

Between July 2015 and March 2016, 1,036 community health workers and supervisors and 150 people cured of TB were trained and began to refer people with TB symptoms to diagnostic health

In 15 districts and 37 health facilities in Kandahar province, 1,186 community health workers and people cured of TB are providing community-based DOT to those who need it most.

facilities and provide directly observed treatment (DOT) to confirmed TB patients. More than 200 different TB awareness events, such as meetings in schools, were conducted at various levels of communities to increase knowledge and decrease stigma related to TB. Billboards with TB messages were also installed in crowded areas, and TB warning messages (*if a person has more than two weeks of productive cough, they should immediately go to a health facility*) were broadcast frequently over local radio stations.

The number of people with TB symptoms referred by community members, including community health workers, improved nearly 15-fold, from 61 people in July–August 2015 to 907 in April–June 2016. Additionally, the number of bacteriologically confirmed TB cases referred by community members improved 20-fold, from 2 in July–August 2015 to 40 in April–June 2016.



Elders of the village of Zaker Sharif (Dand district) hold a community awareness meeting. PHOTO: CTB STAFF



Translation of the TB message on the billboard: If you have productive cough for more than two weeks, visit your nearest health facility. The diagnosis and treatment of tuberculosis are free of charge.

PHOTO: CTB STAFF

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AFGHANISTAN

Khial gets the TB treatment he needed

Khial Mohammad, 12, lives in the village of Moshikhil in Paktika, a rural province in southeastern Afghanistan. For over a year, he suffered the symptoms of a urinary tract infection; private and public health practitioners and pharmacists tried to treat him, but nothing worked. Finally, he was diagnosed with a bladder stone, which was surgically removed. The operation was a success, but the wound left after surgery became infected.

By chance, Khial's father met a member of the Cure TB Patient Association, established in 2016, at a wedding. When he heard about Khial's condition, he suggested that it might be TB and encouraged him to take Khial to the Mota Khan Comprehensive Health Center (CHC). At the health center, Khial was diagnosed with TB of the urinary tract and was started on treatment. After completing the initial two-month phase of treatment, his surgical wound healed and he had already gained 2 kg.

Since 2005, Afghanistan has made significant improvements in expanding essential health care services, but rural communities continue to face barriers to access. Each year, roughly 13,000 Afghans die from TB, many in rural regions with limited access to TB screening and treatment.

In August 2016, the Challenge TB (CTB) Project established the Cure TB Patient Association at the Mota Khan CHC. This association is comprised of six cured TB clients, two TB patients in treatment, three community members (e.g., religious leaders and school teachers) and one private health care provider. The association members were trained on community-based interventions, such as active case finding, patient support, directly observed treatment, and community education. CTB is funded by USAID and implemented by Management Sciences for Health. CTB works with Afghanistan's National Tuberculosis Control Program to strengthen TB diagnosis, treatment, and care in 15 provinces, including Paktika.

Khial said, "I went to many health facilities, but no one told me I had TB. Thanks to the doctors at Mota Khan CHC, I am feeling better." Khial continues to receive his TB treatment from a treatment center near his home so he can continue to attend school. "All my family members will also be screened. I am so grateful to receive free health care. Without the assistance of the Challenge TB Project, I probably would have died."



Khial Mohammad
PHOTO: CHALLANGE TB STAFF

Since the start of CTB in October 2014, 150 Cure TB Associations have been launched in 15 provinces in Afghanistan. So far, these associations have identified and referred 29,000 presumptive TB patients for testing and have both clinically and bacteriologically confirmed 2,000 cases of TB.

AFGHANISTAN

TB patients successfully treated by a female health care worker in a private hospital

Afghanistan has one of the highest TB burdens in the world, and it is a major public health problem. Kabul, the capital of Afghanistan, is home to 4 million people. With poor health and sanitation infrastructures, it is in dire need of a TB control program. In 2009, only 22 public health facilities had partial TB service delivery, but without proper recording and reporting. During this time, case detection for new bacteriologically confirmed pulmonary TB cases was 26%, the sputum smear conversion rate was 43%, and the treatment success rate was 49%. The rapidly growing population and expansion of residential areas in Kabul city decreased TB patients' access to proper services and directly observed treatment, short course (DOTS) implementation. As a result, patients seek health services from private hospitals and practitioners who usually provide substandard care, recording and reporting, and patient follow-up.

The Challenge TB (CTB) Program is supporting the National TB Control Program, as did the previous USAID-funded projects TB CAP and TB CARE I, with the introduction of urban DOTS modeling in Kabul. This model engages public and private health facilities in TB control activities by expanding DOTS to 85 public and private health facilities; training health care staff, followed by supportive supervision; and monitoring the improved access to TB services and quality of care.



Khalida, a female nurse in the DOTS room at Taban Private Hospital (Kabul), registers a TB patient for treatment initiation.

PHOTO: DR. HABIBUDDIN FAOIRYAR, CTB TECHNICAL OFFICER

TB case notification to Kabul improves when private hospitals provide TB services. Khalida, a female nurse, has been working for Taban Private Hospital since 2010. She was trained in TB case detection, diagnosis, and treatment by TB CAP, TB CARE I, and CTB. Khalida provides DOTS and manages all recording, reporting, and patient follow-up for those TB patients who

attend the hospital. Between 2010 and 2015, she supported the successful treatment of 118 confirmed TB patients. She says, "The USAID-funded TB projects provided me with the opportunity to be trained in TB case detection and treatment. I am happy with the new knowledge I obtained during the training and practice it during my day-to-day interactions with TB patients. I appreciate USAID for supporting the urban DOTS approach."

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BANGLADESH

USAID's Challenge TB helps toddler beat drug-resistant TB

USAID's Challenge TB (CTB) Project provides access to quality, patient-centered TB care and builds national platforms to detect, treat, and stop the transmission of TB. Finding and treating children with TB—children like Rahat, a young boy in Dhaka, Bangladesh—is a high priority for the Government of Bangladesh, USAID, and CTB.

Unbeknownst to his family, seven-month-old Rahat was exposed to TB when his grandfather was suffering from the disease. Not long after his grandfather's death, the normally happy Rahat stopped smiling. He lost his usual playfulness, rapidly lost weight, and developed a large swelling on the side of his neck.

His parents were very worried, knowing that this type of swelling could be a sign of TB. Although they purchased antibiotics from a local pharmacy to treat his symptoms, Rahat's condition quickly worsened. A local nongovernmental organization referred Rahat to the National Institute of Chest Disease and Hospital (NIDCH) for examination. There, doctors used fine needle aspiration cytology to diagnose him with TB.

Rahat immediately began treatment for drug-sensitive TB, but after two months his condition had not improved. His parents took him back to the NIDCH, this time to the drug-resistant TB unit. There, a team of experts trained and supported by CTB assessed Rahat's response to treatment and tested him with a new rapid molecular diagnostic technology provided by USAID. The test confirmed that Rahat was suffering from drug-resistant TB, which explained why the initial course of treatment had failed.



Rahat and his mother, Nasrin

"I will never forget the 12th of July, 2016. That was the day the doctor told me that my child had drug-resistant TB. I walked home from the hospital in a state of bewilderment and shock. How could my child have drug-resistant TB?"—Rahat's mother, Nasrin

PHOTO: SAMUEL MURMUThe severity of Rahat's condition and his low weight concerned his doctors, who feared that he would not be strong enough to fight the disease. To give him the best possible chance of survival, they arranged for community-based treatment so that Rahat could receive his medicines at home and his mother could continue to breastfeed him. CTB's community TB coordinators closely monitored his condition and treatment through regular home visits and a mobile phone monitoring application developed by CTB. This application allowed the coordinator to easily track Rahat's daily medicine intake and any adverse side effects.



Rahat playing
PHOTO: SAMUEL MURMU

With financial support from CTB to cover the cost of checkups, tests, and nutritious food, Rahat's condition has improved significantly. His treatment will take another three months to complete, but he has already gained three kilograms in just two months and has returned to his former self. He is smiling again and is active and playing like any child of his age.

In 2017, CTB supported TB screening for more than 240,000 children at six selected facilities in Bangladesh, of whom 404 were found to have TB and started on treatment. Since 2016, CTB also helped to diagnose and treat 27 children like Rahat with drugresistant TB, all of whom are doing well today.



Rahat playing
PHOTO: SAMUEL MURMU

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BANGLADESH

Tapping the full potential of the GeneXpert network

Halim Biswas was diagnosed with TB in January 2016 and immediately put on a standard course of treatment. After two months, his health had not improved and a follow-up test showed that he was still positive for TB. He was sent to Jessore Avaynagar GeneXpert Center in Bangladesh to be tested for resistance to standard TB drugs.

When functioning properly, a GeneXpert machine can diagnose TB and drug-resistant TB (DR-TB) in less than three hours, and patients can begin appropriate treatment almost immediately. This reduces patient suffering; the spread of the disease; and, most importantly, the risk of death.

Recognizing the value of this technology, USAID installed 39 GeneXpert machines across different levels of the health system in Bangladesh between 2012 and 2014, including at the center where Halim was sent for diagnosis. The USAID-funded Challenge TB (CTB) Project in Bangladesh has been responsible for the maintenance and upkeep of the machines since the project's launch in 2015.

Unfortunately for Halim, the GeneXpert machine at Jessore was broken on the day he arrived, and his sample had to be transported to another facility. Instead of the same-day result he expected, he was told it would take up to a week. These diagnostic delays are common and have a dramatic impact on both the patient and the community. Patient symptoms may worsen while they wait for treatment initiation and those around them may become infected as well.



MDR-TB patient Halim Biswas PHOTO: CTB STAFF

In July 2015, a countrywide CTB assessment of GeneXpert machines showed many of the 228 modules had failed and nine machines were completely broken, leading to a delayed diagnosis of DR-TB. In January 2016, 36 modules were still not functioning after more than 12 months.

In some areas where machines were not working, CTB and its partner nongovernmental organizations created a transport system to move samples to other GeneXpert centers weekly, but results that should have taken a few hours—like Halim's—could take up to a week. This was compounded by couriers losing samples and samples deteriorating in transit.

Between July 2015 and June 2016 in Jessore, only 39 presumptive DR-TB patients were tested, and of those, 23 people with drugsensitive TB were diagnosed and treated. No one with DR-TB was identified.



MDR-TB patient Halim Biswas and his family PHOTO: CTB STAFF

CTB staff at GeneXpert sites have been trained on basic maintenance to keep the machines operational. From July 2016 to June 2017, after the GeneXpert modules were repaired, 874 people with TB symptoms were tested, 395 were diagnosed with TB, and 21 multidrug-resistant TB (MDR-TB) patients were diagnosed and started on treatment.

Since July 2017, all of the GeneXpert machines have been working, and more than 90% of the modules are functioning normally. This has led to a significant increase in the numbers of tests being performed across Bangladesh. From January to June 2015, 17,458 presumptive DR-TB patients were tested, but during the same period in 2017, 30,044 patients were tested.

In Bangladesh, CTB is working to dramatically reduce the number of people dying of TB and decrease the transmission of the disease until TB is no longer a public health concern. Keeping the diagnostic network functioning is a key part of this fight by enabling thousands of people like Halim to be diagnosed quickly and put on treatment immediately.

BANGLADESH

Treating more than just the disease: Social support for TB patients in Bangladesh

In 2015, approximately 210,000 Bangladeshis were diagnosed with TB and nearly 900 of those were found to have multidrug-resistant TB (MDR-TB). Among those was Mohammed Rasel, who had left his village to work in a Dhaka garment factory after his father died. At just 14 years of age, Rasel was proud of being able to support his family, but in 2014, he began to feel weak, lost his appetite, and developed a bad cough that only seemed to get worse.

Bangladeshi garment factories—with cramped working conditions and poor ventilation—provide ideal conditions for the spread of TB. With support from the USAID-funded Challenge TB (CTB) Project, the National Tuberculosis Control Program in Bangladesh organized TB clinics near clusters of clothing factories and reached out to workers with TB education and screening programs. Outreach workers have also contacted supervisors to explain that, according to national law, no one should lose their job while being treated for TB.

Rasel was diagnosed with TB through a sputum test in 2015 and received six months of directly observed treatment (DOT) from the upazilla health complex, after which he was pronounced cured. Three months later his symptoms came back, and he was diagnosed later that year with a form of TB that is resistant to first-line drugs. He spent seven months in the MDR-TB ward of the Pabna Chest Disease Hospital. His treatment was free, but he worried about supporting his family while he was unable to work.



Rasel was able to return to work after beginning treatment. PHOTO: CTB STAFF

To ease the financial burden on patients like Rasel who cannot work during treatment and are therefore less likely to complete their full course of treatment, CTB provides social support. The most tangible part of this support is a stipend that is sent by mobile money to the patient's phone.

Rasel received at least 13 more months of MDR-TB treatment at home provided by a community DOT provider. If a patient is receiving DOT in their community, their DOT provider also receives a small financial incentive to visit each day.

After a few months of treatment, Rasel was able to go back to work. He was grateful for both the free treatment and the stipend. "It would not have been possible for me to have continued the treatment without the financial support," he says. With the help of his DOT provider, Rasel talked to his co-workers and explained his disease. He assured them that they were not at risk, and because they understood his situation, they were very supportive of him.

ETHIOPIA

Drug-resistant TB patients benefit from audiometry testing

In September 2014, Worknesh Bushura, a 28-year-old government employee from Hawassa in southern Ethiopia, started coughing and suffering from night sweats and substantial weight loss. She visited a number of local, private health facilities, all of whom prescribed various courses of antibiotics, none of which made any difference. She then visited the Hawassa Public Health Center where she was tested and diagnosed with pulmonary TB; she was placed on treatment, which she completed in May 2015.

Unfortunately, in October 2015, Worknesh started to suffer from the same symptoms. At the health center, she was tested using GeneXpert (a modern rapid test for TB). A positive test meant that she had rifampicin-resistant TB (RR-TB), which precludes treatment with rifampicin, one of the most effective drugs used to treat TB. She was referred to Yirgalem Hospital, and in January 2016, she was started on a second-line drug treatment regimen for RR-TB, which included a drug called capreomycin.

"I feel better now, am able to communicate with my friends without difficulty since I've been on the new medication. Thank God!" After three months of treatment, Worknesh started to suffer from ringing in her ears, which was followed by hearing loss. The second-line drugs she was taking can have some nasty side-effects, one of which is permanent hearing loss.

In Ethiopia, the USAID-funded Challenge TB (CTB) Project is providing audiometry systems to drug-resistant TB (DR-TB) treatment initiation

centers and training staff how to use them. Audiometry is the testing of a person's ability to hear various sound frequencies in order to identify and diagnose hearing loss. With these systems, hearing impairment can be detected early, and the drug causing the hearing problem can be quickly replaced with a new one.



With CTB support, Hawassa Hospital is also providing audiometry services, so when Worknesh's hearing impairment was detected early, capreomycin was immediately discontinued. The clinical review committee designed a special regimen using new drugs, and Worknesh has been on this new regimen since May 2016. She says, "I feel better now, am able to communicate with my friends without difficulty since I've been on the new medication. Thank God!"

Perhaps most importantly, her hearing has improved significantly; the tinnitus is gone and her follow-up audiometry measurements

have returned to the normal range. "Thanks to the Challenge TB Project and my physician, my hearing is back to normal. The current drugs are working well, and I am able to live a relatively normal life," said Worknesh.

Since this area of support started in 2016, CTB has provided 40 iPad-based ShoeBox audiometry systems to treatment initiation centers across Ethiopia and training for more than 100 health care staff. All DR-TB patients now receive regular assessments to detect hearing loss early and prevent long-term and permanent damage.

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ETHIOPIA

A volunteer's story: Fighting TB among remote mining workers and their families

TB is an ongoing public health problem in Ethiopia, and finding people with TB and getting them treated quickly is critical to ending the epidemic. TB is a particular issue among high-risk groups, such as HIV patients, substance abusers, prisoners, and gold miners. In Ethiopia, around 1 million traditional gold miners are at high risk of TB because they work in confined spaces and are exposed to respirable crystalline silica that can build-up in their lungs and predispose them to TB. Despite TB control efforts, traditional mining is an area that has been neglected in the fight to end the disease. There are no public health services for miners and the remoteness of the mines makes access to health services difficult. Delays in TB case detection and initiation of treatment and a lack of follow-up services are common at the traditional mining sites.

To address this problem, the USAID-funded Challenge TB (CTB) Project began recruiting volunteer TB treatment supporters (TTS) from the mines in the southern part of the Oromia Region (with an estimated miner population of 30,000). The TTS were trained on identifying presumptive TB cases, screening and referral, counseling, and treatment supervision.

"I now know a lot about TB and I'm teaching my peers in the mine so that our workplace and families remain safe." When Mustafa Abdi, a 24-year old miner at the Melka Soda Woreda gold mine, started to cough and suffer from a fever, severe chest pain, and weight loss, he visited the nearby health center. He was tested and diagnosed with pulmonary TB (bacteriologically confirmed) and put on first-line anti-TB treatment. He completed the treatment on July 23, 2016, and was declared cured.



PHOTO: ALI GALGALO

Six months later, Mustafa's father, Abdi, developed similar symptoms. His father visited the same local clinic and was given antibiotics, but his health got worse by the day. Mustafa, who volunteered to be part of the case-finding team, told Mohammed, the woreda CTB Program coordinator, about his own case of TB and that he thought his father might have TB as well. He said that

his father should be evaluated, and so should close family members he had come in contact with when he had TB. Mohammed screened Abdi and collected a sputum sample that was sent to the Megado GeneXpert site by motorbike for testing. Abdi had bacteriologically confirmed pulmonary TB; he was referred to a nearby health center, put on anti-TB drugs, and counseled on treatment adherence.

Abdi's treatment began in April 2017. Mustafa took responsibility for his father as a TTS. Abdi was not strong enough to travel to the health center so he stayed home, taking the TB treatment under the observation of his son. "I feel a lot stronger now," Abdi says. "Going to the health center for daily observed TB treatment would have been difficult for me because of the distance and the costs of transport."

Among eight of Abdi's family members screened for TB, three were diagnosed with bacteriologically confirmed pulmonary TB by using GeneXpert and put on treatment. Today, rapid diagnosis by GeneXpert, shorter turnaround times, and appropriate anti-TB treatment are improving the chances of early diagnosis and cure and are reducing the further transmission of TB. The Megado Health Center is one of the health centers near the mine that has a GeneXpert machine provided by USAID's HEAL TB Project, and CTB provided ongoing technical and material support.

"Thanks to my training, I now know a lot about TB and I'm teaching my peers in the mine so that our workplace and families remain safe," said Mustafa. He is committed to raising awareness about the disease and continues to provide support for new TB patients.

CTB has been providing continued support by training 250 volunteer mining workers, conducting regular mass screenings, providing health education to over 15,000 mining workers, distributing 5,000 leaflets, building the capacity of public health care and extension workers, mentoring, and hosting semi-annual review meetings.

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ETHIOPIA

Finding missing cases of childhood TB

Three years ago, Sister Danawit Berhanu was assigned to work in a children's clinic in a health center in Addis Ababa. She cared for and treated children with pneumonia, upper respiratory tract infections, diarrhea, and other common illnesses. During her training, not much was said about TB in children, nor during the subsequent support she received through mentoring and supportive supervision.

She thought that TB was not such a big problem in children, and therefore she rarely looked for it. When children did not respond to treatment with common medicines, they were referred to higher-level treatment centers, and she never learned their final outcome. Even though she treated thousands of children, she never suspected or identified a child with TB, but this changed in August 2016 when she was trained on childhood TB in a program supported by USAID's Challenge TB (CTB) Project in Ethiopia.

In high-TB-burden countries, children account for an estimated 15–20% of TB cases, but confirming the diagnosis of TB in children can be challenging because they often have no obvious symptoms and it is difficult for young children to produce a sputum sample for testing.

CTB trained health care providers from pilot health centers to increase the number of case findings of TB in children by integrating TB into the management of neonatal and childhood illnesses; demonstrations on how to perform nasogastric aspiration (NGA), a technique that can be used to collect a sample from

young children, were included.

"How many children may have been missed that we could have saved, I never realized childhood TB was such a big problem. We were not trained or expected to examine children for TB" - Sister Danawit.

Despite receiving training on the symptoms of TB in children, it is not always easy for health care workers to translate what is learned in the classroom into



real practice. As TB symptoms are similar to the symptoms of other common childhood diseases, staff can easily be overwhelmed by the number of children with symptoms that look like TB. To overcome this problem, the training also used on-the-job coaching and mentoring by experts from CTB to help staff consolidate and hone their clinical skills.

Sister Danawit is now actively looking for and can confidently identify children with presumptive TB. She can take samples and has so far performed the procedure on 11 children, which has reduced the need for referrals and the number of children lost to follow-up. As a health care provider, this is very rewarding and motivating for Sister Danawit, and from a broader perspective, it is an opportunity to incorporate TB into the management of neonatal and childhood illnesses.

Before the pilot, only 23% of children visiting the clinic were screened for TB, but after the training and on-site coaching, this number rose to over 96%. As a result, 48 presumptive TB cases were found and tested, resulting in 6 confirmed TB cases. This may seem small, but this is one pilot in one health care center, and everyday, up to 200 children lose their lives to TB, a preventable and curable disease.

Because NGA makes it easier to collect samples from children under 5, its demonstration and use should be scaled up to other regions of Ethiopia.

SOUTH SUDAN

Community-based organization enhances early TB detection in Juba

South Sudan's TB case notification rate is only 48%, which is low compared to the World Health Organization's target of 70%. Community-based TB control strategies are not routinely and widely applied in South Sudan. Through the support of the Challenge TB (CTB) Project, funded by the US Agency for International Development and implemented by Management Sciences for Health, four community-based organizations were subcontracted to implement community TB control activities.

One of the organizations, the AIDS Resistance Trust (ART) in Juba, initiated an intensified case-finding (ICF) approach at the Kator and Munuki primary health care centers (PHCCs) through which 20 community volunteers, referred to as home health promoters (HHPs), were trained to identify presumptive TB cases at the PHCCs. Those identified as presumptive TB patients are referred for diagnosis, and if found to have TB, they receive the appropriate treatment and are monitored to ensure they complete it and are cured. HHPs follow the confirmed TB (or index) cases to their homes and screen all contacts, referring any presumptive case for diagnosis and treatment.

Between June and December 2016, 331 presumptive TB cases were identified and referred by HHPs, of which 127 (38%) were diagnosed with TB and put on treatment.

TB detection increased from 544 (June to December 2015, before ART was involved) to 835 (2016, after ART was involved) new cases, an increase of 53%, of which 15% (127) were referred by HHPs.



An HHP providing TB education using a CTB-supported flip chart in the outpatient department of Munuki PHCC, Juba.

PHOTO CREDIT: AWAD STEWARD (CTB CONTRACT ANALYST)

The ICF approach has been recognized by the Ministry of Health and was recommended as one of the best initiatives to spearhead the rolling out of its Boma Health Initiative (BHI) strategy. A boma is the smallest geographical area and administrative unit in South Sudan; it consists of villages and households. The BHI is a community health system that equitably engages communities in health promotion at the household level.

SOUTH SUDAN

Rapid testing and new treatments offer hope for multidrug-resistant TB patients in South Sudan

GeneXpert testing has revolutionized TB diagnosis by accurately and reliably identifying TB and multidrug-resistant TB (MDR-TB) in less than two hours. The fast turnaround time enables patients to start treatment the same day, which not only improves the chances of successful treatment but also reduces TB transmission. The technology is user friendly because it does not require advanced training or specialized laboratory infrastructure, and it is suitable for every type of health facility, including those at hospitals and primary health care centers (PHCCs).

There are currently only two GeneXpert machines in South Sudan, so the USAID-funded Challenge TB Project set up a motorbike or "boda boda" sputum sample referral service to connect health facilities with the Central TB Reference Laboratory (CTRL) in Juba. Samples are sent by motorbike to the CTRL for GeneXpert testing with a turnaround time of just 24 hours.

Samson Sebit, 25, was first diagnosed with TB in September 2015; he was put on treatment and was cured in March 2016. Unfortunately, in January 2017, he relapsed, and, according to protocol, a sample of Samson's sputum was sent by motorbike for GeneXpert testing at CTRL. The results showed that he had a form of TB that is resistant to rifampicin, one of the first-line antibiotics used to treat TB.

When treatment for rifampicin-resistant TB became available in South Sudan in April 2017, Samson was among the first 11 patients to be enrolled on treatment on an outpatient basis at Kator PHCC, which is five kilometers from his home.



GeneXpert testing at the CTRL in Juba. PHOTO: ANTHONY WORRI

When he started treatment, he only weighed 36 kg, but after two and a half months of treatment, his appetite returned and his weight has increased to 47 kg.

Samson received counseling from the staff at Munuki health center and has so far managed to keep taking his medicine.



TB focal person (left) attends to Samson at Kator PHCC PHOTO: ANTHONY WORRI

After taking drugs for the last two and half months, he said, "I feel much better and I am confident that I am moving towards leading a normal life again." Samson's mother is also on MDR-TB treatment after she contracted TB from her son; she is also doing well, and home health promoters will visit the family to see if anyone else who has been in contact with them is infected.





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