

KNCV
TUBERCULOSIS
FOUNDATION

ANNUAL REPORT SUMMARY 2018

 **KNCV**
TUBERCULOSIS FOUNDATION
To eliminate TB

 **KNCV**
TUBERCULOSIS FOUNDATION



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**“An ‘elderly’
in the TB
community,
with the spirit,
energy and
creativity of
a ‘new kid on
the block’”**

MESSAGE FROM OUR EXECUTIVE DIRECTOR

The year 2018 marked the 115th birthday of KNCV Tuberculosis Foundation. An 'elderly' in the TB community, with the spirit, energy and creativity of a 'new kid on the block'! These are crucial organizational characteristics at a time of unprecedented political, societal and technical developments in the fight against TB. Before looking back at the core of our work, namely evidence generation, technical assistance and policy development, I want to highlight KNCV's role in two important global events in 2018.

First of all, the United Nations High Level Meeting (UN HLM) on Tuberculosis held in New York City, September 2018. For the first time in the history of the UN, Heads of States paid attention to TB, resulting in a political declaration with key commitments for 2022. The UN HLM world leaders explicitly committed to reach and treat 40 million people with TB by end 2022. They also committed to a global target of reaching 30 million people with preventive treatment to protect those vulnerable (particularly people living with HIV and children/household contacts) from progressing from infection to active TB. During side events of the UN HLM, KNCV contributed to panel discussions on childhood TB and presented the KNCV TB/HIV 'Cut and Paste' framework strategy for integrated TB/HIV services: Cut the silos between TB and HIV programmes and Paste

the framework components into a coordinated response ensuring joint Planning; Advocacy; Service delivery; Training and Evidence generation. A framework that requires strong political back-up and therefore very well fitted the UN HLM opportunity. Only one month after the UN HLM, KNCV had the honor of co-hosting the 49th Union World Conference on Lung Health in The Hague. This was the third time after earlier editions in 1932 and 1967. The theme of the conference 'Declaring our rights: social and political solutions' was well aligned with both the UN HLM agenda and the reputation of The Hague as the City of Peace and Justice. I would like to express my gratitude to all KNCV staff worldwide for the energy, time and creativity invested in the most successful Union World Conference ever, with over 4.000 participants and ►

A mother with her child
is seeking help at a
TB clinic in Nigeria.



an all-time record number of KNCV scientific contributions. It made us all feel proud, and we cherish that memory! I also want to take this opportunity to thank Her Royal Highness Princess Margriet of the Netherlands for opening the conference with an impressive and very personal speech which illustrated that TB does not respect societal status, including royalty. As many participants told me: being open about the history of TB in the Dutch royal family is a powerful way to address stigma in TB.

The year 2018 also showed that KNCV's technical innovations at country level save many lives. Obvious examples are the introduction and scale-up of laboratory connectivity and new drugs and regimens for patients with multi-drug resistant TB. As such we support both patient care and systems strengthening, while building the platforms to absorb future innovations. With our work at country level, KNCV significantly contributed to evidence generation and related policy discussions which led to the new 2018 WHO guidelines on the treatment of drug-resistant TB. However, technical guidelines do not suffice to end TB, unless we also overcome health systems and societal barriers such as out of pocket expenditures

for patients, weak human resource capacity and (self) stigma. Hence, KNCV's focus on stigma measurement and reduction, with a complete package of stigma intervention tools finalized in 2018 and an impressive TB PhotoVoices exhibition as part of the 'Story of Hope' exhibition in The Hague City Hall at the Union World Conference and the International AIDS Conference.

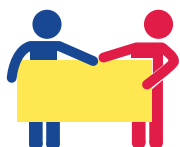
In 2018, we continued to diversify our funding base with new grants for different technical areas in a variety of geographical settings. Despite these successes we recognize the impact of the anticipated end of the USAID-funded Challenge TB project by September 2019.¹ Hence, in 2018, KNCV management, in close collaboration, with the Works Council, continued preparations for the post-CTB era, including the development of a social plan. Looking back, I can only be extremely proud of KNCV achievements in 2018, both at country level and in the global arena. Looking ahead, I recognize that 2019 will be a challenging year, with changing funding streams and new donor strategies, but I feel confident that the organization is fit for the future and will continue to play an important role in ending the TB epidemic and related human suffering. ◀



Dr. Kitty van Weezenbeek
Executive director of
KNCV Tuberculosis Foundation

¹ With anticipated extension for a limited number of activities and countries for a maximum of six months for which approval is pending.

KNCV IN KEY FIGURES IN 2018



Income from lotteries

€ 1.435.757



97.7%

Of total expenses spent on mission related goals



Income from private fundraising

€ 1.135.517



539 members

of staff worldwide



18.247

private donors



1.0% of expenses

spent on fundraising



1.2% of expenses

spent on administration and control



Income from government grants

€ 88.178.130



40

Scientific publications

KNCV IN KEY EVENTS IN 2018

KNCV looks back on a successful Union World Conference

In the same year that KNCV celebrated its 115 years of experience in fighting TB worldwide, KNCV was also proud to be the local host, together with the city of The Hague, of the 49th Union World Conference on Lung Health. The conference took place from 24 to 27 October 2018 at the World Forum in The Hague. Over 4000 delegates from more than 125 countries visited the conference to take part in the 150 sessions offered by the four-day scientific program whilst over a 1000 abstracts were presented. With, in total 21 symposia held, three satellite sessions, 22 (short) oral abstracts, 25 (e-)poster presentations, nine side meetings, workshops and postgraduate courses and ten community space activities, KNCV was very well presented during the conference.

Royal presence casts the spotlight on TB

Her Imperial Highness Princess Akishino of Japan and Her Royal Highness Princess Margriet of the Netherlands both attended the inaugural session at the Union World Conference. Princess Margriet delivered an inspirational opening speech in which she explained her own family's connection with TB and praised the work that KNCV has done in eliminating TB in the Netherlands and abroad. Following the opening ceremony, the princesses visited the Holland Pavilion where they met with TB survivors. Dr. Kitty van Weezenbeek, Executive Director of KNCV relayed her own personal story during the opening ceremony, addressing the stigma that surrounds TB and emphasized the urgency to step up the momentum in the fight against TB. "I'm probably the only executive director who wants to close its doors."

Breaking news for Childhood TB: Simple KNCV stool test

During a conference in which Childhood TB already was a recurring theme, the breaking news also came from KNCV with the announcement of our simple stool-based test, developed by researchers at KNCV, that can easily diagnose TB among children. This test could become a global life-saver by enabling millions more children at risk of TB and MDR-TB to be tested. ►



Kitty van Weezenbeek, Executive Director of KNCV Tuberculosis Foundation, during the opening ceremony of the Union World Conference.

TBScience 2018: A successful model for future Union conferences

TBScience2018, attracting some 400 delegates, was the first-ever science focused gathering running in parallel to the larger annual Union conference. This came about as a direct result of the first meeting of the WHO TB R&D taskforce in 2017, where the need for a dedicated TB basic and translational science conference was concluded. The Union, in partnership with WHO, KNCV, TSRU and AIGHD organized this one and half day TBScience2018 event which was entirely devoted to basic and translational TB research. Scientists from various disciplines (microbiology, immunology, molecular biology, pharmacology, clinical science, epidemiology and mathematical modelling) assembled to present and discuss recent findings relevant to the understanding of TB transmission, infection and disease, and to the development of new vaccines and drugs in a cross-disciplinary manner.

Dutch TB impact shown by partners in Holland Pavilion

In the Holland Pavilion, located in the central area of the venue, KNCV brought together a diverse group of Dutch stakeholders working on TB prevention, treatment and care, as well as lung health in general. The Pavilion proved to be extremely popular, with many delegates visiting the booths and listening to the presentations. The 'Dutch afternoon', which took place on the final Friday also proved to be a success. Former patients and professionals explored the past, present and future of TB in the Netherlands, as well as the deployment of Dutch expertise and experience worldwide.

KNCV award presented

During the closing ceremony of the conference, Dr Lixia Wang and Dr Yogan Pillay were awarded with the prestigious KNCV Tuberculosis Foundation Award for Eminence in Tuberculosis Control. KNCV executive director Kitty van Weezenbeek presented the Dr Karel Styblo medallion and a certificate of appreciation to Dr Wang and Dr Pillay. KNCV grants this prestigious award once every five years to honor those who have provided a long-term significant contribution in the fight against tuberculosis. ►

Important commitments made during historic UN HLM on TB

On 26 September 2018 the United Nations General Assembly held its first-ever high-level meeting (UN HLM) on tuberculosis (TB) to accelerate efforts in ending TB and reach all affected people with prevention and care. The theme of the meeting was 'United to End Tuberculosis: an Urgent Global Response to a Global Epidemic'. At this meeting world leaders made commitments to urgently overcome the TB epidemic by 2030. This involved both stepping up the response in their own country and a renewed international commitment to the development and introduction of innovations, including new lab tests, medicines and delivery. The aim to End the TB epidemic by 2030 is part of the Sustainable Development Goals (SDG 3.3) committed to by UN Member States in 2015. During the UN HLM world leaders explicitly committed to reach and treat 40 million people with TB by end 2022. They also committed to a global target of reaching 30 million people with preventive treatment to protect those vulnerable (particularly people living with HIV and children/household contacts) from progressing from infection to active TB.

Executive director of KNCV Tuberculosis Foundation, Kitty van Weezenbeek, was present at the UN meeting. Van Weezenbeek: "A great step has been taken in New York. Now it is important to turn these political promises into concrete actions. It is a formidable global task, TB-experts from KNCV and academic centers are ready to shape the innovations."

KNCV organizes side event to UN HLM on TB/HIV cooperation

Prior to the UN HLM, KNCV organized a side event with as theme 'Leave No One Behind: Scaling up integrated people-centered TB/HIV care towards universal health coverage',

attended by TB and HIV experts, politicians and donors at the UN headquarters in New York.

The UN HLM on TB clearly demonstrates how concerned world leaders are about the humanitarian and economic consequences of the world's deadliest infectious disease. Improved cooperation between HIV and TB prevention programs is one of the areas where there is a lot to be gained. KNCV has been working hard to achieve this for more than 15 years.

"Our projects have shown that effective cooperation enables us to identify more people with TB and HIV, treat them more effectively and also help take the pressure off healthcare systems. We need to make this the norm across the world. In order to achieve this, we are uniting all the main players. It's time for donors, the world of politics and experts to embrace this TB/HIV cooperation and take concrete steps", said Kitty van Weezenbeek in the lead-up to the event.

During the panel discussion, Van Weezenbeek issued a challenge to all stakeholders in TB- and HIV-programs and called for a joint "CUT and PASTE" approach to fight TB/HIV.

"KNCV Tuberculosis Foundation has shown that integrated people-centered TB/HIV care benefits patients, their families, healthcare workers and health systems. An effective TB/HIV framework ensures joint Planning; joint Advocacy; integrated Service Delivery and Training; and joint Evidence generation, while involving public, private and community stakeholders in these efforts. CUT the silos and competition for funds and PASTE these framework components into a coordinated (inter)national response to the dual TB/HIV epidemic. KNCV knows it works!" ◀



PIONEERING, SIMPLE KNCV STOOL TEST ENTERS THE NEXT RESEARCH PHASE

Getting sputum in small children is difficult, painful and traumatizing, but still necessary to diagnose TB. Thanks to the simple method developed by KNCV Tuberculosis Foundation (KNCV) to test poo with the GeneXpert, sputum can hopefully be replaced. The aim is for all children in the world to have access to this simple and painless stool test from 2020 onwards. The pioneering method was presented for the first time during the 49th Union World Conference on Lung Health.

We aimed to replace the painful sputum examination by using stool

The numbers do not lie. Among the 1.6 million people who die of tuberculosis every year worldwide are 233,000 children. The diagnosis of TB is often missed or TB is diagnosed too late in children. Especially in small children, the detection of TB is difficult; they can't easily cough up sputum on and swallow it. Doctors and parents are often reluctant to use invasive methods.

Sputum is now obtained by removing material from the stomach or through the nose via a tube. Or drops of fluid are sprayed into the lungs to induce strong coughing. Apart from being traumatic for the children, parents and doctors, the costly equipment required for this is rarely available at smaller medical posts. In many countries where KNCV works, this research can only be done in one or two large hospitals.

Keep it simple

The idea behind the stool test is to

keep it simple. We aimed to replace the painful sputum examination by using stool that can be obtained naturally and painless from children in large volumes. It has long been known that TB patients do secrete TB bacteria in their stool, but because stool contains so many other bacteria, it is not considered as a useful sample for the diagnosis of TB. Recently, in parallel with the fast enrollment, throughout the world, of the GeneXpert equipment for the sensitive sputum DNA test (Xpert MTB/Rif) to even small healthcare centers, the idea of using stool as a sample attracted new interest. However, methods for processing stool are complicated and can therefore mainly be done in high-quality laboratories. These laboratories are scarce in many places in the world and are not easily accessible to parents with sick children. We wanted to develop a way to diagnose TB that would be possible to use in small, simple labs, as is currently done with sputum. Our aim





A KNCV stool test training in
Addis Ababa, Ethiopia.



was to see if stool could be processed and tested in the same way as sputum now is, using the same means and GeneXpert equipment. And it worked!

The method is very easy: you put some stool in the bottle that is part of the TB Xpert test. In this bottle there is a liquid that causes the stool to fall apart and the bacteria are released. By first shaking hard and then allowing the bottle to stand, the remains of the stool sink while the TB bacteria having a fatty cell wall starts floating to the surface in the aqueous solution. The 'floating' part can then be examined with the TB Xpert test. The processing steps are similar to the sputum Xpert test and don't require any additions of supplies or equipment.

Groundbreaking test

The first tests of our stool method took place in the national reference laboratory in Ethiopia. In order to be able to finance this, KNCV Tuberculosis Foundation staff ran the City-Pier-City Run in 2017, raising 10,000 euros. The results showed that the stool test works well with the Xpert test. At the same time, a similar method in Indonesia was tested in a large pediatric hospital in Bandung. The

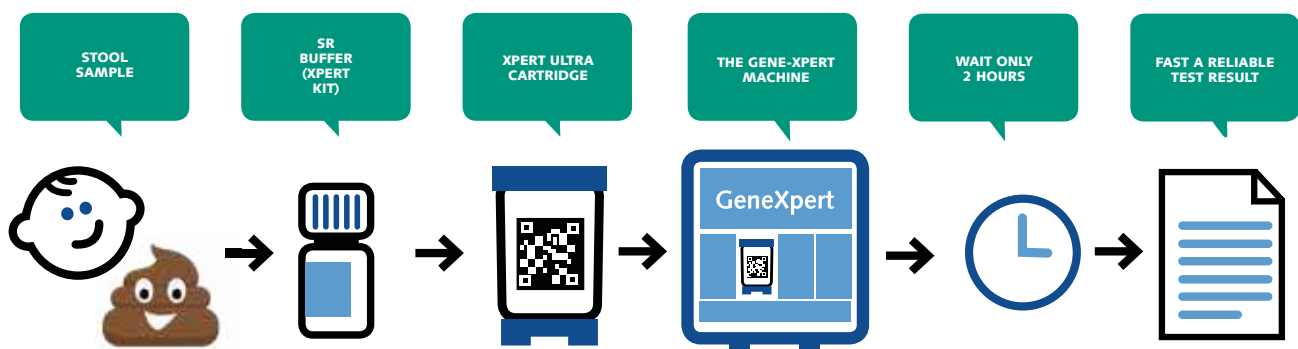
results have now been published and show again that TB can be diagnosed on the basis of these simple stool tests. It also becomes clear that with this groundbreaking test we can detect TB with stool as well as with sputum!

The method and results from Ethiopia and Indonesia were presented during the 49th Union World Conference on Lung Health and the news about the stool test received international media attention. More than 200 (inter)national websites paid attention to this, including the Dutch NOS news and News & Co made a report. Several countries then approached KNCV with the question of they could also start implementing the simple stool test.

In order to expand the stool test worldwide, we first need to gain more experience with this test and draw up a practical manual for its use and prepare starting kits for countries that would like to start implementing. Therefore the stool test is now being rolled out further in Ethiopia and Indonesia. In total, sputum and stool samples are taken from around 750 children, so that the results of the tests can be compared well. The first results are expected this spring. ◀

We wanted to develop a way to diagnose TB that would be possible to use in small, simple labs

Fig 1: The simple stool test



KNCV'S TB STIGMA MEASUREMENT AND REDUCTION TOOLS

The year 2018 was an exciting year for KNCV's stigma reduction team. In August we published our long-awaited Stigma Measurement Guidance and finalized our Suite of TB stigma intervention tools to complement it.

Stigma and discrimination are recognized as some of the most commonly identified barriers to fight the TB epidemic.¹ Reducing TB stigma is therefore essential because it hinders care seeking, contact tracing, outbreak investigations, treatment initiation, adherence and quality of care. Moreover, it degrades social capital; it deprives people with TB of their rights and the respect of others.² Ultimately it can also contribute to catastrophic costs when people with TB are pushed out of their homes, communities and jobs – losing their security, support system and means of income. Stigma not only harms patients, but also erodes health care workers' commitment to high quality care. An effective approach must therefore protect everyone's rights as a cornerstone of patient-centered care.

Over the summer and autumn, we had the opportunity to pilot all three intervention toolkits with great success

in Kazakhstan. We were able to share our tools and experiences not only during the international AIDS conference in Amsterdam in July/August (as part of the Story of Hope exhibition in the Hague) but also during the 49th Union World Conference on Lung Health in The Hague in October. It is needless to say that we invited the patients and health care worker participants to participate in these events. They are after all the most appropriate people to tell their stories and share their experiences – so good in fact that they are part of the training teams for planned interventions at home and abroad - in the future, like in the Philippines in February 2019. Here are some examples:

1 World Health Organization, Ethics guidance for the implementation of the End TB Strategy. 2017, Geneva: WHO.

2 Jaramillo, E., S. Sahu, and C. Van Weezenbeek, Ending TB-related stigma and discrimination. Int J Tuberc Lung Dis, 2017. 21(11): p. 2-3.

KNCV's philosophy and tools

KNCV's philosophy on reducing TB stigma is to build empathy and mutual respect among communities, health care workers and TB patients. It aims to reduce the tendency to label, blame, shame and control by strengthening the awareness of our own judgements. To do so, KNCV has developed several innovative tools to understand, measure, assess and effectively address TB Stigma at its root.



1. TB STIGMA MEASUREMENT GUIDANCE:

An overview of best practices, covering the full scope of established methodologies. The guidance can be used for a whole range of stigma measurements: from baseline assessments to end line evaluations.



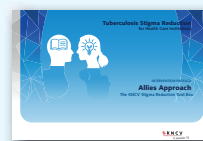
2. TB PHOTOVOICES:

Empowers people, affected by TB, HIV or both diseases to express and communicate their experiences. It rebuilds their self-esteem through group coaching and teaching them how to use photodocumentary to express their emotions and feelings. The final product - a series of images and quotes - can be used to sensitize key audiences such as decision makers, civil society and health staff as well as for peer support to other TB patients in their physical and spiritual healing process.



3. FROM THE INSIDE OUT:

Dealing with TB-related self-stigma and shame; " is designed to help individuals identify, understand, and address self-stigma and anticipated stigma. We provide a framework and tools to address and reduce self-stigma in people with tuberculosis (TB).



4. THE ALLIES APPROACH:

Tuberculosis stigma reduction for health care institutions: a health care facilities toolbox, which focuses on stigma at the emotional, cognitive, and practical levels. This approach addresses self-stigma in health care workers, stigmatizing behavior of health care workers and the stigma facilitating policy in facilities. The Allies Approach fosters a dynamic mutually-supportive alliance between patients and care providers.



The TB PhotoVoices project in Kazakhstan helped TB patients tell the story of their illness through their 'photovoice', producing a photodocumentary that makes them feel empowered. The accompanying quote of the photo of the lock is: "When I was treated for TB, all roads were closed. It was forbidden to go out." The quote belonging to the photo below is: "During the illness everyone turned away from me; relatives and friends."



The story of Symbat¹

“What does success mean? Everyone understands this in his or her own way. For someone, success can mean a good career, for others – a happy family. Previously, I thought that success was something instant, like if today I am successful, then maybe tomorrow I am not. Now I believe that it's all about luck, which is a short-term thing, which comes in those moments when you do not expect it to come at all. Well, in critical situations, when you are in a state of hysteria and you may think that nothing will help, like if there is no possibility to get out of a situation, something suddenly happens and everything gets well, even excellent. Something similar happened to me. And I am sure it was luck.”

“In 2015, I was diagnosed with tuberculosis. I didn't know how to perceive my diagnosis and I could not believe it until I was brought to hospital. I was very depressed. I did not want to talk and became estranged from my friends and everything in my life. I thought that it was the end. Everything that I did before lost its significance in one moment. However, I was wrong. A month later, I met patients who had the same problems as I did. They told me about Sanat Alemi Support Fund for TB patients, which is supported through KNCV and AFEW under the Building Models for the Future Project. I got interested in the Fund. I also started to visit meetings of peer support groups, and my treatment was quick and inconspicuous. The Fund provided us with social, moral and psychological help. Today, I have finished the treatment and feel like a winner.”

“When I attended meetings of the peer support group, I got the idea that there must have been some reason for the situation that had happened to me. Maybe it was a sign for me to find time for myself to do my favorite things and develop myself? So, I and my friend from the hospital decided that we should make something interesting. We were thinking for some time and decided to make accessories, wooden bow-ties. It took us a month to prepare, to find suitable types of wood, fabrics, paints of various colors and varnishes for bow-ties. And you know what? We have done it. Today, we receive orders from all regions of Kazakhstan. We were invited to TV programs, and we took part in exhibitions together with various designers of our country. The way to success was challenging and very enjoyable at the same time.”

Symbat took part in the project TB PhotoVoices in Kazakhstan.



This project helped me to open up, to understand myself

“In May 2018, I took part in the project “PhotoVoices”, an initiative from KNCV Tuberculosis Foundation. For six weeks, I was in search of impressive shots, which would help to show my feelings about the TB disease: from depression to accepting and rethinking the situation. This project helped me to open up, to understand myself. I was able to see my ability to photograph, to catch the moment, to see the significance in small things. PhotoVoices gave me the opportunity to look at everything that has happened in my life during these two years from a different angle.

In conclusion, I would say we may often hear that life is difficult, that we should overcome obstacles and experience failures in order to achieve something in our lives, and only after all these difficulties have been experienced, we can realize how complex the path is from our wishes to reality.” ◀

¹ <https://www.youtube.com/watch?v=VANwVyCkKvI&t=6s>

The story of Alexander

"When I'm cured, I will start my life from scratch"

"I am Alexander Izotov, 45 years old and I have three kids. Sometime ago I had a bright life, full of amazing events and impressions. I worked as a waiter in a very presentable place. I had a family with a beloved woman and believed that I could achieve everything I dreamed for in my life. But unfortunately, suddenly my life turned against me. My marriage broke up within two months. Shortly after that I got married again, but could not save that marriage either. The crises in those relationships led me to severe consequences - I started to drink alcohol, lost my job, and lived as a tramp."

"And then, one day I decided to start a new life. I decided to return to my family, to get a new job and live a full life again. To get the job I wanted, it was necessary to undergo a medical check-up and lung X-ray. That day I heard that I had a shadow on my X-ray. After complete examinations, I was diagnosed with tuberculosis which was resistant to multiple TB drugs."

"This was another test to show my strength. My family relations that were already at an impasse, turned into a final crisis. I was experiencing a huge amount of stress. It seemed all was over. I stopped talking with family and friends, became reserved and even asked the doctors to provide me with a separate room, because I did not want to see anyone! I gave up and did not believe that I could still recover. I started to feel so very depressed that I wanted to end my life. My family did not support me, and I realized that it was my own fault."

"For five months I was in this conditions until I heard about NGO 'Sanat Alemi', which is supported through KNCV and AFEW under the 'Building Models for the Future Project'. Their staff came to our hospital and met with those of us, who were discharged for outpatient treatment, and invited to their self-help group. I came to this group and gradually started to communicate with others like me. From that time, I felt support that I did not receive even from my family."

"One day, I was invited to take part in the 'PhotoVoices' project. I agreed with reluctance, but later, I did not regret it at all. Participation in this project was a perfect

Alexander: "During my TB treatment I felt so terrible I wanted it all to end."



I felt support that I did not receive even from my family

event in my life. In the beginning of the project, I went through all emotions that I experienced at the beginning of my disease, and strong desire came up to express them through photos. Later, I felt that I want to make exciting photos and share with others. I realized that I am empowered in this project and perceive the world differently. I was eagerly waiting for another meeting to share and surprise the coaches and participants of the project with the new photos. Finally, I noticed that I do not feel depressed anymore. I realized that life goes on, I just need to complete TB treatment."

"I would like to thank the 'PhotoVoices'-project for giving me back the hope and desire to live!"

(P.S. Alexander has now decided to train as a counselor to help others in return).

NEW DRUGS AND SHORTER REGIMENS PUT TO THE TEST

The USAID-funded, KNCV-led Challenge TB project and the National TB Program of Kyrgyzstan jointly initiated the introduction of new drugs and regimens for better patients' care.

Kyrgyzstan became one of the flagship countries in the world to provide free and full access to these new treatments for all in need two years ago. "The first patients were initially reluctant to be the first on such a novel approach," says Bakyt Myrzaliev, country director of KNCV Kyrgyzstan. "They were afraid. But the treatment is more patient-friendly and nearly 80 percent of all patients have been successfully cured after using a new shorter treatment for multidrug-resistant tuberculosis. This indicates a major improvement in comparison to the stark outcomes of the previous treatments, which cured only 53 percent of patients. Now, patients are aware about the results and they want to be enrolled and participate into pioneering initiatives like this one."

Patients and their needs have always been priority for KNCV's innovations. When new drugs and regimens were initially being promoted – in 2015 - for country uptake, KNCV introduced the patient triage concept in support of 'Right diagnosis, Right treatment'. This approach aims to have no patient left undiagnosed, untreated or treated inappropriately. This is done through close tracking of individuals with presumptive TB up to treatment initiation of patients diagnosed.

New recommendations

The time from diagnosis to treatment initiation has been reduced significantly from several months to only a few days due to the introduction of rapid molecular tests for TB and DR-TB diagnosis which start with GeneXpert tests as close to point of care as possible. WHO issued new recommendations in May 2016 on the use of a rapid diagnostic test – a line probe assay to detect resistance to second-line anti-TB drugs (SL-LPA). The term 'second line anti-TB drugs' refers to the new drugs being prescribed when a patient is resistant to the TB drugs that are prescribed normally 'in the first line'. The introduction of new drugs have also facilitated the health care providers' choice to select the most appropriate regimen for each individual patient.

In Kyrgyzstan, until recently, many patients with drug-resistant forms of tuberculosis were left helpless in their fight against the disease, even after going through two years of treatment that included daily injections and over 14,000 pills over the treatment period, complimented by significant side effects. The successful outcomes of that treatment, however difficult, were only one in two patients with multidrug-resistant tuberculosis (MDR-TB); and only one in ten

Nearly 80 percent of all patients have been successfully cured after using a new shorter treatment

Zarina (37), mother of five children of which two fell ill with extensively drug-resistant tuberculosis, is happy that her two boys, Danyar and Nursultan received the new drugs and shorter regimen treatment in time to save them.





Medicines are being prepared to be taken to a TB-patient in Kyrgyzstan.



Father and son thankfully recovered after taken new drugs and regimens in Kyrgyzstan.

with extensively drug-resistant tuberculosis (XDR-TB).

The new treatment approaches are not only more effective in curing the disease, but also easier for patients to follow. The new drugs have fewer side effects. For patients with drug-resistant forms of tuberculosis, the treatment is shorter: between nine and 12 months, instead of 24. The collaborative work of the NTP in Kyrgyzstan with extensive support of CTB and other partners did not only lead to a countrywide access to rapid molecular tests to detect resistance to first- and second-line anti-TB drugs. An interim transportation solution was arranged ensuring access of samples of patients from far-flung areas, such as the southern region to the National TB Reference Laboratory where the diagnostic services are.

Most appropriate, least toxic regimen

The National TB Program of Vietnam has also been an early adopter of the use of the new drug for multidrug- and rifampicin-resistant TB (MDR-/RR-TB) and the shorter treatment regimen. They have been applying the patient triage approach since 2015, when the new drug Bedaquiline (BDQ) was first used, followed by the shorter treatment regimen in 2016. The KNCV triage concept ensures that Xpert-confirmed RR-TB patients are routinely tested for resistance to second-line drug (SLD) using the rapid molecular tests such as SL-LPA, and ensures that the most appropriate, least toxic regimen is being selected. As of December 2018, over a thousand patients have been put on the shorter treatment regimens and over a hundred extensively drug-resistant (XDR)-TB patients on BDQ. Vietnam has developed patient triage recording and reporting forms that are about to be used in the provinces and districts to systematically track patients progress. The program

collaborates with GeneXpert-sites and the National Reference Laboratory in ensuring an efficient and timely transference of laboratory results that are crucial in guiding health care providers in the choice of the patients' most appropriate regimen.

In Tajikistan, an improved specimen transportation and TB case detection system coupled with the introduction of rapid diagnostics have dramatically reduced the waiting period of patients from consultation to initiation of DR-TB treatment from 2-3 months to less than 11 days. Since 2015, with CTB support an updated TB diagnostic algorithm was implemented that led to as high as 98% Xpert testing among people with presumptive TB (199 out of 202) in certain provinces and, with almost 100% Xpert test results received in the dedicated DR-TB facilities. 8,000-12,000 more specimens were delivered for TB diagnostics annually, with increase of 20% of RR-TB notification with SL-LPA results in CTB pilot sites compared to non-CTB areas. All patients diagnosed with RR-/MDR-TB were enrolled on treatment with zero gap.

Back in Kyrgyzstan, Zarina (37), mother of five children of which two fell ill with extensively drug-resistant tuberculosis, is just exceptionally happy that her two boys, Danyar and Nursultan received the new drugs and shorter regimen treatment in time to save them. Her husband passed away a year ago after stopping treatment several times and developing XDR-TB. Zarina: "We are very grateful for the help we have received. The pills have helped and me and my sons got better." Zarina's family now has hope again. Danyar wants to become a doctor. Nursultan wants to become a policeman "to catch bad guys who steal money". Zarina is happy that everyone is well again. "I just pray it won't come back."

**Vietnam
has also been
an early
adopter
of the use
of the
new drug**

WHY USE DAT INSTEAD OF DOT: CUSTOMIZING TB DIGITAL ADHERENCE TECHNOLOGIES FOR DIFFERENT COUNTRY SETTINGS

In the last few years, digital adherence technologies have emerged that can support the patient-centered observation that is needed.

When a patient has been diagnosed with TB and prescribed the right treatment comes the next (hard) phase of actually persisting in taking the medicines till the end of the treatment. Historically, the most widely known means of supporting patients and ensure adherence for TB treatment is in-person DOT. This takes place either at the health facility or the patient's home where a health worker directly observes the ingestion of daily medication. Despite the successes of (health facility based) DOT, this approach still leads to challenges for patients.

Issues such as transportation (costs and logistics), loss of autonomy, poor implementation of witnessed dosing and lost income due to missing work for daily clinic visits can cumulatively lead to non-adherence, treatment interruption, loss to follow-up and households experiencing catastrophic costs as a result of the TB disease. Having each dose observed in a clinic by a staff person can also be stigmatizing and perceived as paternalistic.

There are also challenges on the side of the health providers. The traditional DOT approach assumes overall that all TB patients require

the same level of monitoring and support. Rather than differentiating care based on patients that are at highest risk for non-adherence and poor outcomes and therefore in need of intensified support. With using DAT instead of DOT, many such issues can be overcome.

Providing patients with differentiated care

In the last few years, several technologies have emerged that can support the patient-centered observation that is needed, and at the same time provide healthcare workers (HCWs) with accurate, real-time, and detailed dosing histories for people on TB treatment. Accurate patient dosing histories gives HCWs an opportunity to make data-driven decisions about when and how to provide patients with differentiated care, including adherence informed interventions.

TB treatment outcomes are of course significantly dependent upon proper medication adherence. There is a fast-growing interest in the available, affordable and scalable adherence technologies. At the same time there is a global shift towards self-administration of TB treatment. However, countries do not always know how to adapt

There is a fast growing interest in the available, affordable and scalable adherence technologies

The digital adherence technology 99DOTS is being implemented on The Philippines where texting is more common than making phone calls.



these technologies for successful implementation and scale-up. KNCV is closing this gap by implementing projects that demonstrate to countries how to customize the DATs that can meet country specific settings and how to integrate the technologies into the TB care system.

TB REACH: demonstration projects in three countries

In 2018, KNCV's Digital Health Solution team started demonstration projects in three countries – the Philippines, Tanzania and Ukraine -, funded by the Stop TB partnership, TB REACH. The goal of this demonstration project is to firstly assess the feasibility and the acceptability by both patients and health care providers. And secondly to assess the accuracy of digital adherence technologies. In addition, the project will look at the overall impact of DATs on treatment outcomes and general adherence behavior. As part of the project, KNCV will also determine the necessary adaptations needed to make DATs suitable for a variety of contexts. So, what are some examples of DAT adaptations that have occurred during the project include?

Example 1: Adaptations to the core technology and intervention approach in Philippines

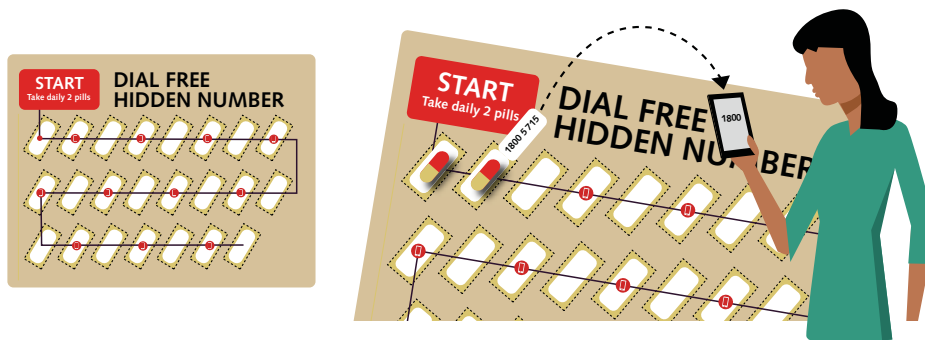
The culture of texting is a lot more common than making phone calls in the Philippines. The DAT implemented in the Philippines, 99DOTS, is set

up as such that the patient calls a specified number when they take their daily medication. To adapt the DAT to better fit the culture of texting, the 99DOTS platform was customized in such a way that the patient can send an SMS to a USSD code when they take their daily medication. It turned out to be an adjustment that showed great success. Around 100 new patients enrolled on the 99DOTS platform since patient enrolment started in January 2019. Over the course of 2019, the project is expected to enroll 1.000 patients.

Example 2: Differentiated care for patients informed by DATs in Tanzania

One of the benefits of DATs is the availability of electronically compiled dosing histories which can be used to efficiently guide differentiated patient-centered care. To support the current DOT standard of care in Tanzania, - which is (90%) self-administrated home-based treatment -, the adherence platform is customized to send SMS reminders to patients who have not taken their daily medication by 6pm. When patients have missed two or three consecutive daily medication, the DAT prioritizes these patients and sends an SMS reminder to the health care provider to call or visit them at home. The DAT can be further customized to send motivational and educational messages to the patients. These messages are informed by their electronically compiled dosing histories.

One of the benefits of DATs is the availability of electronically compiled dosing histories



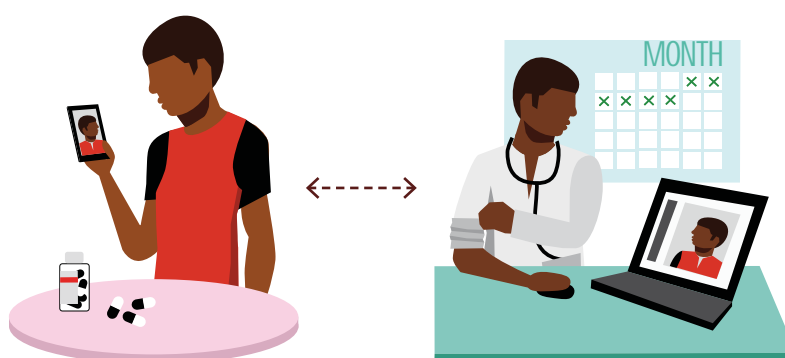
99DOTS pairs customized medication packaging with basic phone call/SMS technology to provide accurate, real-time data on patient treatment adherence. For this approach, existing Fixed-Dose Combination antibiotic medication blister packs are repackaged in a custom cardstock sleeve. The sleeve consists of a series of

unpredictable hidden toll-free phone numbers or SMS codes that are revealed each time a patient takes out their pills for the day. Patients place a free call or send a free SMS daily to the revealed number. The system will then automatically log their medication intake on the adherence platform. 99DOTS can be customized to each country context.



evriMED is a digital medication monitor that is as functional as a low-cost medication box, but has also a small-scale, battery-powered sensor and mobile data connection. Patients store and organize their TB medications in the box. When they open the box for daily medication intake, the sensor is activated and sends dosing event information in real-time to the adherence

platform using the mobile data connection. When the box is outside of mobile signal connection, it stores the 'opening events' in the device memory for up to 30 days for later upload. The box can be fully customized to include treatment-specific instructions and its small LED display and speaker enable configurable audio-visual reminders.



An Android app that utilizes video recording and mobile communication to remotely monitor and support TB medication intake. Using an asynchronous video approach (in contrast to synchronous, "live" video) patients are guided to record videos of themselves ingesting their daily medication. These videos are automatically synced via secure mobile connection with the adherence platform. There, they are then

reviewed by the patient's health care provider and marked as complete. While the other DATs rely more on the technology as a proxy for daily dosing, VOT is the closest approach to "remote" DOT. This DAT can be used for all treatment regimens but requirements for smartphone devices, mobile connectivity infrastructure, and technology literacy mean it is not suited for all patients and contexts.

TB NURSE: A SPIDER IN THE WEB

Nurses have had an important role in TB control in the Netherlands since the beginning of the last century. At the beginning of the 20th century they were called 'huisbezoeksters' (which literally translates into 'home visitors'). Nowadays the TB nurses at the Public Health Centers are involved in the care of almost all patients who are diagnosed with TB. Also, worldwide the TB nurse is seen by many as an indispensable link in the successful treatment of people diagnosed with TB.

However, we hardly see these nurses at large conferences and meetings. At the 48th Union World Conference in Guadalajara, Mexico, only 3 percent of the more than 3,000 visitors from all over the world were nurses. Fortunately, this was different at the 49th Union World Conference on Lung Health in The Hague. With donations from the 's Gravenhaagse Foundation for TB Control and the TB Department of the Dutch Nursing Association we managed to organize a side event for nurses during the conference for the first time in the history of the Union World Conference. We also specifically supported nine nurses to come to the conference. These nurses came from the following nine countries: Kyrgyzstan, Botswana, Romania, Indonesia, Malawi, Canada, India, Zambia and the Marshall Islands.

TB nurses around the world

On 25 October 2018, the second day of the conference, nearly 130 nurses from 36 different countries came together for the symposium 'TB nurses around the world'. From the Netherlands itself 66 nurses were present. The aim of the symposium was to share best practices by nurses from various parts of the world. Prakash Sonawane from India told us about 99DOTS, a treatment reminder system which uses mobile phones. Carmen Lopez from Canada told us all about her research project. She explained how the addition of just one sentence - "What do I need to know about you as a person to provide you with the best care possible?" - in the intake interview of a patient can make a substantial difference in how patient-centered the interview can become. We also invited Deepti Chavan from India to tell

her personal story. Deepti is an MDR-survivor and she told us her story. Her impressive story very clear how the stigma around (MDR) TB is still present. The audience appreciated hearing from a patient's perspective. Also, the nurses from the Marshall Island, Zambia and the Netherlands gave us a good impression of how nursing care is imbedded in TB care in their respective countries.

The future

The chair of the Nurses and Allied Professionals Subsection (NAPS) of the Union, Linette Mc Elroy, closed the plenary session, with the wish that a continuous exchange of experiences can keep taking place. For many nurses, a visit to a conference such as the Union World Conference is a 'once in a life time' event and it is therefore important to explore other ways in which nurses from all kinds of international backgrounds can exchange experiences.

Our goal with organizing this side event was to increase the attendance of nurses during the Union World Conference. In this we certainly succeeded. Not only did we have a successful meeting, but also the number of nurses who visited the entire conference doubled compared to the previous Union World Conference. The meeting was very well evaluated, with the wish of many participants that such a focus on nurses would be made possible also at future conferences. We are already making plans for the next conference in Hyderabad, India. Meanwhile, both on Facebook and on LinkedIn a group started, called 'TB nurses around the world'. They want to explore the possibility to share experiences also with each other through social media channels.



130 nurses came together for the symposium 'TB nurses around the world'.



TB nurses
around
the world.



TREATING LATENT TB INFECTION: KEY TO ELIMINATE TB

KNCV advocates for a rapid scale up of treating latent tuberculosis infection (LTBI). With 23% of the global population infected with TB in 2018 there remains a huge pool of people at risk of developing active TB. Only when treating both active TB and LTBI the goal of TB elimination by 2050 can be achieved. Treatment of LTBI is important as it prevents someone from being infected to becoming sick of TB (active TB) and therefore stopping the cycle of ongoing transmission.

Preventive treatment should be offered to people with LTBI who have a relatively high risk of developing active TB: recently infected contacts of patients with active TB (with priority given to children under five in high-incidence countries), people living with HIV (PLHIV), patients who have immunosuppressive medication, patients who will undergo an organ transplant, and patients with silicosis [1]. In practice however, only a very small percentage of those individuals eligible for preventive treatment do receive it. This calls for immediate action!

Political commitment

In September 2018 at the UN High Level Meeting on TB, member states committed to provide preventive treatment to at least 30 million people by 2022. This includes 4 million children under five years of age, 20 million other household contacts of TB patients and 6 million PLHIV with the vision to reach millions more. In light of this, the World Health Organization (WHO) published new guidelines for the treatment of LTBI in 2018, based in part on a series of new systematic

reviews [2]. KNCV embraces these new recommendations as these are opening doors for providing preventive treatment to many more people – from only child TB contacts under five years old and PLHIV to all TB household contacts and other risk groups. Besides, new and shorter treatment regimens (three months instead of six) are being recommended. Shorter treatment is attractive to both patients and practitioners as it has shown to increase the completion of treatment and therefore greatly reduce the risk of progression to disease.

Action

KNCV is building on its experience with contact investigation and the management of LTBI in the Netherlands, which has been applying wider inclusion criteria for preventive treatment and some of the new shorter preventive treatment regimens for many years, and in high burden countries like Vietnam and Ethiopia, where LTBI treatment was implemented with USAID support through the consecutive TB CARE and Challenge TB projects. In the Netherlands, KNCV is currently studying the implementation and

Shorter treatment is attractive to both patients and practitioners

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**The treatment of LTBI
has been shortened in the
last ten years from six to
nine months to mostly
three months**

cost-effectiveness of LTBI screening and treatment in three groups of immigrants (TB ENDpoint): (1) immigrants upon entry from countries with a TB incidence of more than 50 per 100,000; (2) follow-up screening of asylum seekers from countries with a TB incidence of more than 200 per 100,000; and (3) screening within ten years of arrival with refugees from Eritrea living in the municipality.

In Kazakhstan and Nigeria, with DGIS support, KNCV is “Building Models for the Future”; engaging private sector providers for TB, TB/HIV and LTBI management in accordance with the international standards of TB care. To support contact investigation for private sector clinic clients in Almaty, NGO’s are being prepared to take up this task: KNCV is developing Standard Operation Procedures and contact investigation algorithms for local NGOs based on the Dutch experience. The NGO network will receive training on contact investigation and the already piloted stigma reduction interventions (read more about KNCV’s work towards stigma reduction on page 12). This should result in identifying many more contacts who can benefit so much of taking preventive treatment. Population wise this will curb the ongoing spread of (drug-resistant) TB. As partner in the Unitaïd funded

IMPAACT4TB project, with The Aurum Institute in the lead, KNCV works at the frontline of the introduction of a newly WHO approved treatment for LTBI, weekly rifapentine and isoniazid for three months, a total of only 12 doses compared to 180 currently. This treatment (in short: 3HP) has a similar effectiveness to the old treatment (6-9 months of isoniazid monotherapy), but is much more likely to be finished. During 2018 KNCV supported Ethiopia, Tanzania, Malawi and Indonesia to prepare for the implementation of 3HP in 2019, including preparing studies to determine new optimal ways of accelerating the initiation of preventive treatment.

Future

The treatment of LTBI has been shortened in the last ten years from six to nine months to mostly three months, with treatments recommended by the WHO based on systematic reviews and meta-analyses. Already preventive treatment of only one month has been shown to be effective in HIV-infected people and seems to offer a good opportunity to further shorten the treatment in the near future. KNCV will continue putting all its efforts in promoting and guiding the increased uptake of the latest preventive treatment recommendations as this is a must for eliminating TB.

WHAT IS LATENT TB INFECTION?

LTBI can be considered as the presence of viable *Mycobacteria tuberculosis* in the body, which does not (yet) lead to disease as the immune system limits replication [1]. Because these live mycobacteria are not immediately detectable, LTBI is established in practice based on an immune response to mycobacterial antigens using the tuberculin skin test (Mantoux) or a whole-blood test: an Interferon-Gamma Release Assay (IGRA) [2, 3]. It is important to exclude active TB in people with a positive test, as active TB always requires treatment and the treatment is different from that of LTBI.

LTBI is the result of exposure to a patient with pulmonary tuberculosis. The risk of infection increases with the intensity and duration of exposure [4]. Most infected people never develop TB. The risk of progression from infection to disease is increased in young children, in people with reduced immune system due to, for example, HIV infection, or the use of immune suppressants, and in the presence of silicosis or fibrotic residual lesions [1, 4]. The risk of progression decreases sharply with time since infection [4].

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“The underpinning strategy for KNCV success has been ‘work with and through the government’”

INTRODUCTION TO THE COUNTRY OVERVIEWS

Throughout 2018 KNCV has been involved in the fight against TB in more than 25 countries.

As the lead partner of the USAID funded Challenge TB Program (CTB), we continued to provide quality technical assistance in 23 CTB countries through effective coordination of the consortium partners and direct involvement in innovative strategies like digital health, the introduction of MDR-TB medicines, and scaling up advance laboratory services.

In 12 of those CTB countries, KNCV has country offices and teams on the ground varying from less than five (Botswana) to more than 100 staff members (Indonesia). As a result of our efforts to diversify funding in most countries where we have established country offices KNCV is now implementing multiple projects. Besides that, KNCV continues to provide needs-based technical assistance to all relevant countries worldwide.

In 2018 the KNCV/CTB program continued to focus on strategies and interventions to improve case-finding, access to treatment, and quality care for all TB patients. This also included GeneXpert scale-up; the programmatic management of drug-resistant TB and new

drugs and regimens; as well as strengthening TB/HIV activities. KNCV provided technical assistance for Global Fund applications and the conduct of prevalence surveys for both TB drug susceptible and drug resistance TB.

KNCV, in addition to scaling up proven interventions, commenced strategic mainstreaming and transitioning of those activities to national and local government to ensure sustainability, local ownership, and commitment. KNCV participated in all events leading to and including the UN HLM on TB in New York and planned to follow up at country level to sustain the momentum.

KNCV is proud to report that over 20 countries are currently using the new diagnostics technology (GeneXpert) as the first line of test for TB diagnosis, have introduced the new MDR-TB medicines with excellent results even in high burden settings, all countries are transitioning to TB electronic reporting system including laboratory connectivity.

The underpinning strategy for KNCV success has been “work with and through the government” to ensure acceptability, sustainability, and scalable implementation.



Mustapha Gidado
Director Challenge TB



Diana Numan
Director Operations

KNCV OFFICES AROUND THE WORLD

KNCV is headquartered in The Hague, The Netherlands. As lead agency of the USAID-funded Challenge TB project we have country offices in eleven CTB countries and the East African Regional Program. Additionally, we provide technical oversight and quality assurance of interventions in ten countries led by other coalition members. We also support programs funded by the Dutch Ministry of Foreign Affairs (DGIS), Global Fund (GF), TB REACH, Unitaaid and industry (Cepheid) in several overlapping countries. Since 2018, we are also based in Washington, USA.

- 01 KNCV Tuberculosis Foundation Central Office in The Netherlands
Benoordenhoutseweg 46
2596 BC The Hague,
The Netherlands

Florence Nightingale Street
(Bell Harris Building)
Windhoek, Namibia
- 02 KNCV Tuberculosis Foundation in Nigeria
Block B, 4th Floor
Plot 564-565,
Independence Avenue
Central Business
District Abuja, Nigeria

KNCV Tuberculosis Foundation in the Republic of Tajikistan
37/1, Bokhtar Street,
Office 604 734025, Dushanbe,
Tajikistan
- 03 KNCV Tuberculosis Foundation in Ethiopia
Bole subcity, Woreda 03,
House Number 4-048
Addis Ababa, Ethiopia

KNCV Tuberculosis Foundation in Kyrgyzstan
19 Razzakov Street, Office 403
720040, Bishkek, Kyrgyzstan
- 04 KNCV Tuberculosis Foundation in Kenya
5th floor, Silkwood
Office Suites, Ngong Road
Nairobi, Kenya

KNCV Tuberculosis Foundation Representative Office in Central Asia
62/2 Bogenbay Batyr Street
050010, Almaty, Kazakhstan
- 05 KNCV Tuberculosis Foundation in Tanzania
Plot 8 & 10, Off-Haille
Selassie Road, Oysterbay
Dar es Salaam, Tanzania

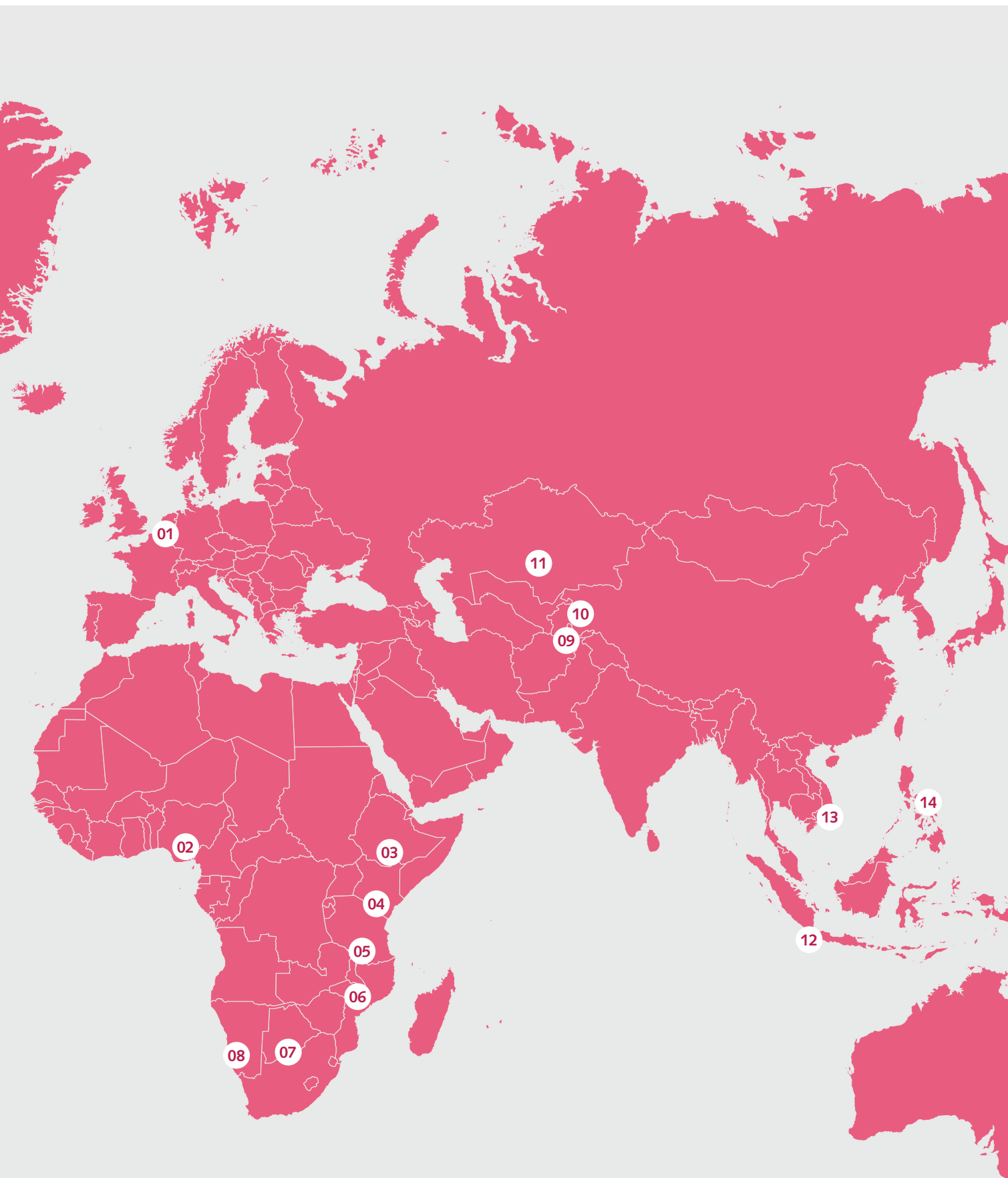
KNCV Tuberculosis Foundation in Indonesia
Gedung Menara
Bidakara 2, Lt.7, Jl. Jend.
Gatot Subroto Kav. 71-73
Pancoran – Jakarta
Selatan 12870, Indonesia
- 06 KNCV Tuberculosis Foundation in Malawi
Area 99, Plot 379
Lilongwe, Malawi

KNCV Tuberculosis Foundation in Vietnam
30 Mai Anh Tuan Str.,
Dong Da District
Hanoi, Vietnam
- 07 KNCV Tuberculosis Foundation in Botswana
Ministry of Health Head
Quarters
Private Bag 00269
Gaborone, Botswana

KNCV Tuberculosis Foundation on the Philippines
Unit 211 Cityland 10, Tower 2
154 HV dela Costa Street
Salcedo Village, Makati City
1227, Philippines
- 08 KNCV Tuberculosis Foundation in Namibia

KNCV Tuberculosis Foundation in USA
1050 K Street NW Suite 400
Washington D.C. 20001, USA





PROJECTS WORLDWIDE

KNCV experts work in projects in more than 25 countries worldwide to strengthen national TB programs and to drive innovations. We work through national and local health systems ensuring that interventions are aligned with a country's TB National Strategic Plan and fully integrated into a country's broader healthcare delivery system.

Project / Funder	Short Description	Countries
Challenge TB / USAID	<p>Challenge TB is USAID's 5-year flagship TB program with a funding ceiling of USD \$525 million. It is KNCV's fourth successive five-year USAID TB award. The three previous global flagship TB control projects were TB CARE I (2010-2015), TB CAP (2005-2010), and TBCTA (2000-2005).</p> <p>Challenge TB has three objectives, each with several focus areas for interventions:</p> <p>Objective 1: Improved access to high-quality patient-centered TB, drug-resistant TB (DR-TB) & TB/HIV services</p> <ul style="list-style-type: none"> - By improving the enabling environment - By ensuring a comprehensive, high quality diagnostic network - By strengthening patient-centered care and treatment. <p>Objective 2: Prevent transmission and disease progression</p> <ul style="list-style-type: none"> - By targeted screening for active TB - By implementing infection control measures - By managing latent TB infection. <p>Objective 3: Strengthen TB service delivery platforms</p> <ul style="list-style-type: none"> - By enhancing political commitment & leadership - By strengthening drug & commodity management systems - By ensuring quality data, surveillance and monitoring & evaluation - By supporting human resource development - By building comprehensive partnerships & informed community engagement. 	<p>Ukraine, Afghanistan, Kyrgyzstan, Tajikistan, Uzbekistan, Bangladesh, Cambodia, India, Indonesia, Burma, Vietnam, Botswana, DR Congo, East Africa Region, Ethiopia, Malawi, Mozambique, Namibia, Nigeria, South Sudan, Tanzania, Zambia and Zimbabwe</p>

Project / Funder	Short Description	Countries
Strengthen and sustain Dutch engagement in ODA for health (including R&D, HIV and TB) / Bill and Melinda Gates Foundation	This project is a partnership between Aidsfonds and KNCV to strengthen and sustain Dutch Government support for ODA (Official Development Assistance) for health (including R&D, HIV and TB). The project is geared to (1) reinforcing the multi-stakeholder coalitions on SRHR, PDPs and the Global Fund in the Netherlands (2) engaging this solidifying group of stakeholders as an unified advocacy voice on ODA for HIV and TB, including R&D; (3) stepping up policy education and underpinning coalition-based advocacy in policy briefs and jointly developed advocacy asks; (4) widening the political basis for support by reaching out to the public, involving youth and students, connecting to emerging themes such as resurging epidemics in middle income countries (e.g. the Eastern Europe and Central Asia region), health security and building linkages with academia and private sector actors. With this project, Aidsfonds and KNCV are working together to capture fully the political opportunities provided by AIDS 2018, hosted in Amsterdam, and the Union World Conference 2018, hosted in The Hague, as well as to build on international developments such as the WHO Ministerial Conference to End TB in the SDG Era in Moscow (November 2017) and the UN high level meeting on TB in 2018 in New York.	N/A
Treatment Adherence / Bill and Melinda Gates Foundation	<p>This Global Fund project seeks to address the key programmatic gaps, particularly that of finding the 'missing persons with TB' and addressing other related health system challenges towards achieving greater impact.</p> <p>The key strategic focus of the project is to:</p> <ol style="list-style-type: none"> Find the missing persons with TB Address the huge gap in multidrug-resistant (MDR-)/rifampicin-resistant (RR) TB detection and treatment in enrolment Address the low TB service coverage by rapidly expanding TB services Pursue an ambitious scale-up of TB services in the private-for-profit (PFP) facilities Address the suboptimal access to and utilization of GeneXpert MTB/RIF services Address issues of vulnerability by increasing efforts at case finding among key and vulnerable populations Increase access to TB/HIV services Address health system weaknesses and finance gaps that have 	Nigeria

Project / Funder	Short Description	Countries
SHARP (Strategic HIV and AIDS Response Program) / USAID	<p>The SHARP project will complement efforts of Challenge TB and the Global Fund in addressing existing gaps in both the HIV and TB programs in Nigeria.</p> <p>Objective 1: Improved HIV and TB case identification and linkage to care and treatment through efficient and targeted approaches</p> <p>Objective 2: Enrollment of patients on HIV/AIDS/TB therapy with adequate adherence and minimal loss to follow-up Including TB/HIV, laboratory services, HSS to support clinical service delivery.</p>	Nigeria
BMF (Improved TB/HIV Prevention & Care – Building Models for the Future project	<p>The BMF project aims to improve TB and HIV prevention and care in line with the Global End TB Strategy, the Sustainable Development Goals (SDGs) and the Fast-Track Strategy to End AIDS.</p> <p>The project focuses on system-related barriers to quality of care in the non-governmental and private health care delivery sectors, and to remove human rights and gender related access barriers to TB and HIV care and prevention. The aim is to ensure access to affordable quality care for vulnerable and marginalized key affected populations.</p> <p>The project's goals are achieved through three key approaches/ pillars. The three project pillars correspond to three levels of influence that are being targeted:</p> <p>Pillar I: Implementation Level</p> <p>Improve TB and HIV prevention and care by strengthening engagement of the non-public sector (private sector and civil society) through creation of replicable and sustainable partnership models.</p> <p>Pillar II: National Strategy, Policy and Program Level</p> <p>Improve Global Fund implementation through quality Long Term Technical Assistance (LTTA) to National TB Control Programs to make sure Global Fund grant and National Strategic Plan strategic objectives are met.</p> <p>Pillar III: International Strategy and Policy Level</p> <p>Optimize Global Fund Grant performance through strengthening of Global Fund governance and enhanced TB and HIV policies.</p>	Kazakhstan, Philippines, Nepal, Swaziland, Indonesia, Nigeria

Project / Funder	Short Description	Countries
<p>IMPAACT4TB (Increasing Market and Public health outcomes through scaling up Affordable Access models of short Course preventive therapy for TB) / Unitaid</p>	<p>Latent TB infection (LTBI) occurs when a person is infected with Mycobacterium TB, but does not have active TB. Unlike active TB, LTBI is not contagious. Approximately 10% of people with LTBI will go on to develop active TB. This is particularly true in people with a suppressed immune system or advancing age. The identification and treatment of people with latent TB is therefore an important part of controlling TB.</p> <p>The goal of the IMPAACT4TB project is to reduce TB incidence and deaths among people living with HIV (PLHIV) (15-49 years) and child contacts through sustainable implementation of affordable, quality-assured 3HP. 3HP is a short-course regimen of isoniazid and rifapentine weekly for three months for treatment of LTBI. The outcomes of the project are to: increase the number of PLHIV and child contacts under the age of five years starting treatment with affordable, quality-assured 3HP; and contribute to revising WHO preventive therapy management guidelines based on evidence generated from this project.</p>	<p>Ethiopia, Indonesia, Malawi, Tanzania (KNCV)</p>
<p>TREATS (Tuberculosis Reduction through Expanded Anti-retroviral Treatment and Screening for active TB) / EDCTP</p>	<p>The project consists of four linked studies that will provide definitive cluster-randomized evidence of the effect of a household-level combined HIV and TB prevention intervention on the burden of TB at population level.</p> <p>Outputs:</p> <ol style="list-style-type: none"> 1. Provide definitive evidence of the effectiveness of scaled up combination TB/HIV prevention interventions on TB. 2. Improve understanding of the best ways to measure the impact of public health interventions on TB burden. 	<p>Zambia, South Africa</p>
<p>PAVIA (PhArmaco Vigilance Africa) / EDCTP</p>	<p>Pharmacovigilance, also known as drug safety, is the practice of monitoring the effects of medical drugs after they have been licensed for use, especially in order to identify and evaluate previously unreported adverse reactions.</p> <p>PAVIA uses four distinct approaches:</p> <ol style="list-style-type: none"> 1. Address gaps and challenges in essential regulatory functions and legal frameworks; 2. Strengthen technical regulatory and PV expertise and systems through a collaborative model; 3. Evaluate the impact of the approach to learn about scalability and generalizability; 4. Strengthen organizational PV structures and involve stakeholders in each step of the process. 	<p>Zambia, South Africa</p>

Project / Funder	Short Description		Countries
TB REACH projects on treatment adherence /Stop TB Partnership	<p>Philippines</p> <p>The project aims to:</p> <p>(i) Implement 99DOTS adherence technology through National TB Program (NTP) accredited service delivery and supply chains, and</p> <p>(ii) Assess practicalities, scalability and impact on treatment outcomes of monitored self-administration and dose history informed differentiated care.</p>	<p>Tanzania</p> <p>The project aims to:</p> <p>(i) Implement 99DOTS adherence technology through National TB and Leprosy Program (NTLP) service delivery and current work processes, systems and supply chains,</p> <p>(ii) Build capacity within the NTLP regarding adherence technologies, and</p> <p>(iii) Assess practicalities, scalability and impact on treatment outcomes of monitored self-administration and dose history informed differentiated care.</p>	Philippines, Tanzania
	<p>NB: 99DOTS is a pharmaco-economic approach for monitoring and improving adherence to TB medication. 99DOTS introduces anti-TB blister pack wrapped in a custom envelope, which includes hidden phone numbers that are visible only when doses are dispensed.</p>		
TB REACH: Scaling up Innovative Delivery of TB Care to Nomadic populations in northeastern Nigeria / Stop TB Partnership	<p>The purpose of this project is to expand TB care in an innovative and collaborative manner through involvement of Nomadic leadership to ensure that patients and communities have ownership over the design, implementation and sustainability of the project, while retaining an evidence-based approach. The objective is also to stimulate policy change on the allocation of scarce resources towards improving the low TB case detection in Nigeria.</p>		Nigeria
Dutch TB Endowment funds	<p>For more than 20 years KNCV has received support from several TB endowment funds in the Netherlands that have been unified in the Dr. C. De Langen Stichting voor Mondiale Tuberculosebestrijding (SMT), the 's-Gravenhaagse Stichting, the Bakhuis Roozeboom Stichting and Stichting Sonnevandk. Jointly, these endowment funds have been supporting KNCVs Young Professionals Program through which KNCV enables young talented medical professionals to gain TB expertise and experience. So far, 2 young professionals have developed into KNCV consultants, working in the various projects listed above. Furthermore, the SMT and the 's-Gravenhaagse contribute to CTB and BMF country projects and specific patient centered care activities.</p>		All KNCV countries

Dewi from West Java, Indonesia suffered from TB for many years until she was finally treated with new drugs for drug-resistant TB. She is completely recovered and fights against TB Stigma.



East Africa Region: Implementing cross-border TB control activities

In 2018, the USAID-funded, KNCV-led Challenge TB East Africa Regional (CTB EAR) project supported the Intergovernmental Authority on Development (IGAD) to finalize and launch its TB, HIV and Malaria Strategic Plan for the period 2018-2025. This strategic plan provides a framework for engagement and coordination of partners supporting regional activities in IGAD. KNCV provided technical assistance to review the member states' TB guidelines to identify areas of convergence and divergence. The assessment of availability and capacity for TB diagnosis and treatment services and the TB referral system in selected border health facilities in 24 border districts across the IGAD member states was done. This formed the basis of planning for implementation of cross-border TB control activities and a referral system to be implemented in 2019.

The CTB EAR project supported the Supra National TB Reference Laboratory (SNRL) to finalize and test a pilot laboratory curriculum on Rapid diagnostics (First and Second Line Probe Assay) in order to support the uptake of the short treatment regimen (STR) for drug resistant (DR-) TB in the region. During the pilot training held in Kampala, Uganda a total of 20 participants (ten females and ten males). 14 participants

were from National TB reference laboratories (NRLs) in Eritrea, Burundi, Eritrea, Ethiopia, Kenya, Somalia, Sudan, South Sudan, Tanzania and Uganda. CTB EAR provided technical assistance to further enhance the capacity of new SNRL staff to: (1) Plan and execute technical assistance visit(s); (2) Define, report and present field findings to the stakeholders; and (3) Evaluate technical assistance processes and results. A total of 14 NRL staff members (six females and seven males) who are currently involved in the provision of technical assistance in the region took part in this competency development workshop.

The regional TB medicines supply chain portal developed for the East Central and Southern Africa Health community (ECSA-HC) region with CTB partner MSH was handed over to ECSA-HC for hosting and piloting by three countries (Tanzania, Rwanda, and Uganda). The three countries are using the portal to capture, collate, and create reports to disseminate TB commodities supply chain information including stock status, pipeline monitoring and selected supply chain key performance indicators. This will facilitate timely identification of countries with surplus or short expiry time anti-TB medicines to enable borrowing and redistribution of these in the region.



**KNCV
provided
technical
assistance
to review
the member
states' TB
guidelines**



Malawi: two important activities take off, the FAST strategy and TB LAM

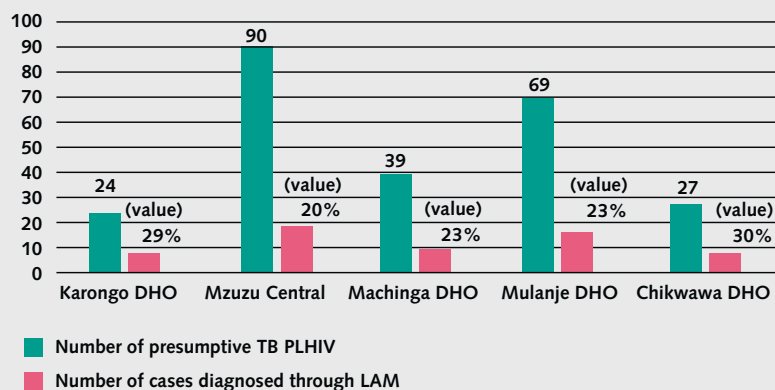
KNCV country staff implements the USAID-funded, KNCV-led Challenge TB project (CTB) in Malawi. Through a sub-award to Development Aid for People to People (DAPP) the so-called FAST strategy is being implemented in three high TB and HIV burden district hospitals and one central hospital from May 2018 onwards. FAST stands for Finding TB patients Actively, separating them safely and Treating them effectively. Thereby the FAST strategy aims at preventing and controlling TB spread through systematic screening of people who are at risk of contracting TB, fast-tracking them for diagnosis and linking them to treatment and care as quickly as possible. CTB and the National TB Program (NTP) orientated and mentored DAPP's FAST Promoters - volunteers - on how to implement the FAST strategy, working hand in hand with health facility staff. All

patients presumed to have TB were asked to provide a sputum sample that was then tested using Xpert, a rapid TB test that also detects drug resistance. After implementing the FAST strategy we saw a notable increase in the number of patients with presumed TB, the number of Xpert tests performed and the number of TB patients with a positive Xpert test among who also patients with drug resistant TB. The average time from submitting sputum to receiving results was reduced from three days to one day. CTB also supported the NTP to pilot a rapid TB urine test (LAM) for HIV positive patients with presumed TB in four district hospitals and one central hospital. The pilot sites were selected based on a high death rate among HIV co-infected TB patients. Out of 249 eligible patients with presumed TB, so far 58 patients were diagnosed with TB with the LAM test in the first four months of the pilot.



The average time from submitting sputum to receiving results was reduced from three days to one day

Figure 1: LAM Pilot Performance in five hospitals; September to December 2018



Nigeria: Implementing Wonders on Wheels for TB

In 2018, KNCV Nigeria, through the USAID-funded Challenge TB project, pioneered the use of two mobile diagnostic units (MDUs), called 'Wellness on Wheels' (WoW) trucks. The MDUs are fitted with digital X-ray and two four-module GeneXpert machines. The units provide rapid, same-day TB diagnosis for people from targeted communities. The MDUs were officially commissioned by the Nigerian Minister of Health and were fondly called 'Wonders on Wheels' by government dignitaries. The digital X-ray facility is complemented by a revolutionary technology called the Computer Aided Detection for TB (CAD4TB) software, which has high sensitivity and predictive value for detecting TB on X-rays.

The MDUs are strategically deployed to Nigerian communities that are at a very high risk of TB, including slum dwellings, prisons, HIV treatment clinics, etc. They undertake systematic screening of high-risk populations for TB in collaboration with community volunteers and state and local government TB control programs.

Between October 2017 to September 2018, a total of 5,356 presumptive TB patients were evaluated using digital X-ray, of which 4,861 were tested for TB with GeneXpert. 610 persons diagnosed

positive for TB, including 29 multidrug-resistant (MDR-TB) patients. To date, the two trucks have been deployed to four states in Nigeria. They have visited 16 prisons, where 777 persons with presumptive have been evaluated for TB. This led to the diagnosis of 112 patients with drug sensitive tuberculosis (DS-TB) and eight patients with MDR-TB. All diagnosed TB patients were promptly enrolled into TB care and treatment.

In recent times, the MDUs have also been deployed to hospital settings, where sick patients seeking care stand higher chances of having TB. Results from these settings have been outstanding and truly WoW! Notably, at the Infectious Disease Hospital Kano, within a week, 709 patients (343 females and 366 males) were screened for TB and 65 tested positive for TB.

The MDUs have proven very useful in expanding access in various settings, including bringing TB services to people's doorsteps and reducing catastrophic costs to patients. An unexpected result is the thousands of smiles of relief that we have seen with these units in motion thus far. Nigeria stands to provide technical assistance to countries seeking to operationalize similar interventions.



The two trucks have been deployed to four states in Nigeria. They have visited 16 prisons



Ethiopia: Ensuring basic TB services for the care of TB

The USAID-funded, KNCV-led Challenge TB project (CTB) is a major partner of the National Tuberculosis Program (NTP) in Ethiopia. In 2018, the CTB program supported the NTP in nine of Ethiopia's 11 regions, covering 92% of the total population. CTB played a key role together with other stakeholders in ensuring basic TB services for the care of TB, TB/HIV and multidrug-resistant (MDR)-TB patients were available. 111,133 drug susceptible TB (DS-TB) and 741 drug-resistant TB (DR-TB) patients were diagnosed and treated in 2018.

However, access to services remains crucial as almost one-third of TB cases are thought to be missed each year. To address this issue, CTB has provided both technical and financial assistance to help improve access to quality laboratory services. With the support of CTB and the Global Fund - another key stakeholder in Ethiopia - a total of 314 GeneXpert machines (a rapid molecular system for diagnosing TB) became available in Ethiopia. Utilization of the machines improved in 2018, and the number of GeneXpert tests tripled (90,011 in 2017 to 271,815 tests in 2018).

KNCV Ethiopia supported the strengthening of TB care at the community health care level, including ensuring that community care providers have the capacity to conduct TB case finding and provide treatment support. In 2018, 21% of all the TB cases detected were contributed to community level activities, and 19% of patients received their treatment via the support of community-based health staff. CTB intensively supported the implementation of the screening of close contacts of TB cases in Ethiopia. Contact screening has now been included in the national health management information system. In 2018, 104,600 close contacts of 28,111 TB patients were screened for TB. 1,948 had symptoms related with TB and 438 people amongst them were diagnosed with TB disease.

During 2018, Ethiopia started 83 DR-TB patients on the newly WHO recommended shorter treatment regimen and 39 patients on new drugs containing regimens. The safety of the use of these new drugs and regimens is important. Therefore, the team provided technical assistance to the NTP to introduce active TB drug safety monitoring systems, and developed tools that were introduced in all treatment centers to ensure continuous drug safety for patients.



Contact screening has now been included in the national health management information system



Tanzania: Finding and treating more missing persons with TB

The KNCV project in Tanzania successfully improved TB case detection and treatment. They expanded efforts to identify who was at greatest risk for TB and made it more convenient for them to be diagnosed. This was done using a network of clinicians who were trained to better identify TB and community volunteers who reached out to communities and supported them to be tested for TB. Once community members at greater risk for TB were identified, a network of motorcyclists was engaged to transport specimens coughed up from their lungs to test at the nearest TB diagnostic facility. These facilities, also built up by KNCV, contain a state-of-the-art technology called GeneXpert which rapidly and accurately diagnoses TB and is able to identify forms of TB that are resistant to standard anti-TB medicines. These efforts resulted in significantly more Tanzanians with TB identified and put on treatment, including drug resistant forms.

Further, KNCV has successfully advocated for TB screening among Tanzanian health care workers as they are often at high risk for contracting TB. KNCV supported the revision of the national TB workplace policy to include TB screening of health care workers. The policy resulted in action at the district and regional levels: over 12,000 health care workers were screened for TB and many were found to have TB disease and provided appropriate treatment.

KNCV was also instrumental in establishing a national integrated

specimen referral mechanism in which TB and HIV combined forces to transport diagnostic specimens. This will create efficiencies and lead to cost-sharing and cost savings. This will make the health system more robust and sustainable.

Over the last four years, KNCV has supported the highest level TB laboratory in the country, the Tanzanian Central TB Reference Laboratory, to improve quality of diagnostic testing and to receive international certification for a high quality standard. In 2018, the laboratory was awarded international accreditation for its high standards in TB diagnostics and laboratory quality management. In 2018, KNCV's efforts lead to Tanzania having an advanced case-based, TB electronic recording and reporting system at all levels of the health system. This has not been achieved elsewhere in sub-Saharan Africa. Moreover, KNCV spearheaded a TB self-screening and treatment adherence mHealth application. Communities can now self-screen for TB and get referrals to nearby health facilities. Patients already on TB treatment use the application to get more information and reminders.

KNCV has supported a low-cost distance learning videoconference network for the complex management of drug-resistant TB. This platform provides a weekly avenue for health care workers to share challenges and solutions, such as side-effect management of anti-TB drugs. Finally, the KNCV Tanzania finance department is now utilizing technology to transfer stipends to patients through mobile phones.



A network of motorcyclists was engaged to transport specimens



Botswana: More GeneXpert tests, better monitoring and new drugs

KNCV through Challenge TB (CTB) has been an important partner to the Botswana National Tuberculosis Program (NTP). KNCV provided technical expertise to the development of a five year (2018-2023) National TB strategic plan. This strategic plan was the main guiding document used for the application to the TB/HIV Global Fund (GF) request (2019-2021). KNCV supported the development of GF application and the whole cycle of grant making process. Global Fund granted Botswana a total amount of US\$ 15 million.

KNCV has furthermore been supporting the implementation of GeneXpert for TB diagnosis through regular mentoring and supportive supervision to all 34 GeneXpert facilities. This led to an increase in the number of GeneXpert tests to 17,833 tests in 2018 compared to 11,273 tests in 2017 and 4,892 tests in 2016. Hence, more patients are now receiving a more sensitive rapid test that is also able to detect (rifampicin) drug resistance ensuring patients are put on an effective treatment regimen. The remote monitoring of the GeneXpert devices is being facilitated through GxAlert - a software program

that is installed on each GeneXpert of the diagnostic network. Through internet, GxAlert reports real-time results from all connected GeneXpert machines. Over 82% (28/34) of the GeneXpert devices have been connected to GxAlert, as compared to about 15 devices (45%) in the year before. GxAlert has been also integrated with the electronic TB data management system (OpenMRS) with GxAlert transmitting/sharing lab results (every 30 minutes) with OpenMRS. This integration and SMS alert from GxAlert has reduced delays in the diagnosis and treatment initiation of patients.

KNCV also supported the introduction of new drugs (Bedaquiline and Delamanid) for treatment of Drug Resistant TB (DR-TB). KNCV helped to import Bedaquiline - donated by USAID - to treat 40 eligible DR-TB patients. About 13 DR-TB patients were treated with the new drug in 2018. Related to this KNCV also supported the development of active drug safety monitoring (aDSM) to ensure the safe use of the new medicines. This was complemented by regular supportive supervision and mentoring of the six centers assigned to treat DR-TB patients using these new drugs.



KNCV also supported the development of active drug safety monitoring



Namibia: Celebrating successes due to the introduction of new drugs

Namibia completed the first-ever national Tuberculosis (TB) Disease Prevalence Survey in 2018. KNCV staff, through the USAID-funded, KNCV-led Challenge TB (CTB) project, provided technical leadership, both locally and remotely. Findings will provide information on the true burden of TB and inform program interventions towards ending TB in Namibia.

Through CTB, KNCV also supported the country in the introduction of short treatment regimens (STR) and new drugs for treating drug resistant TB. KNCV country staff and consultants helped to update treatment guidelines, provided trainings, mentorship and clinical management. As a result of these efforts, 72 patients benefitted from STR while 87 patients started patient-tailored treatments containing new drugs (Bedaquiline and Delamanid). These new drugs offer improved health outcomes for patients who had given up hope for cure.

The first patients started taking these drugs in 2016 and were cured in 2018, a milestone that was celebrated by a visit of the US Ambassador, Lisa Johnson, together with representatives of the Ministry of Health and Social Services, to the Katutura Intermediate Hospital's

TB Clinic in the capital, Windhoek. They met with three young patients who have been successful treated from extremely drug-resistant TB. Lisa Johnson pointed out that tuberculosis is responsible for more deaths than any other infectious disease in the world, particularly among people living with HIV, and highlighted the significance of the KNCV Challenge TB Project in supporting the country's fight against the disease.

KNCV through CTB further supported integration of HIV care into TB treatment settings, by training, mentoring of health care workers and monitoring integrated TB/HIV services. Thereby, HIV-positive TB patients who received anti-retroviral treatment to control their HIV infection increased from 91% in 2017 to 97% and all the 2,441 (100%) newly enrolled people living with HIV (PLHIV) were screened for TB and 157 (6.4%) of them were diagnosed with TB.

KNCV country staff provided leadership in the TB/HIV component of a new quality improvement initiative termed "NamLiVE (Namibia Linkage, Viral load and End TB)" led by the health ministry and supported by PEPFAR implementing partners. Within two months of implementation, initiation of TB preventive treatment among PLHIV increased by 11% (from 25% to 36%).



These new drugs offer improved health outcomes for patients who had given up hope for cure



Kyrgyz Republic: Saves uncurable patients

As part of the USAID-funded, KNCV-led Challenge TB project (CTB), KNCV is helping the Kyrgyz Republic decrease its burden of drug-resistant tuberculosis (DR-TB) through the introduction of the newest drugs and treatment regimens recommended by the World Health Organization. After less than two years these were made available for patients in all regions of the country, bringing the Kyrgyz Republic to a leading position in the world's fight against DR-TB.

Now patients with non-complicated forms of multidrug-resistant (MDR) TB are being treated with a shorter regimen in half the time and with less pills and injections it used to take. Patients with more severe forms of MDR-TB or extensively drug-resistant (XDR) TB are prescribed an individualized regimen, specifically designed for them and reinforced with either of two new drugs, Bedaquiline and Delamanid. By the end of 2018, almost 1,000 Kyrgyzstani were benefiting from these life-saving treatments; already 110 patients have been cured, including

some who were severely ill for years and left helpless in their fight against TB. The success rate of the shorter treatment regimen for the 2017 cohort is nearly 80%, whereas previously only one in two were cured.

KNCV has also significantly increased the adherence to treatment thanks to a patient-centered approach. Every patient benefited from the constant support of a case manager who provided them with information, helped them deal with side-effects and find solutions to any problems. When necessary, patients were consulted by a psychologist and others were able to take their pills at home thanks to daily visits of a treatment support. KNCV also enrolled patients on video observed treatment, an innovative adherence technology that allows them to take their pills in the comfort of their home and at the time that is most convenient to them while working, studying, or looking after their children.

Thanks to the support provided by KNCV, the Kyrgyz Republic is now better armed to beat TB.



By the end of 2018, almost 1,000 Kyrgyzstani were benefiting from these life-saving treatments



Tajikistan: Expansion of new regimens with improved DR-TB diagnosis and treatment

The KNCV-led, USAID-funded Challenge TB project (CTB) supports the National TB Control Program (NTP) in Tajikistan to implement new regimens for treatment of drug resistant (DR-) TB patients. New regimens, shorter treatment regimen (STR) and individualized regimens (ITR) with new drugs gave a chance and new hope for DR-TB patients to cure from TB. CTB started implementation of new regimens in 2016 in two pilots and gradually expanded to 40 districts covering about 70% of the population of the country. The project builds capacity of the NTP in detection, diagnosis, patients' triage and treatment. In 2018 with CTB support more than 1500 TB and primary health care health providers were trained in DR-TB case management using new WHO recommended approaches. Throughout the treatment CTB provides a comprehensive technical support for clinical case management of patients on new regimens including the active Drug Safety Monitoring system to ensure safe use of the new drugs, and psychosocial support. From December 2016 to the end of 2018, 378 DR-TB patients were

enrolled: 164 on STR and 214 on ITR with new drugs. 61 patients from the first cohorts were successfully cured and more than 300 patients continue treatment on the new regimens. NTP Tajikistan recognized CTB established model of new regimens implementation as the best practice and encouraged using the same model in other regions of the country. CTB also contributed to improved case detection through ensuring improved access to TB diagnosis with a well-established and operational sample transportation system, the introduction of new rapid diagnostic technologies and the increase of TB and primary health care staff. As a result of interventions and increased investments, CTB reached a considerable reduction of the time gap from the moment the patient comes to the PHC to the time of enrollment, in most cases even from two to three months to 12 days. The CTB interventions contributed to an increase in detection of TB cases from 1,677 in 2017 to 2,735 in 2018 and DR-TB cases from 260 patients in 2017 to 450 in 2018.



New regimens, shorter treatment regimen (STR) and individualized regimens (ITR) with new drugs gave a chance and new hope



Indonesia: Important steps forward in 'following the patient'

Indonesia is the third highest TB burden country in the world. In 2018 the country was recommended by the WHO for important advances in finding the missing persons with TB, notifying 442,172 (53%) out of 842,000 estimated TB patients, 78,000 more than the year before. This was achieved by better engagement of both public and private hospitals and by implementing a nationwide electronic recording & reporting system, both with support from KNCV under the Challenge TB project (CTB). Efforts continued in 2018 engaging private providers and improving the reporting system, because despite the achievements 29% of diagnosed patients remained un-notified, mostly in the private sector and in large public hospitals. An estimated 18% was missed altogether. CTB provides evidence based technical support to the National TB Program (NTP) in Indonesia in many fields, much of which has been adopted in national policies, guidelines and capacity building approaches. The project helps the NTP in making strategic choices for a sustainable improvement, ensuring the highest impact with the (limited) resources available.

For drug-resistant TB, in 2017 the project introduced in Indonesia a short-term (9-11 months) treatment regimen, to facilitate scale-up of management of uncomplicated forms of multidrug-resistant (MDR-) TB and CTB also assists with the implementation regimens using new drugs for patients with complicated and serious forms of MDR-TB. To ensure quality treatment, the Ministry of Health partnered with CTB to introduce a 'follow-the-patient' approach,

succeeding in reducing the proportion of patients 'lost' from 23% in 2016 to 7% in 2018 in the implementing areas. CTB also introduced a quality self-assessment method for health facilities, clinical audits, and collaboration with community organizations to support the treatment of drug-resistant TB patients and improve treatment outcomes. These are important approaches to achieve improvement of MDR-TB treatment results during rapid scale-up of MDR-TB diagnosis and treatment.

Community health workers conduct home visits to screen for TB symptoms in household contacts of TB patients. In one district, over the course of three months, 272 contacts of 421 TB patients were referred for TB testing, resulting in 21 TB patients being found and accessing treatment. Preventive treatment was given to 52 children. The Ministry of Health and CTB started the roll-out of the WiFi TB app for the mandatory notification of TB patients by private doctors and clinics, a breakthrough to increase their involvement.

"District Action Planning" (DAP)" is a policy guiding the concrete commitment of local governments and ensuring availability of local funding in tackling TB, developed by the project in collaboration with the NTP and the Ministries of Health and Home Affairs in 2016. Since 2017 16 CTB-supported districts/cities have finished preparing DAP documents and 15 have been ratified by the Head of the Region. The total local government budget allocations for TB control continued to increase in 2018 in 13 out of the 16 districts.



Community health workers conduct home visits to screen for TB symptoms in household contacts of TB patients



Kazakhstan: Two projects with many successes

KNCV implements the DGIS funded project “Improved TB/HIV prevention & care– Building models for the future” in Almaty, the capital of Kazakhstan, together with AFEW. The project team organizes several activities aimed to bring the public and private sector closer together and improve TB/HIV prevention and care.

This means that KNCV and AFEW support Almaty government, private health facilities and civil society groups to build a strong and effective partnership. In 2018, we specifically focused on addressing stigma and discrimination together with government stakeholders, patient groups, health facilities and local NGOs. This has resulted in some positive changes over the last year. Patients have information on how to ask for good quality care, know where to go for treatment and support, and have a choice in seeking care in the public sector, private sector and civil society. In 2018, we have also doubled the number of private facilities we are supporting and through our collaboration with local NGOs, patients were provided with TB screening, legal advice and counseling. This led to the local NGO “Sanat Alemi”, which is supported through KNCV and AFEW under the Building Models for the Future Project, to receive an award for ‘Best psychological care for TB patients’. In 2018, KNCV and AFEW – proud of the work done – shared lessons learned

and best practices in many different fora ranging from national conventions, to the International Aids Conference and Union World Conference.

Under the USAID-funded, KNCV-led Challenge TB project in Kazakhstan, KNCV also provided technical support in the implementation of the new drugs and shorter treatment regimen in five regions of Kazakhstan (Pavlodar, Kyzylorda, Mangystau, Northern Kazakhstan, Western Kazakhstan). From the total notified 2.922 TB cases in 2018, 938 (32%) had multi-drug resistant tuberculosis. By December 2018 there were 216 patients enrolled on individual treatment regimens containing new drugs and 115 patients on shorter treatment regimen. In order to ensure quality of treatment, KNCV focused on improving of the clinical management through trainings, workshops, on-the-job trainings, supportive supervision and on-distance counselling. Also, KNCV supported the development of tools for easy clinical monitoring of patients on treatment. These tools allow to closely monitor treatment and adverse events, so clinicians can timely take necessary measures to prevent development of serious adverse events. The use of the tools was very instrumental in improving the quality of care and as a result, patients better tolerated drugs and didn't interrupt treatment. Now, more and more patients with drug resistant tuberculosis would like to be treated with the new drugs.



In 2018, we have also doubled the number of private facilities we are supporting



Vietnam: scaling-up the GeneXpert platforms

In Vietnam, the KNCV-led, USAID-funded Challenge TB project (CTB) is making a positive difference. CTB has continued to provide technical expertise in the scale up of GeneXpert testing for key affected populations. It also supported Vietnam in its readiness to smoothly transition to the new GeneXpert Ultra testing devices that have a higher sensitivity to TB; thereby ensuring uninterrupted services.

CTB also supported the development of an approach to increase TB case finding in high risk groups, in particular people living with HIV (PLHIV) in the provinces of Nghe An, Dien Bien, An Giang, Dong Nai and Tay Ninh. This approach was implemented in 16 HIV outpatient clinics (OPCs) in these provinces and preliminary results showed a high prevalence / case detection of 541/100,000 (bacteriological confirmed) among the PLHIVs attending these OPCs.

Further, the scale-up of programs for the programmatic management of drug resistant TB is well underway in Vietnam. KNCV continued playing an important role in providing technical assistance to the national TB program (NTP) in terms of policy development, program development, and implementation and quality assurance of Programmatic Management of Drug-Resistant TB (PMDT) programs. Vietnam pioneered the patient triage approach for drug (rifampicin) resistant TB patients. This is

a process of rapidly determining the best treatment for patients based on their specific needs and anticipated outcome of care. Through this approach, in 2018 alone, 3,254 multi-drug resistant-TB patients were diagnosed. Among them 2,120 (67.4%) patients started treatment with long conventional regimen, 991 (31.6%) started on the shorter 9-months' regimen using Levofloxacin. The treatment success rates were 75% for the long conventional regimen and 80% for the shorter nine-months' regimen. KNCV has continued to provide technical expertise to the NTP in the implementation of the second National TB Prevalence Survey (TBPS). It is anticipated that this important survey (which will conclude in 2019) will help getting a more precise estimate of the current burden of TB disease in comparison with the data collected in the first TBPS done in 2006, and demonstrate the impact of the combination of public health interventions and demographic and socio-economic change over the past ten years. This survey will also provide essential information for developing the Vietnam TB elimination strategy and estimating funding needs for interventions. As Vietnam is aiming to be one of the first Asian countries to go into the TB elimination phase, documenting the Vietnamese experience will be an important contribution to the global elimination effort.



The scale-up of programs for the programmatic management of drug resistant TB is well underway



The Philippines: Improving TB/HIV prevention, and a new digital tool

2018 proved to be an interesting year for KNCV in the Philippines. We continued our close and successful cooperation with Hivos for our DGIS-funded project Building Models for the Future (BMF). In addition, KNCV started an exciting new project funded by the STOP TB Partnership focused on introducing new digital tools.

The BMF project started in 2017 in Metro Manila. Together with consortium partner Hivos, KNCV aims to improve TB and HIV prevention in the non-public sector. This means that KNCV works closely with private health facilities and civil society groups to improve the quality of care in private facilities and ensure the voices of patients are heard. The type of TB facilities we worked with in 2018 vary, ranging from private hospitals, to clinics in shopping malls to charities to Sexual and Reproductive Health clinics. It allows the project to reach different populations in key settings. Last year, two participating clinics were

so enthusiastic about the work we do, that they 'self-replicated' the project model of TB/HIV service integration and introduced it in new settings. This means that the project increased its support by tripling its number of clinics. In addition to the work in private clinics and civil society, KNCV and Hivos work in close cooperation with the government. In 2018, KNCV and Hivos developed a HIV screening guideline and training curriculum on request of the National HIV Program. When adopted, the guideline will really help facilitate HIV screening amongst TB patients. As TB remains the leading cause of death for people living with HIV (PLHIV); this is an important milestone. In 2018, KNCV also started the TB REACH project in the Philippines. The project will introduce a digital tool to patients in private clinics in Metro Manila that will empower patients to accurately report their daily treatment adherence from the comfort of their own home. Project preparation started in the last quarter of 2018 and patient enrolment will start early 2019.



Together with consortium partner Hivos, KNCV aims to improve TB and HIV prevention in the non-public sector





Photo: Berhan Teklehaimanot

STRATEGIC GOALS 2018

The progress towards KNCV operational key performance indicators is presented below, based on national data for 2014 till 2017 from eleven 'target countries', where KNCV has country offices and comprehensive engagement over the period of the KNCV strategic plan: Botswana, Ethiopia, Indonesia, Kazakhstan, Kyrgyzstan, Malawi, Namibia, Nigeria, Tajikistan, Tanzania and Vietnam. Next year the report will also include information from other countries where KNCV started later and/or where KNCV has had substantial input on selected topics without a country office. National data were obtained from WHO's TB global tuberculosis data base (<https://www.who.int/tb/country/data/download/en/>). Project specific information is derived from 2018 project reports.

1) Finding more patients and reducing mortality

Over the period 2014 to 2017 in all KNCV supported countries the total number of TB patients diagnosed and registered for treatment increased with 18% from the 2014 baseline, compared to 7% in 2016 and bacteriologically confirmed patients with 12% from the 2014 baseline, compared to 5% in 2016.

Figure 1 shows the overall percentage increase in TB notifications per year, compared to the previous year, showing a real acceleration of case finding in 2017, a trend which continued in 2018 (final annual data are published by countries mostly between April and June, after validation).

However, this figure masks the different epidemiological situations in which KNCV works, with case finding varying from several thousands (2,000 in Botswana) to several hundred thousands TB patients notified per year (442,000 in 2017 in Indonesia and even more in 2018).

Therefore Figure 2 shows the notification as percentage of the estimated number of cases occurring every year (case detection rate, blue bars). While Kazakhstan has a decreasing trend in absolute number of patients notified, this can be interpreted as a reflection of a nearly full treatment coverage (100% in Figure 2) in a declining epidemic; stable numbers of patients detected over the years in Botswana and Vietnam point towards increasing treatment coverage (Figure 2) in a declining epidemic. The increasing trends in notified patients in Indonesia, Malawi, Nigeria and Tanzania are the result of targeted approaches to increase diagnosis, treatment and notification in countries with a low case detection rate.

Figure 1: Trend in acceleration of case finding compared to the previous year in 11 KNCV supported countries, 2014 - 2017

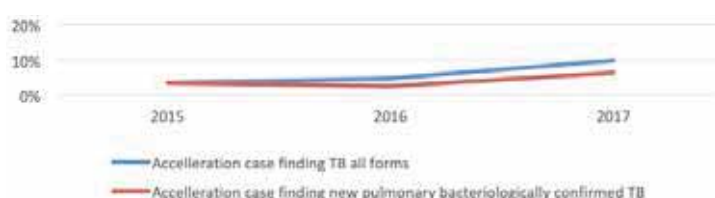
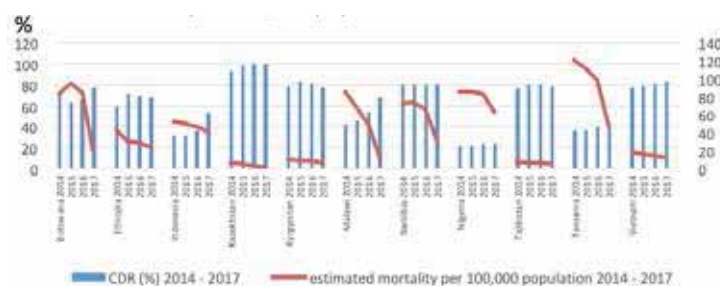


Figure 2: case detection rate (%) and estimated mortality per 100,000 population 2014 - 2017



In Figure 2 the orange lines represent the trends in TB mortality per 100,000 population.

The overall 2% globally (Global TB report 2018) of the TB epidemic contributes to the overall decline in mortality. The impact of improved access to HIV treatment for co-infected TB patients is clearly visible, especially Botswana, Malawi, Namibia and Tanzania, where TB mortality is driven by (untreated) HIV co-infection. In countries where TB mortality is driven by poor treatment outcomes for MDR-TB, rapid expansion of effective treatments for drug resistant TB is also an important factor contributing to the decline in mortality, especially in high MDR-TB burden countries (Ethiopia, Indonesia, Central Asia, Nigeria, Vietnam). In countries like Malawi and Indonesia also activities to find, diagnose and treat missing people with TB impact TB survival.

2. Improving treatment completion among drug sensitive TB patients

Improving and maintaining treatment success among patients with drug susceptible TB, aiming for at least a 90% treatment success rate, continues to be an area of concern. Especially with increasingly diverse and difficult to treat patient populations (based on active case finding and therefore reaching patients living under challenging social circumstances and /or having other diseases as well) and inclusion of patients treated by a range of non-National Tuberculosis Program (NTP) providers puts pressure on the treatment success rates: while many non-NTP public and private providers do a very good job in diagnosing and treating TB, some follow sub-optimal methods with less good results. As illustrated in Tables 3a and 3b the trend differs per country and does not yet show the overall intended decline of mortality and improved treatment success; however, by 2020 improvement is expected from the expansion of diagnosis and treatment of MDR and HIV among TB patients and more patient-centered organization of TB services, like decentralization of patient care, as well as the appropriate use of digital adherence tools and patient support.

3. Treatment for patients diagnosed with drug resistant TB

The scale-up of MDR-TB treatment capacity 2015 – 2018 (preliminary information) is shown ►

Figure 3a: Proportion of registered TB patients that died, 2014, 2015 & 2016

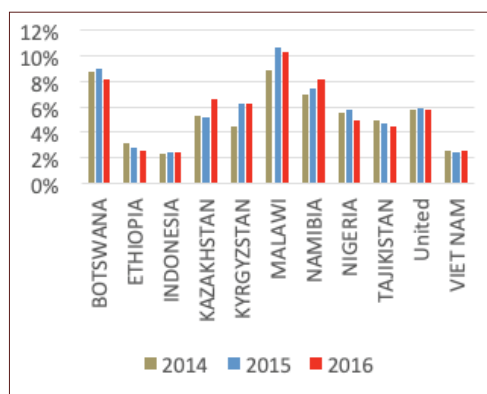
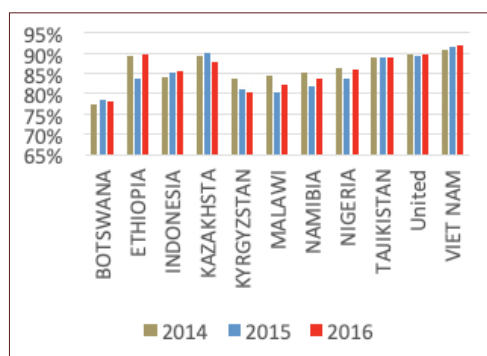


Figure 3b: Proportion of registered TB patients treated successfully 2014 - 2016



in Figure 5. The figure shows several important achievements. Kazakhstan is leading the way, being the first MDR-TB high burden country managing to overcome the MDR-TB epidemic: the country continues to diagnose and treat all MDR patients that occur annually; in line with the declining epidemic the number of patients treated decreases every year.

Indonesia is achieving remarkable scale-up of MDR-TB treatment enrolment, by decentralizing treatment initiation for uncomplicated MDR-TB from provincial hospitals to selected district hospitals and the concurrent roll-out of the shorter MDR-TB treatment regimen. Also Nigeria, Tajikistan, Tanzania and Vietnam are successfully scaling up MDR diagnosis and treatment enrolment, increasingly succeeding to close the diagnosis - treatment gap. The trends were continued in 2018.

While PMDT scale-up is impressive, continued rapid expansion is planned to ensure diagnosis and treatment for all MDR patients among the total estimated number of TB patients every year occurring in the countries: 24,000 in Nigeria (5400 among notified), 23000 in Indonesia (12000 among notified), 6600 in Vietnam (5900 among notified), 5500 in Ethiopia (2700 among notified).

4. Testing of TB patients for HIV access to antiretroviral treatment

Continued attention for HIV testing of TB patients has shown results (Figure 6), with ten out of the 11 countries reaching good coverage (6 already achieving over 90%), while four are testing between 85 and 90% of TB patients for HIV and closing the gap. This includes all KNCV supported countries with a high HIV prevalence.

Globally Asian countries tend to be behind in HIV testing, as with lower prevalence of HIV the yield of testing in most Asian countries is low compared to Africa. Hence less motivation for testing. Also, in most countries in Asia HIV is not a generalized epidemic, but one of key populations surrounded with stigma and social exclusion (drug addicts, msm, prostitution). Therefore, in Asia, the emphasis for HIV testing traditionally has been on key populations. While Vietnam adopted HIV testing for TB patients early on and is now achieving 85%

Figure 5: Scale-up of MDR-TB diagnosis and treatment in KNCV supported countries 2015 - 2017

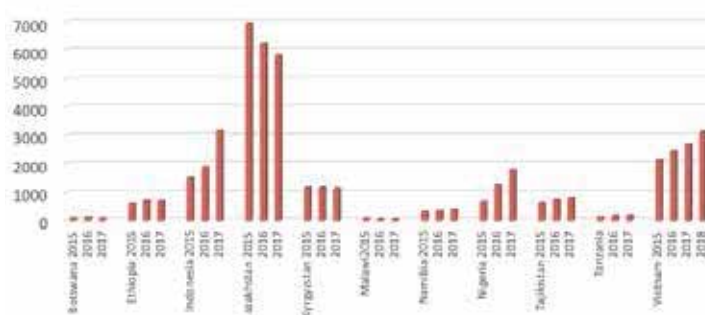
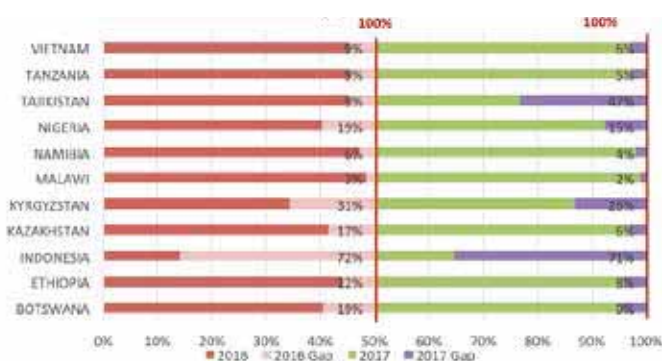


Figure 6: Proportion of TB patients 2016 - 2017 tested for HIV and testing gap



Figure 7: Proportion of TB/HIV patients receiving ARVs and treatment gap 2016-2017



coverage, Indonesia only recently started implementing HIV screening among all TB patients: in 2017 HIV testing coverage increased from 13% in 2016 to 29%, and is still increasing throughout 2018, but still far below the required level. Early success, however, are seen from the Joint Service Delivery (JSD) approach implemented by the CTB project in collaboration with other USAID partners, in Jakarta. In the project sites in 2018 92% of TB patients knew their HIV status, compared to the previous year, when only 47% of TB patients had been tested for HIV. Towards the end of 2018 scale-up of the JSD approach developed in Jakarta was being introduced in more provinces.

KNCV continued promotion and facilitation of ARV treatment access for patients with TB/HIV, especially by supporting the introduction of joint TB/HIV service delivery and furthering patient centered approaches. Access to antiretrovirals (ARVs) for TB / HIV patients (Figure 7) increased in 2017 in nearly all countries, the largest gap still in Indonesia, where in 2017 2244 TB/HIV patients were provided with ARV's compared to 757 in 2015. Under the JSD approach in Jakarta, in 2018 the percentage of TB/HIV patients receiving ART already increased from 30 percent in 2017 to 53% in 2018 (incomplete data). The 47% gap occurring in 2017 in Tajikistan requires further exploration.

6. Measuring catastrophic health care expenditures

In 2017 through 2018 under the CTB project WHO developed a handbook for the implementation of catastrophic cost surveys. Many KNCV supported interventions are focused at increasing access to diagnosis and treatment of TB like decentralization of diagnostic and treatment services, diagnosing patients in the communities and making services more patient friendly. KNCV also supported countries to ensure timely disbursement of funds available for MDR-TB patients to compensate for their treatment related costs. These interventions are expected to reduce the proportion of patients experiencing catastrophic costs; however, over 2018 no new studies were done to measure the effect on catastrophic costs for patients and no progress was made towards the development of routine surveillance of catastrophic health care expenditures by patients. ◀



A TB patient in Kazakhstan expresses that she felt 'fear, pain and anguish all at the same time' when she was ill.



A child under contact investigation in Addis Ababa.

ORGANIZATIONAL HIGHLIGHTS

Member of Parliament Anne Kuik becomes TB ambassador

CDA's Member of Parliament Anne Kuik is the first Dutch Member of Parliament to sign the Barcelona Declaration—the international document in which politicians commit to the fight against TB. KNCV greatly appreciates Kuik's decision to become a TB ambassador.

2,300 politicians from 130 countries preceded Anne Kuik (31) in signing the Barcelona Declaration. They are united in the Global TB Caucus. Anne Kuik: "It is high time for the Netherlands to join the Caucus. Many people think that TB is a disease of the past, but it most definitely is not: TB is still rampant in Asia, Africa and Eastern Europe. Indeed, we ourselves may become infected when we visit these regions, either for work or holiday, and bring the disease plus associated consequences back to the Netherlands. Every day, over 4.000 people die from TB, even though it is a treatable disease. Together, we can eliminate TB worldwide. Of course, merely signing the Barcelona Declaration won't get us there. In the coming months, I will be campaigning for the global fight against TB."

Nine Dutch buildings lit up in red to commemorate World TB Day

World TB Day is commemorated every year on March 24th to raise public awareness of the devastating health, social and economic impact of TB. KNCV participated in the global "Light Up the World for TB" initiative which is organized by the Stop TB Partnership. This initiative stimulates countries to illuminate their iconic landmarks in red to demonstrate their commitment to ending TB.

This year no less than nine buildings in The Hague and Hilversum were lit up in red, including: The World Forum, KNCV

Tuberculosis Foundation Central Office; Grote Kerk (or The Big Church), Paard van Troje, Madurodam, Amarath Kurhaus Hotel, Zuiderstrand Theatre, the wheel at SkyView Pier and Sanatorium Zonnestraal. Madurodam and Sanatorium Zonnestraal both have historical connections with TB. Madurodam is a miniature theme park which was first created to support students with TB, so they could continue their studies whilst receiving treatment. From the 1920s through to 1950s, Sanatorium Zonnestraal cared for TB patients. It remains a healthcare facility.

CPC Run raises funds for food support in Tajikistan

Employees of KNCV ran on 11 March to fundraise for food support in Tajikistan. Tajikistan through Challenge TB, a USAID-funded and KNCV-led and managed project, has made significant progress in the management of multidrug-resistant tuberculosis (MDR-TB) with the introduction of new and shorter regimens recommended by the World Health Organization (WHO). Despite the progress made to combat MDR-TB, access to healthy, nutritious food is still a major issue. Good nutrition has long been an important part of the treatment for TB. Common symptoms of the disease, including weight and appetite loss, can constitute a vicious cycle further putting the patient's life at risk. Yet due to monetary constraints, patients undergoing treatment for MDR-TB at the Machiton Hospital in Tajikistan are provided with only one cup of soup a day in addition to bread and tea. This is simply not enough to meet the nutritional needs for these patients.

The hospital has done much to improve the situation by obtaining a cow, which the locals help to milk and grow their own vegetables. Unfortunately, this is only a stop-gap measure until a more sustainable solution can be found. The € 3.660 KNCV raised with the CPC Run hopefully will contribute.

01: CDA's Member of Parliament, Anne Kuik, signs the Barcelona Declaration.

02: The Grote Kerk in The Hague lights up red to commemorate World TB Day.

03: Employees of KNCV ran to collect money for food support for MDR-TB patients in Tajikistan.



01



02



03

Good
nutrition has
long been
an important
part of the
treatment
for TB

THE ORGANIZATION IN 2018

In 2018 the focus of our activities has been the successful implementation of projects, the preparation for the UNHLM and the 49th Union World Conference on Lung Health as local host in The Hague and the further streamlining of our processes and procedures. Compliance with the newly introduced EU General Data Protection Regulation (GDPR) was an area of attention as well.

KNCV Tuberculosis Foundation organizational structure is based on three organizational pillars: Technical, Finance and Operations divisions. In addition to these three divisions we have overarching supporting units: The Executive Office, Human Resource Management, Communication and Fundraising, Resource Mobilization, Facilities and IT, and International Policy and Advocacy.

This chapter gives an overview of the activities of the divisions Operations and Finance and the supporting units. The activities of the technical pillar are described in separate chapters.

Operations Division: the key to successful project implementation

Main focus of the Operations division in 2018 has been to ensure all KNCV projects are successfully implemented and have achieved the project results we aimed for, all within relevant internal and external rules and regulations and within agreed time lines and budget. This year we also supported and participated in the 49th Union World Conference on Lung Health as local host in The Hague.

We organized efficient and effective project management in multi-disciplinary country and project teams. In 2018 we continued to optimize the functioning of these multidisciplinary country teams, looking for the required balance between technical and administrative issues in collaboration with the Technical division. We optimized operational country support, and strengthened country offices in operational systems. The team also contributed to project development and organizational operational management.

For the Challenge TB project (CTB) the Year 4 workplans have been implemented in all relevant countries. New plans for Year 5 have been developed based on USAID contracted time lines, working

towards closing out the project at the end of September 2019 as the outcome of the requested for a no cost extension for a maximum of six months for a limited number of countries and activities is still pending. We continued to manage the project implementation in the KNCV-led countries which all have a KNCV country office. These are Botswana, CAR-Tajikistan, CAR-Kyrgyzstan, East Africa Region, Ethiopia, Indonesia, Kazakhstan, Malawi, Namibia, Nigeria, Tanzania and Vietnam.

We are happy to see that in 2018 the project portfolio of KNCV further diversified. To oversee the total project portfolio, we used a project tracking system and reporting tracking tools and financial status overviews per project for ongoing monitoring. We have extended our knowledge on donor rules and regulations for new funders such as Unitaids and EDCTP. The organizational capacity assessment implemented by an external party on KNCV as a prime recipient as required by Unitaids was completed successfully. No major issues related to Project management, procurement and M&E were identified.

The procurement processes done in 2018 have been supported by their relevant country teams, as well as by the appointed procurement focal point. All procurements are successfully implemented.

There was no need to involve an external procurement support party this year. Standard operating procedures have been developed further and together they form a KNCV toolkit with all relevant templates for both CTB as well as non-CTB projects to facilitate project management in a multi-donor environment both at central office level as well as at Country office level. Related to CTB timelines a detailed close out check-list, including time line, has been developed and has been shared with all Country offices.

The updated KNCV travel policy has been implemented and the digital travel approval process is fully operational. Throughout the year we maintained the resource planning system in Sumatra in collaboration with all divisions with the focus on managing information flows, accuracy and we further developed standardized reports to meet information needs from different divisions, starting with individual workplan level and project level to unit and organization level.

Related to security management KNCV continued to work with a part time Security Advisor. The strategic security committee (Head of HRM, Security advisor and the Director Operations) followed up on all relevant security related issues on regular base. KNCV's Security framework document has been updated and made available to the entire organization. The KNCV Crisis management protocol has been updated and the Security Crisis management team (Director Operations, Head of HR, Director Finance, Head of Communications, Security advisor and secretary) participated in a table top exercise/training testing the protocol, facilitated by an external security specialist.

Finance Division

In 2018 both the statutory audit and the USAID required Challenge TB project audit were finalized with a good result. Feedback from external auditors included KNCV being 'best in class' and 'most organized client'. We are proud of this result, but will continue to focus on improving our internal controls and systems to keep up our performance and continue to comply with high accountability standards. During 2018 all country offices were visited for an internal audit. Most also had an external audit. Outcomes of these internal and external audits are shared with the audit committee annually. At the end of 2018 an online invoice approval system was introduced allowing for remote approval of invoices for payment, based on KNCV's authorization matrix. The system also allows for a complete online archive of all paid and pending invoices.

Resource Mobilization: Broadening our funding base

The year 2018 marked the intensified coordination between advocacy, communications, resource mobilization and technical areas in order to ensure optimal planning of focus, timelines and messaging and increase visibility and recognition of KNCVs expertise both in the Netherlands and internationally. The 49th Union World Conference on Lung Health in The Hague provided an unprecedented opportunity to show all stakeholders the strong technical capacity and innovation force of KNCV, beyond the already well-established TB research and practitioners network in the Netherlands and internationally. KNCV and partners were able to showcase their work at the Holland Pavilion during the conference. We explored options for increasing the funding base and engagement with major donors, corporate foundations and private foundations through more visibility and engagement. The conference was a major event to showcase the achievements of the USAID Challenge TB project, highlight collaboration with coalition partners, and foster partnerships with existing and potential new partners and donors. These efforts are directly linked with the enhanced attention for TB and its investment case in the course of 2018 as both the 49th Union World Conference on Lung Health in The Hague and the UN General Assembly special session in New York put the spotlight on the importance of combatting MDR-TB in the AMR agenda.

KNCV is in an ongoing process to diversify its funding base. In the course of 2018 KNCV led several consortia that were awarded funding from TB REACH and Unitaid in the area of treatment adherence through digital health solutions. KNCV also started new partnerships around TB/HIV co-infection, personalized medicine and MDR-TB diagnostics, treatment and prevention for current and future funding opportunities.

The strategic decision related to KNCV's ambition to ensure the sustainability of selected country offices in key countries beyond the Challenge TB project, was taken forward in 2018. KNCV prioritized the sustainability of the country offices through investments in enhanced external communications and institutional fundraising capacity and skills building. Where feasible, KNCV has registered local entities in order to foster local ownership and to be able to receive funding in-country. Through a special financial contribution from the 'Dr. de Langen Stichting voor Mondiale Tuberculosebestrijding' ►

KNCV was given the opportunity to invest in the proposal development skills of selected country offices. Over the course of 2018 the KNCV country office in Nigeria and partner organization Yayasan KNCV Indonesia were awarded grants from the Global Fund in the new funding cycle 2018-2020. The country offices in Ethiopia and Tanzania are part of the implementation of the KNCV projects funded by Unitaid.

At the end of the year, KNCV and partner organization Yayasan KNCV Indonesia also for the first time participated in a trade mission, organized by RVO, to Indonesia. The mission provided KNCV with the opportunity to connect with known and unknown partners in the country and businesses from the Netherlands. The mission has resulted in the development of a potential collaboration with FMO, a public-private investment entity in Indonesia and Delft Imaging Systems.

Campaigning and Private Fundraising in the Netherlands

Our campaigning and private fundraising activities in The Netherlands focused on creating opportunities to be well noticed by different kinds of stakeholders and rank KNCV top-of-mind. We started with World TB Day in the first quarter of 2018. We successfully launched an awareness campaign for the Dutch audience with the tagline: 'Iedereen kan de tering krijgen, maar het hoeft niet'. The impact of the campaign was great. More than 4 million people saw (parts of) the campaign, through ads, tv, online and social activities. In the Netherlands, a list of nine impressive buildings were lit up in red on 24 March, as part of an international TB awareness campaign. The Hague was the city worldwide that had most buildings lit up, which was very much appreciated by the worldwide TB community.

We also received a lot of media attention for the first United Nations General Assembly devoted to TB in New York. In September, parliamentarian Anne Kuik, our 'tering-ambassadeur', made headlines on various websites, on social media and in the newspapers. Our press releases, which emphasized the need for global political commitment and the Dutch engagement in TB, led to several publications in various Dutch media.

In July, we launched our exposition 'A Story of Hope'. It showcases the powerful and hopeful message that can be derived from the history of Dutch TB control for countries still dealing with high TB burden. The exposition is designed to travel to various countries where KNCV is working. Its journey started at the Atrium of the Town Hall in The Hague. 'A Story of Hope' also formed the kick-off of KNCV's

115 years anniversary. The exposition was very well received by the public.

The ultimate highlight of this year took place in October with the 49th Union World Conference in The Hague. Our role as local host, our branding and the impact on the international conference was a big success. We invited donors and (ex-)patients to come to the conference during a Dutch afternoon. Our KNCV stool test was breaking news during the conference and received headlines in both the national and international press. Due to the news of the stool test we reached an estimated 277 million people. We supported our presence at the conference with a wide range of branding materials to reflect what we stand for: technical expertise, optimism and a clear mission: A World Free of TB.

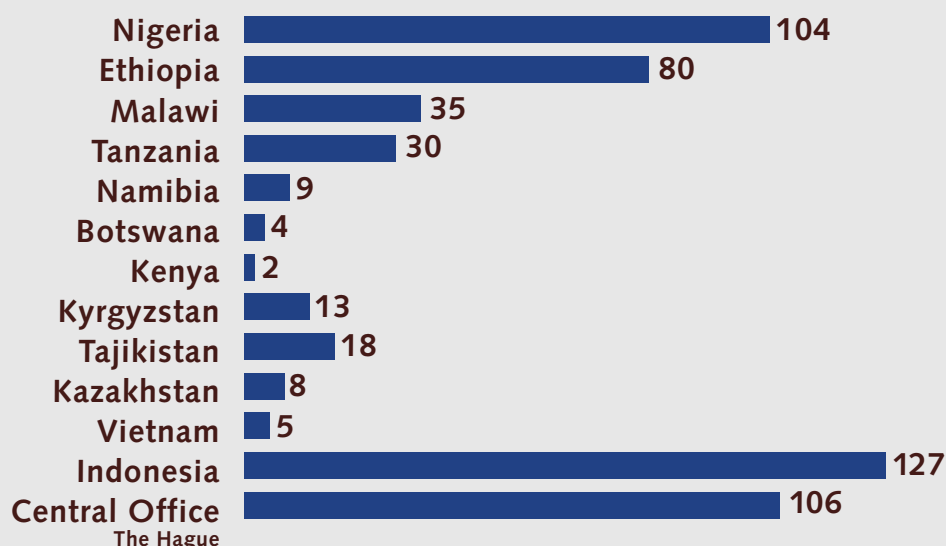
This year the overall private fundraising results turned out slightly better than last year, but below budget. This is mainly explained by our aim for extra income from corporates and business partners to support our work, which resulted in less income than planned. The business market is not easily convinced to get involved: it needs a specific approach and requires investment in more market research. We are recalibrating our strategy to involve these important partners. The income from the lotteries is an important part of our core-funding. As a new beneficiary of the Nationale Postcode Loterij, we were able to receive extra project-funding and gain broader communication opportunities.

The number of active donors unfortunately decreased at the end of 2018 to 18,247. In 2018 we stopped with the door-to-door fundraising. It did not show enough longer-term results, given the investment it needed. This resulted in less new donors, but also less budget invested. We are developing and testing new ways of fundraising in 2019 and 2020, in order to attract more involved new donors. The income from legacies is higher than budgeted and more than last year.

The website, online activities and social media now form a more integrated pillar of the fundraising and communication strategy. We improved the usability of our website: both international and national. We published videos on specific subjects such as the Story of Hope exposition. And we launched the 'Dwalen in verhalen' (literally translated: 'Getting lost in Stories') online platform. The launch of the platform was accompanied by a media- and direct media campaign. The results show how involved a large part of the 55+ audience in the Netherlands is with TB and how eager they are to share stories. We are using this particular platform to connect with our target audience and form the foundation of our fanbase. ►

HRM: SOCIAL REPORT 2018

STAFFING PER COUNTRY:



- In 2018 HRM set up an Employee Self Service (ESS) part in Insite (personnel system). This will give employees access to ESS and will enable them to review their personal file, pay slips/annual statements and manage/update their own personal details.
- Also, anticipating on the expected closure of the one of our largest projects in 2019, in 2018 HRM developed a Social Plan for the employees in close consultation with the Works Council.
- In the past years the HRM unit has worked on a new salary house. The proposal for the new salary house was submitted to the Works Council at the end of 2018. This will be followed up in 2019.
- Also in 2018 the final steps were taken in the development of the new performance development system in Insite. The roll out of the new performance appraisal system is planned for the 1st quarter of 2019.
- Following up on the feedback session for the senior strategic team, all teams received the feedback training. HRM is currently developing a plan how to keep 'giving and receiving feedback' on the agenda of the organization.

International policy and advocacy

KNCV's international policy and advocacy engagement is a core activity in support of the mission to eliminate TB. It also has an enabling function, by influencing Dutch policy and funding for TB and enhancing the positioning of the organization. Three interrelated and mutually reinforcing activities are distinguished:

- a) Netherlands advocacy to position TB in Dutch policy;
- b) KNCV staff engagement at leadership level in Global Fund governance which offers opportunities for bi-directional policy influencing and alignment;
- c) Global, international and in-country advocacy to strengthen political support for TB control and to open up TB policy space at health platforms.

Early 2018 KNCV signed an advocacy grant (as sub recipient from Aidsfonds) to strengthen Dutch engagement and official development assistance funding for TB, HIV and R&D for Health. Year one (calendar year 2018) of this 3-year grant coincided with TB being in the limelight globally (UN High Level Meeting on TB) and with the Netherlands hosting the two main global conferences on AIDS (in July) and on TB in The Hague (in October). The grant enabled us to leverage the international moments towards building political visibility in the Netherlands and strategic diplomatic engagement of the Ministries of Foreign Affairs and Ministry of Health on TB/HIV. This in turn establishes a base for advancing policy advocacy in the coming years.

Furthermore, in May 2018 KNCV staff was re-appointed for a two-year term in the Leadership of the Audit and Finance Committee of the Global Fund, now serving as chair. The Global Fund is the principal external financier of the TB international response, accounting for over two-third of external finance globally.

At the eve of the UNHLM on TB we convened the main global actors for a focused discussion on how to overcome the persistent barriers to cross agency collaboration towards addressing the co-epidemics TB-HIV. The Dutch Government co-hosted the event with the Japanese Mission. UNAIDS, WHO, PEPFAR, Global Fund and National Aids Commission of Nigeria were represented at highest levels. The UN Special Envoy on TB, Ambassador Goosby provided closing remarks.

Key achievements in 2018:

1. Building political attention for Dutch engagement in TB: a visit to Dutch Parliament with Nick Herbert of the Global TB Caucus resulted in MP Anne Kuik (Christian Democrats Party) adopting

a role as TB Ambassador by the signing of the Barcelona Declaration on TB.

2. Subsequent briefings highlighted the global role and further potential of the Netherlands TB field in implementation, research and innovation. This resulted in a broadly endorsed amendment during the budget discussions 2019, which appropriated Euro 5 million additional budget to WHO in a contribution earmarked for TB.
3. Engagement of Dutch government administration for TB:
 - a) The Netherlands Permanent Mission to the UN – as supported by the Dutch Ministry of Foreign Affairs and Ministry of Health – co-hosted two events with the Japanese and Antigua/Barbuda Missions (the co-facilitators of the UNHLM on TB).
 - b) The Netherlands took an active role in the negotiations towards the UNHLM declaration, with a focus amongst others on a clause that aims to strengthen access to, affordability and availability of quality TB drugs when countries transition to domestic procurement.
4. The Dutch Minister of Health, Bruno Bruins, hosted the Centennial Dinner in the Hall of Knights at the eve of the opening of the Union World Conference. Her Royal Highness Princess Margriet and Her Imperial Highness Princess Akishino graced the evening with their presence, underscoring the royal family longstanding interest for TB control.
5. KNCV contributed to the realization of parallel summits of the Global TB Caucus and Civil Society directly prior to the Union conference. Parliamentary and Civil Society representatives strategized separately as well in joint session on how to use the political declaration from the UNHLM on TB to drive momentum at country level.
6. KNCV took a role in shaping the plenary and special session program at the Union World Conference to take forward and share the outcomes of the UNHLM on TB with the global TB stakeholders and experts gathered at the conference.
7. The TB pre-conference to the IAS conference and behind-the-scenes advocacy resulted in a light being shed on the imperative need to step up the fight against the co-epidemics of HIV and TB.
8. KNCV's role in convening a multi-sectoral field of Dutch players in global health through the Clingendael Global Health Initiative resulted in the Dutch Ministry of Health commissioning a

report to explore how it might step up its global health engagement. The results were discussed in an inspired gathering at the Ministry of Health. AIGHD has stepped into the convening role for the initiative, contributing to a sustainable anchor for the initiative in academia and Topsector Life Sciences and Health global health innovation engagement.

9. In the Audit and Finance Committee at the Global Fund principal areas of oversight included advancing the risk management function, a 'Value for Money' agenda, and evolution of the Country Coordinating Mechanism. In bi-lateral interactions KNCV advanced its collaboration on Finding the Missing Persons and embedding TB Stigma interventions in the focus of the Communities, Rights and Gender team at the Global Fund Secretariat.

IT & Facilities

The main goal for IT & Facilities is to ensure there is an up to date, reliable and flexible IT system in the office in The Hague. For 2018 new EU General Data Protection Regulation played an important role in our activities. In the spring of 2018, several sessions were organized for all employees at central office, including the Country Directors, on the ins and outs of the General Data Protection Regulation. Procedures, tips and tricks were shared. The Data Security Policy and the Privacy Policy were developed and the website was made GDPR proof. The processing of personal data for the teams The Netherlands, Fundraising, HRM and Finance were registered.

The new Intranet based on Sharepoint was further improved by adding an Online Travel Booking form and a place for the Commissie voor Praktische Tuberculosebestrijding (CPT) to share all their files.

A start was made with developing a policy on Choose Your Own Device to enable employees more flexibility in the choice of device or the possibility to use personal devices. A start was made with developing the settings for Mobile Device Management in order to control unmanaged devices accessing KNCV IT resources. This also includes rights management on documents and Sharepoint sites, enabling KNCV to share information or to collaborate with stakeholders or beneficiaries by managing control of this information.

Multi Factor Authentication (MFA) is an extra layer of access security. This was implemented for Afas Profit, the system in use for the salaries used by the HRM department. ◀

**For 2018
new EU
General Data
Protection
Regulation
played an
important
role in our
activities**



Wonde worked as bus driver when he got infected with TB. His wife then got infected, their children received preventive treatment. All are cured now and living happily near Addis Ababa in Ethiopia.

FINANCIAL STATEMENTS 2018

The following information in this Financial Statements chapter of our Annual Report Summary 2018 is an extract taken from the complete Financial Statements which can be found in our Annual Report 2018.

Table 1: Financial monitoring data compared to standards

Monitoring data	Standard	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Budget 2019	Average 2016-2018
Spent on the mission compared to total expenses	Not applicable	95,7%	95,9%	97,4%	97,2%	97,7%	96,9%	97,4%
Spent on the mission compared to total income		95,2%	94,6%	96,9%	97,9%	98,1%	97,6%	97,7%
Spent on private fund-raising compared to private fundraising income ¹ (income from individuals and companies)	Max. 25%	24,6%	28,5%	15,4%	20,3%	24,3%	45,6%	20,2%
Spent on administration and control compared to total expenses	2.5-5%	2,5%	2,5%	1,6%	1,6%	1,2%	1,4%	1,5%
Spent on administration and control compared to total expenses excluding TBCTA coalition share in activities ²	2.5-5%	5,0%	5,0%	3,2%	3,1%	2,4%	2,6%	2,9%

1 Private fundraising income only includes income from individuals and companies, whereas in the past also income from other non-profit organizations was included.

2 Challenge TB is partly implemented by partners in the Tuberculosis Coalition for Technical Assistance (TBCTA)

BALANCE SHEET KNCV TUBERCULOSIS FOUNDATION PER 31 DECEMBER 2018

in euro, after result appropriation

ASSETS

		31-12-2018	31-12-2017
Immaterial fixed assets		-	-
Tangible fixed assets	B1	328.167	461.617
Accounts Receivable	B2	32.495.695	29.853.190
Investments			
-Shares	B3	1.581.358	1.740.803
-Bonds	B3	4.022.834	3.665.091
-Alternatives	B3	942.151	720.186
Cash and Banks	B4	14.757.348	12.470.575
Current Assets		53.799.386	48.449.845
Total		54.127.553	48.911.462

LIABILITIES

		31-12-2018	31-12-2017
Reserves and funds			
- Reserves	B5		
Continuity reserve		8.648.513	8.381.096
Decentralization reserve		872.472	997.394
Earmarked project reserves		1.214.343	1.430.709
Unrealized exchange differences on investments		235.008	526.039
Fixed Assets reserve		328.167	461.617
		11.298.503	11.796.855
- Funds			
Earmarked by third parties	B6	394.580	423.975
		394.580	423.975
Reserves and funds		11.693.083	12.220.830
Various short-term liabilities	B7		
-Taxes and social premiums		599.762	691.348
-Accounts payable		972.290	751.054
-Other liabilities and accrued expenses		40.862.418	35.248.229
		42.434.470	36.690.631
Total		54.127.553	48.911.462

STATEMENT OF INCOME AND EXPENDITURE KNCV TUBERCULOSIS FOUNDATION 2018

in euro

		Budget for the year ended 31 December 2019	Budget for the year ended 31 December 2018	Actual for the year ended 31 December 2018	Actual for the year ended 31 December 2017
INCOME					
- Income from individuals	R1	1.175.000	1.269.600	1.135.517	966.765
- Income from companies	R2	-	437.000	562.199	794.124
- Income from lotteries	R3	1.300.000	1.300.000	1.435.757	1.273.916
- Income from government grants	R4	77.953.300	94.518.500	88.178.130	88.389.252
- Income from allied non-profit organizations	R5	305.400	502.400	526.463	488.625
- Income from other non-profit organizations	R6	6.774.000	230.000	935.958	837.842
Total fundraising income		87.507.700	98.257.500	92.774.024	92.750.524
- Income for supply of services	R7	47.000	11.000	135.567	18.803
- Other income	R8	12.400	12.400	8.387	9.901
Total income		87.567.100	98.280.900	92.917.978	92.779.228
EXPENSES					
Expenses to mission related goals	R9				
- TB control in low prevalence countries		931.400	830.000	1.232.053	1.065.021
- TB control in high prevalence countries		81.791.700	92.047.500	82.780.745	82.933.547
- Research		1.433.900	1.451.400	5.595.680	5.644.999
- Education and awareness		1.274.100	1.709.200	1.523.122	1.154.097
		85.431.100	96.038.100	91.131.600	90.797.664
Expenses to fundraising					
- Expenses private fundraising		535.300	592.600	415.067	359.067
- Expenses share in fundraising with third parties		313.400	321.700	44.515	51.111
- Expenses government grants		706.800	697.700	501.509	667.228
		1.555.500	1.612.000	961.092	1.077.406
Administration and control					
- Expenses administration and control		1.195.200	1.352.500	1.164.083	1.533.118
Total Expenses		88.181.800	99.002.600	93.256.774	93.408.188
- Net investment income	R10	63.200	86.000	-215.843	219.111
Surplus / Deficit		-551.500	-635.700	-554.639	-409.849
Spent on mission compared to total expenses		96,9%	97,0%	97,7%	97,2%
Spent on mission compared to total income		97,6%	97,7%	98,1%	97,9%
Spent on private fundraising compared to income		1,8%	1,6%	1,0%	1,2%
Spent on administration and control compared to total expenses		1,4%	1,4%	1,2%	1,6%

RESULT APPROPRIATION

Surplus / Deficit appropriated as follow

Continuity reserve	8.400	1.300	267.417	113.183
Decentralization reserve	-150.000	-150.000	-124.922	-54.765
Earmarked project reserves	-302.100	-334.400	-216.366	-404.868
Unrealized differences on investments	-	-	-291.031	-20.563
Fixed Assets reserve	-107.800	-152.600	-133.450	-41.207
Earmarked by third parties	-	-	-56.287	-1.629
Total	-551.500	-635.700	-554.639	-409.849

EXPENSE ALLOCATION KNCV TUBERCULOSIS FOUNDATION 2018

in euro

	Budget for the year ended 31 December 2019	Budget for the year ended 31 December 2018	Actual for the year ended 31 December 2018	Actual for the year ended 31 December 2017
EXPENSES 2019				
Grants and contributions	23.000	23.000	26.721	14.849
Contributions to allied organisations	42.500.000	46.700.000	45.994.557	44.622.476
Purchases and acquisitions	12.911.900	11.268.800	11.152.277	11.087.332
Outsourced activities	5.528.500	7.111.800	7.543.573	7.604.580
Publicity and communication	831.400	864.600	687.857	882.198
Personnel	19.483.400	21.841.800	21.917.580	21.575.917
Housing	311.500	302.600	281.909	284.350
Office and general expenses ¹⁾	6.359.000	10.594.200	5.443.406	7.129.506
Depreciation and interest	233.100	295.800	208.895	206.981
Total	88.181.800	99.002.600	93.256.774	93.408.188

1) Because of donor requirements costs for housing and communication at local level are included under Office and general expenses.

Allocation to destination

	Related to the mission goals			
Actual for the year endend 31 December 2018	Low prevalence countries	High prevalence countries	Research	Education and Awareness
Grants and contributions	17.721	9.000	-	-
Contributions to allied organizations	-	45.994.557	-	-
Purchases and acquisitions	461.085	5.821.035	4.561.587	269.660
Outsourced activities	-	7.543.573	-	-
Publicity and communication	-	118	-	560.672
Personnel	613.655	18.051.262	975.654	660.048
Housing	16.363	193.936	21.121	11.851
Office and general expenses	111.247	5.022.797	21.849	12.213
Depreciation and interest	11.983	144.467	15.468	8.679
Total allocated	1.232.053	82.780.745	5.595.680	1.523.122

Allocation to destination

	Income fundraising		Administration & Control	
Actual for the year endend 31 December 2018	Private fundraising	Share in third parties activities	Grants	
Grants and contributions	-	-	-	-
Contributions to allied organisations	-	-	-	-
Purchases and acquisitions	-	34.000	4.910	-
Outsourced activities	-	-	-	-
Publicity and communication	117.949	-	-	9.118
Personnel	264.059	9.881	454.806	888.216
Housing	5.466	230	12.724	20.219
Office and general expenses	23.591	237	19.750	231.723
Depreciation and interest	4.003	168	9.319	14.808
Total allocated	415.067	44.515	501.509	1.164.083

Main fluctuations compared to the budget for 2018 are caused by the fact that activities for the Challenge TB project have leveled in 2018 after an acceleration in 2017, which was budgeted to continue into 2018. This is reflected in the lower office and general expenses, which includes expenses for in country activities like trainings and workshops. The contribution for Gezonde Generatie for 2018

was budgeted under Expenses share in fundraising with third parties under publicity and communication, but reported under TB Control in low prevalence countries and outsourced activities to better reflect the activity.

Depreciation expenses were lower than budgeted due to lower and later investments than planned. ►

CASH FLOW STATEMENT

KNCV TUBERCULOSIS FOUNDATION 2018

in euro

		Actual 2018	Actual 2017
Surplus excl interest		-562.863	-430.275
Interest paid/ received	R10	8.224	20.426
Total surplus		-554.639	-409.849
Depreciation - Fixed Assets	B1	207.114	205.117
Cash Flow from income and expenditure		-347.525	-204.732
Accounts receivable	B2	-2.642.505	45.549.357
Funds earmarked by third parties	B6	26.892	-
Non-current liabilities		-	-
Current liabilities	B7	5.743.839	-46.324.241
Increase/ (Decrease) net working capital		3.128.226	-774.884
Cash flow from operational activities		2.780.701	-979.615
Investments	B3	-420.263	-374.092
Disinvestments fixed assets	B1	675	1.812
Investments fixed assets	B1	-74.339	-165.722
Cash flow from investing activities		-493.928	-538.002
Net cash flow		2.286.773	-1.517.617
Cash and banks as at 1 January	B4	12.470.575	13.988.192
Cash and banks as at 31 December	B4	14.757.348	12.470.575
Increase/ (Decrease) Cash on hand		2.286.773	-1.517.617

Independent auditor's report

To: the General Assembly and the board of trustees of Koninklijke Nederlandse Centrale Vereniging tot Bestrijding der Tuberculose (KNCV) (hereafter: KNCV Tuberculosis Foundation)

Report on the summary financial statements 2018

Our opinion

In our opinion, the accompanying summary financial statements 2018 of KNCV Tuberculosis Foundation are consistent, in all material respects, with the audited financial statements, in accordance with the accounting policies as disclosed in the notes to the financial statements.

The summary financial statements

The summary financial statements 2018 of KNCV Tuberculosis Foundation as presented on pages 73 through 77, derived from the audited financial statements 2018, comprise:

- Financial monitoring data compared to standards;
- Balance sheet KNCV Tuberculosis Foundation per 31 December 2018;
- Statement of income and expenditure KNCV Tuberculosis Foundation 2018;
- Expense allocation KNCV Tuberculosis Foundation 2018;
- Cash flow statement KNCV Tuberculosis Foundation 2018.

The summary financial statements do not contain all the disclosures required by the Guideline for annual reporting 650 'Charity organisations' of the Dutch Accounting Standards Board. Reading the summary financial statements, therefore, is not a substitute for reading the audited financial statements of KNCV Tuberculosis Foundation and the auditor's report thereon.

The audited financial statements and the summary financial statements do not reflect the events that occurred subsequent to the date of our report on the audited financial statements.

The audited financial statements and our auditor's report thereon

We expressed an unqualified audit opinion on the audited financial statements in our report dated 8 May 2019.

Responsibilities of management for the summary financial statements

Management is responsible for the preparation of the summary financial statements in accordance with the accounting policies as disclosed in the notes to the financial statements.

D5K5TTXYV7EX-2037432365-99

PricewaterhouseCoopers Accountants N.V., Thomas R. Malthusstraat 5, 1066 JR Amsterdam, P.O. Box 90357, 1006 BJ Amsterdam, the Netherlands

T: +31 (0) 88 792 00 20, F: +31 (0) 88 792 96 40, www.pwc.nl

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Auditor's responsibility

Our responsibility is to express an opinion on whether the summary financial statements are consistent, in all material respects, with the audited financial statements based on our procedures, which we conducted in accordance with Dutch Law, including the Dutch Standard 810 'Engagements to report on summary financial statements'.

Amsterdam, 13 June 2019
PricewaterhouseCoopers Accountants N.V.

Original has been signed by M. van Dijk RA

POLICY BODIES IN WHICH KNCV WAS ACTIVE IN 2018

In 2018, KNCV was actively involved in:

- Important global WHO forums, such as: STAG-TB (Strategic and Technical Advisory Group); Global Task Force on TB Impact Measurement; Global Task Force on Latent TB Infection; Expert Committees; Global Task Force on TB Research; Global Task Force on New TB Drugs and Regimens.
 - WHO Guideline development work: Revision of interim guidance on bedaquiline and delamanid for the treatment of MDR-TB (technical resource person to the Guideline Development Group).
 - Several regional WHO TB Technical Advisory Groups on TB Control (TAG-TB SEARO; WPRO); WHO- Euro Childhood TB Task Force;
 - Stop TB Partnership's Coordinating Board;
 - Several Stop TB Partnership working groups, sub-working groups and task forces, such as: GLI (Global Laboratory Initiative); GDI (Global Drug resistant TB Initiative); GDI DR-TB Research Task Force; GDI DR STAT Task Force; TB/HIV Co-infection (STBP); TB-Infection Control; Public Private Mix; TB REACH PRC (Proposal Review Committee); Childhood TB Core Group;
 - The Union: Europe Region Executive Committee; TB/HIV Working Group; TB & Migration Working Group, Ethics Working Group;
 - 49th Union World Conference on Lung Health 2018 in The Hague: Coordinating Committee of Scientific Activities (CCSA); Conference Organizing Committee (COC); Local Host of the Conference;
 - Global Fund: TRP (Technical Review Panel); Global Fund Board's Audit and Finance Committee (AFC); TB/HIV working group; NGO Developed Countries Delegation, Board; CCM (Country Coordinating Mechanism) of Kazakhstan; Friends of the Global Fund Europe, Member of the Advisory Committee
 - Alliances, Associations, Coalitions: GHWA (Global Health Workforce Alliance); TB Alliance SHA (Stakeholders Association); TBEC (TB Europe Coalition);
 - Research Collaboration: TSRU (Tuberculosis Surveillance and Research Unit); RESIST-TB (Research Excellence to Stop TB Resistance) Steering Committee; Social Protection Action Research Knowledge Sharing (SPARKS) network;
 - Wolfheze: Program Committee; Working Groups (Collaborative TB/HIV activities; New drugs and regimens, Patient Centred Care);
 - Steering Committees, Professional Associations in the Netherlands: CPT (Netherlands Committee for Practical TB Control); GGD (Municipal Public Health Services) Tuberculosis Steering Committee in the Netherlands; V&VN/OGZ (Professional Association of Nurses), TB Control Committee; MTMBVe (Professional Association of Medical Technical Assistants);
 - Board member of/advisor to Foundations, NGOs in the Netherlands: Eijkman Stichting; Dr. Wessel Stichting; 's-Gravenhaagse Stichting tot Steun aan de Bestrijding van Tuberculose; SMT (Stichting Mondiale Tuberculosebestrijding); Stichting Lampion (nationwide information point for care for undocumented immigrants);
 - The Lancet: Commission on Tuberculosis.
- KNCV staff were also on the Editorial Board of:**
- IJTLD (International Journal of Tuberculosis and Lung Disease);
 - Periodical "Tegen de Tuberculose" (Against Tuberculosis).

KNCV PARTNERS IN 2018

KNCV Tuberculosis Foundation thanks all partners for their collaboration and support.

-

In the Netherlands:

- ABN AMRO Group
- Academic Medical Centre Amsterdam (AMC)
- Aids Foundation East West (AFEW)
- Aidsfonds
- Amsterdam Institute for Global Health and Development (AIGHD)
- Center for Infectious Disease Control Netherlands (CIb), at National Institute of Health and the Environment (RIVM)
- Dokter Izak Wessel Stichting
- Netherlands National Institute for Public Health and the Environment (RIVM)
- Central Bureau for Fundraising
- Centraal Orgaan opvang asielzoekers
- Committee for Practical TB Control Netherlands
- Coördinatiecentrum Expertise Arbeidsomstandigheden en Gezondheid, Ministry of Defense
- Cordaid
- Delft Imaging Systems BV
- Dr. C. de Langen Stichting voor Mondiale Tuberculosebestrijding
- Erasmus University Rotterdam
- Goede Doelen Nederland
- GGD GHOR Nederland
- 's-Gravenhaagse Stichting tot Steun aan de Bestrijding der Tuberculose
- HIVOS
- LAREB
- Leids Universitair Medisch Centrum
- KLM Royal Dutch Airlines - KLM Flying Blue program
- Maastricht University
- Mainline
- Madurodam Support Fund
- Medical Committee Netherlands-Vietnam
- Ministry of Foreign Affairs
- Ministry of Health, Welfare and Sports
- Ministry of Security and Justice - Penitentiary Services (Ministerie van Veiligheid en Justitie)
- Mr. Willem Bakhuys Roozeboomstichting
- Municipal Public Health Services in the Netherlands (GGD)
- Municipality The Hague
- Nationale Postcode Loterij
- Nederlandse Loterij
- Nederlandse Vereniging van Artsen voor Longziekten en Tuberculose

- Nederlandse Vereniging voor Medische Microbiologie
- Netherlands Ministry of Foreign Affairs/Development Cooperation (DGIS)
- Netherlands Ministry of Health, Welfare and Sport (VWS)
- Netherlands School of Public and Occupational Health - NWO-WOTRO
- OGD
- Our private donors
- PharmAccess Foundation
- Pharos
- Radboud University Nijmegen
- Royal Tropical Institute (KIT)
- Stichting Loterijacties Volksgezondheid
- Stichting Suppletiefonds Sonnevank
- Stop Aids Now!
- Taskforce Health Care
- Topsector Life Sciences and Health
- Tuberculosis Vaccine Initiative
- University Medical Center Groningen
- Vereniging van Artsen werkzaam in de Tbc-bestrijding - Verpleegkundigen & Verzorgenden Nederland, Platform Verpleegkundigen Openbare Gezondheidszorg
- VriendenLoterij
- ZonMW
- And many others...

Local KNCV Partner organisations

- Yayasan KNCV Indonesia
- KNCV Tuberculosis Foundation Nigeria
- KNCV Tuberculosis Foundation United States

In other countries and globally:

- Action Aid, Malawi
- Adelaide Supranational TB Reference Laboratory
- AIDS Center of Almaty City, Kazakhstan
- AIDS Foundation East West (AFEW) Kazakhstan
- ALERT, Ethiopia
- Almaty City healthcare department
- American Thoracic Society
- Armauer Hansen Research Insititute, Ethiopia
- Association of Family Doctors, Kazakhstan
- Aurum Insititute, South Africa
- Avenir Health
- Bill & Melinda Gates Foundation
- Centers for Disease Control and Prevention
- Clinton Health Access Initiative
- Club des Ami Damien Democratic Republic Congo

- Damien Foundation Belgium
- Development Aid from People to People, Zimbabwe
- Duke University, USA
- DZK (German Central Committee against Tuberculosis)
- Eli Lilly MDR-TB Partnership
- Ethiopian Public Health Institute (EPHI, former EHNRI)
- European Centers for Disease Prevention and Control (ECDC)
- European and Developing Countries Clinical Trials Partnership (EDCTP)
- European Union (EU)
- Federal Office of Public Health (Switzerland)
- FHI 360
- The Finnish Lung Health Association (Filha)
- Foundation for Innovative New Diagnostics (FIND)
- German Leprosy Relief Association (GLRA)
- Regional GLCs (Green Light Committees)
- Global Fund to Fight AIDS, Tuberculosis and Malaria
- GHC Global Health Committee
- Gondar University, Ethiopia
- GSK Biomedicals
- Hain Life Sciences
- Haramaya University, Ethiopia
- Harvard Medical School
- Indonesian Association against Tuberculosis (PPTI)
- Initiative Inc, Democratic Republic Congo
- Institute of Human Virology, Nigeria
- International Union Against Tuberculosis and Lung Disease
- IRD (Interactive Research and Development)
- Japan Anti-Tuberculosis Association (JATA)
- John Hopkins University School of Medicine
- Karolinska Institute, Sweden
- Kazakhstan Union of People Living with HIV
- Kazakhstan Prison System
- Korean Institute of Tuberculosis
- Korea International Cooperation Agency (KOICA)
- La Fondation Femme Plus, Democratic Republic of Congo
- Latvia TB Foundation
- Leprosy Mission International
- Les ambassadeurs de Sud-Kivu, Democratic Republic of Congo
- Ligue nationale contre la lèpre et la tuberculose du Congo
- Liverpool School of Tropical Medicine
- London School of Hygiene and Tropical Medicine
- Makerere University, Uganda
- Malawi TB Research Network
- Management Sciences for Health
- Maternal and Child Health Integrated Program (MCHIP), Zimbabwe
- McGill University
- Médecins Sans Frontières
- Mekelle University, Ethiopia
- Ministry of Health (in many countries)
- Namibian Red Cross Society
- National Agency for Control of AIDS, Nigeria
- National TB Reference Laboratories in the countries
- Netherlands-African partnership for capacity development and clinical interventions against poverty-related diseases (NACCAP)
- National TB Control Programs (NTPs) in many countries
- NGO Doverie Plus, Kazakhstan
- NGO Zabota, Kazakhstan
- Office of the US Global AIDS Coordinator
- Organization for Public Health Interventions and Development Trust, Zimbabwe
- Partners in Health
- Penduka, Namibia
- Population Services International (PSI)
- Private Health Sector Program, Ethiopia
- Program for Appropriate Technology in Health (PATH)
- Project Hope (in Kazakhstan, Kyrgyzstan, Namibia, Tajikistan)
- Qiagen
- Regional Center of Excellence on PMDT, Rwanda
- Regional Health Bureaus (Ethiopia)
- Rehabilitation and Prevention of Tuberculosis (RAPT), Zimbabwe
- RESIST-TB
- Resource Group for Education and Advocacy for Community Health (REACH), India
- Riders for Health
- Sanofi
- St Peter specialized Hospital, Ethiopia
- Stellenbosch University
- Stop TB Partnership
- Swiss Tropical and Public Health Institute
- TB Alliance
- TB Europe Coalition
- TB Proof
- Tuberculosis Modelling and Analysis Consortium
- Tuberculosis Operational Research Group, Indonesia
- Tuberculosis Research Advisory Committee, Ethiopia
- UNICEF - University Clinical Centre
- Unitaid
- United Nations Development Program (UNDP)/Global Fund
- United States Agency for International Development (USAID)
- University of Antwerp, Belgium
- University of California San Francisco
- University of Cape Town - SATVI
- University of Gadjah Mada, Indonesia
- Vanderbilt University, USA
- World Health Organization (Headquarters and Regions)
- Zimbabwe National Network of People Living with HIV (ZNNP+)
- And many others...



Almaz, a former TB-patient,
and her son Issayas who has
recently been diagnosed with
TB by using KNCV's stool
test. The mother and son
live on the outskirts of Addis
Ababa, Ethiopia.





A community sensitization activity in Malawi.

ABBREVIATIONS

3HP 3 Month Rifapentine + Isoniazid course	Public Health Services) and GHOR (Regional Medical Emergency Preparedness and Planning offices) in the Netherlands
99DOTS A mobile phone technology for monitoring and improving TB medication adherence	GLI Global Laboratory Initiative
aDSM Active TB Drug-safety Monitoring and Management	GMO Genetically modified organisms
AAMP ABN AMRO MeesPierson	GDPR General Data Protection Regulation
AFEW AIDS Foundation East-West	HCWs Health Care Workers
AIDS Acquired Immune Deficiency Syndrome	HIV Human Immunodeficiency Virus
AIGHD Amsterdam Institute for Global Health and Development	HLM High Level Meeting (United Nations)
ART Antiretroviral Therapy	HRM Human Resource Management
ARV Antiretroviral	IAS International AIDS Society
AVG Algemene Verordening Gegevensbescherming (Dutch GDPR)	ICT Information and Communication Technology
BDQ Bedaquiline (medication used to treat active tuberculosis)	IGAD Intergovernmental Authority on Development
BMF Building Models for the Future	IGRA Interferon-Gamma Release Assay
BSD "Basis Score voor Directiefuncties" - Basic Score for Management positions	IJL International Journal of Tuberculosis and Lung Disease
CAD4TB Software designed to help (non-expert) readers detect tuberculosis more accurately and cost-effectively	IMPAACT4TB Increasing Market and Public health outcomes through scaling up Affordable Access models of short Course preventive therapy for TB
CBF Centraal Bureau Fondsenwerving (Central Bureau for Fundraising in the Netherlands)	ITR Individualized treatment regimen
CDC Centers for Disease Control and Prevention	JSD Joint Service Delivery
Cib Centrum Infectieziektebestrijding (Center for Infectious Disease Control)	KNCV Koninklijke Nederlandse Centrale Vereniging tot bestrijding der Tuberculose
CTB Challenge TB, the global mechanism for implementing USAID's TB strategy and TB/HIV activities under PEPFAR	(Royal) Netherlands Tuberculosis Association)
CTB EAR CTB East Africa Regional	LAM Lipoarabinomannan
DAP Direct Action Planning	LTBI Latent Tuberculosis Infection
DAPP Development Aid for People to People	LTTA Long Term Technical Assistance
DGIS Directoraat-Generaal Internationale Samenwerking (Netherlands Ministry of Foreign Affairs)	M&E Monitoring and Evaluation
DOT(S) Directly Observed Treatment (Short-course)	MDR Multidrug-Resistant
DR-TB Drug-resistant Tuberculosis	MDR-TB Multidrug-resistant Tuberculosis
DS-TB Drug-sensitive Tuberculosis	MDU Mobile Diagnostic Unit
ECSA-HC East Central and Southern Africa Health Community	MERMS Medication Event Reminder Monitoring Systems
EDCTP European and Developing Countries Clinical Trials Partnerships	mHealth mobile-health
FAST-strategy Finding, Actively, Separating, Treating	MPH Master of Public Health
FDC Fixed-Dose Combination	MSH Management Science in Health
FMO Netherlands Development Finance Company	MTB Mycobacterium Tuberculosis
FTE Full-time equivalent	MTMBeVE Medisch Technisch Medewerkers Beroepsvertegenwoordiging (Professional Association of Medical Technical Assistants)
GDI Global Drug resistant TB Initiative	NamLiVE Namibia Linkage, Viral load and END TB
GDN Goede Doelen Nederland	NAPS Nurses and Allied Professionals Subsection
GeneXpert® (See Xpert MTB/RIF assay, below)	ND&RS New Drugs and Regimens
GF or GFATM Global Fund to Fight Aids Tuberculosis and Malaria	ND/STR New Drugs and Short Treatment Regimen
GGD Municipal Public Health Services	NGO Non-Governmental Organization
GGD GHOR Nederland Association of GGD's (Municipal	NIH National Institutes for Health
	NTP National Tuberculosis Program
	NTP National Tuberculosis Program
	NTRP National Tuberculosis and Leprosy Program
	NTRL National TB Reference Laboratory
	OpenMRS Open source project to develop software to support the delivery of health care in developing countries
	PEPFAR U.S. President's Emergency Plan for AIDS Relief

PFZW Pensioenfonds Zorg en Welzijn (Pension fund for health care)	TB Tuberculosis
PHC Primary health care center	TB/HIV Tuberculosis and/or Human Immunodeficiency Virus
PhD Doctor of Philosophy	TBCTA Tuberculosis Coalition for Technical Assistance
PLHIV People Living with HIV	TB CARE USAID-funded TB project 2010 – 2015 implemented by the TBCTA coalition
PMDT Programmatic Management of Drug-Resistant TB	TBPS National TB Prevalance Survey
PMU Project Management Unit	TSRU Tuberculosis Surveillance and Research Unit
Pre-XDR-TB MDR-TB with resistance to either any fluoroquinolone or at least one second-line injectable	UN United Nations
QQ Qualitate Qua	UNHLM United Nations High Level Meeting
RIF Rifampicin	UNION International Union Against Tuberculosis and Lung Disease
RIVM Rijksinstituut voor Volksgezondheid en Milieu (National Institute for Public Health and the Environment)	USAID United States Agency for International Development
RJ650 Dutch Accounting Standard for Fundraising Institutions	USD US Dollar
RR-TB Tuberculosis resistant to Rifampicin	USSD Unstructured Supplementary Service Data
RVO Rijksdienst voor Ondernemend Nederland (Netherlands Enterprise Agency)	US\$ US Dollar
R&D Research & Development	SSGA State Street Global Advisors
SDG Social Development Goals from the United Nations	VOT Video Observed Treatment
SEARO WHO TB South-East Asia Regional Office	V&VN/OGZ Verpleegkundigen Openbare GezondheidsZorg (Professional Association of Nurses)
SGF Samenwerkende Gezondheidsfondsen	VWS Ministerie van Volksgezondheid, Welzijn en Sport (Ministry of Health, Welfare and Sport)
SL-LPA Second-Line Line Probe Assays	WHO World Health Organization
SLD Second Line Drugs	WHO/Europe World Health Organization Regional Office for Europe
SMT Dr. C. de Langen Stichting voor Mondiale Tbc-Bestrijding/Stichting Mondiale Tuberculosebestrijding (Dr. C. de Langen Foundation for Global TB Control)	WoW Wonders on Wheels
SNRL Supra National TB Reference Laboratory	WNT Wet Normering Topinkomens
STAG/STAG-TB Strategic and Technical Advisory Group	WPRO WHO TB Western Pacific Regional Office
STR Shorter treatment regimen	Xpert MTB/RIF An automated diagnostic assay/test that can identify TB and resistance to rifampicin
TAG-TB Technical Advisory Group on TB Control	XDR-TB Extensively Drug-Resistant Tuberculosis
TSRU Tuberculosis Surveillance and Research Unit	ZonMW Zorgonderzoek Medische Wetenschappen (The Netherlands Organization for Health Research and Development)
STR Shorter MDR Treatment Regimen	
TA Technical Assistance	



COLOFON

Coördinatie: Lilian Polderman

Ontwerp en lay-out: Tom van Staveren (Graphic Island),
Eric van den Berg

Drukwerk: Drukwerk & Meer



