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EDITORS NOTE: *This volume dedicates itself mostly to the events of World TB day which is annually marked on the 24th of March. It also covers other significant events that the NTLD program was involved in within the first*

Field Teams celebrate the end of data collection of TB Prevalence Survey

Data collection for the Kenya's TB Prevalence Survey, launched in July 2015, ended in the month of July 2016. This was a great success with 44 out 47 counties in the country reached 31,992 households visited and 63,029 Kenyans enrolled at the survey's Mobile Field Sites.As the previous survey had been conducted in 1958 before 80% of, the current population was born, it was very important for the government to carry out this exercise in order to provide an accurate and up to date estimate of Kenya's TB burden. It would also enable identification of existing challenges in accessing TB testing and treatment. Finally, the Survey would help identify persons with active TB that were not yet detected by the National TB program as opposed to relying on estimates provided by WHO.

To recognize those who had been instrumental in the completion of this exercise, the field teams and supporting organizations came together in a retreat at the Diani Resort. Accordingly, the TB-ARC PATH communications team were commended for their provision of communication support throughout the survey period. They had developed and supplied written materials, photography and videography as well as updates on the NTLD website and the different social media sites to ensure that the survey had visibility in the country. They had gone further and secured talk show slots in the major media houses, giving the technical team a chance to educate the audience about TB as well as explaining why the survey is important to the Kenyan people.

Intuitively, TB ARC PATH had also engaged local and vernacular radio stations to raise awareness. This was an ingenious way of effectively reaching communities, which were being targeted by the Survey and had been identified as 'Hard to reach'.

Finally, there was acknowledgement that the design and content of the IEC materials including infographics, brochures, pamphlets and MFS signage created a positive brand image of the TB Prevalence Survey and TB Program that can easily be maintained into the future.

Those attending the retreat had a chance to debrief and tell interesting and encouraging stories of fieldwork. Some had used the opportunity to advocate for the stigmatized and others had educated community members on TB testing and treatment. All reported being encouraged by the success of the data collection exercise while being challenged by the scale of work before them.

The retreat ended with a commitment from the NTLP to analysis the data collected and provide a draft

One-on-One With Dr Jeremiah Chakaya

1. Who is Dr Chakaya?Dr Jeremiah Chakaya is a practicing respiratory physician based in Nairobi, Kenya. He graduated from the University of Nairobi with a basic degree in medicine and surgery (MBChB) in 1985 and a Master's Degree in internal medicine (M.Med) in 1992. He then went on to study lung medicine at the National Lung and Heart Institute, University of London at the Royal Brampton Hospital and at the Kyorin University Hospital in Tokyo Japan. Dr Chakaya worked as a TB and Lung disease researcher at the Centre for Respiratory Diseases Research and served as the TB Program Manager at the Ministry of Health. At the international level, Dr Chakaya has held several positions including Chair of the Direct Observed Treatment Short Course (DOTS) Expansion Working Group, Vice Chair of the Stop TB Partnership Coordinating Board and Chair of the Strategic and Technical Advisory Group of the World Health Organization (WHO). Dr Chakaya is a founder member of the Kenya Association for the Prevention of Tuberculosis and Lung Diseases (KAPLTD) and has remained closely engaged with this organization.

2. ***How have you been involved in TB work and for how long?*** Since 1992, soon after completing M.Med studies at the (UoN) and on joining the Kenya Medical Research Institute (KEMRI).

3.*What is The UNION, its mission and what does it offer?* A group of individuals backed by their governments to confront TB, which by then was a devastating epidemic in Europe and North America, formed the International Union against Tuberculosis and Lung Disease (IUATLD or The UNION) in 1920. TB was at that time called the 'Captain of Death 'and therefore, something had to be done to mount a strong response to this disease. The UNION - initially called IUAT without the LD - remained focused on TB only until 1997 when it was recognized that TB was in essence a lung disease among many other lung diseases that had been neglected as public health threats. Today, the UNION remains largely focused on TB and has a diversified portfolio that includes programs for other lung diseases. The UNION works hard to ensure that there are robust programs and interventions to prevent, care and treat TB and other lung diseases in low and middle-income countries with a particular emphasis on the poor in these countries. Thus, the UNION's slogan is "Health solutions for the poor."

4.***How did you receive and react to the news that you had been selected as the new President of the UNION?*** This is duty and a responsibility that must be borne with humility. I was excited to be honored with this position, but beyond the excitement came the realization that I had been handed a major responsibility. As with any new assignment, I was both excited and anxious, as the work that needs to be done is massive.

5.*What does the new appointment entail?* As President of The UNION, I will be responsible, together with my Board and the Senior Management of The UNION, for charting the path forward in the fight against TB and Lung diseases. This will involve developing policies and strategies to guide the work of the UNION, expanding its membership and engagement, resourcing, as well as enhancing the scientific approach to the work of the UNION and its members across the world. My single wish is to ensure that the UNION is visible, present and effective in every nation of the world and its activities positively impact the lives of the millions of people who suffer TB and other lung diseases.

6.***What are the challenges in combating TB in Kenya and the world at large?*** The high poverty level is greatly contributing to the burden of TB not only in Kenya, but also in a majority of sub Saharan African countries. Poverty further contributes to poor nutrition, which can result to mortality.

Another challenge is a poor approach to health systems strengthening that contributes to poor health outcomes. This further has effects on health financing where there are funding challenges and where funding is available, it is not effectively utilized. Another major challenge is inadequate funding for TB research. For example, there lacks a means to test TB with less sophistication like use of laboratory equipment. For example, the testing of HIV by an individual through the use of a simple test kit is a good step.

7.***What do you wish to achieve in TB control as we work towards the End TB strategy?*** The first thing we need to do is to distinguish between wishful thinking and tangible progress towards achieving those targets. That means if we have to make tangible progress, then we have to change the way we do business as far as TB is concerned. There is need to have a complete paradigm shift. That calls for a multi-sectoral approach, which we have not done before. This includes involving households especially those in urban slums by ensuring poor housing characterized by poor ventilation and poor lighting is transformed to decent housing. Another area is reducing congestion in our prisons. Further, improved agriculture is necessary to promote a population that is well nourished since poor nutrition already has a major impact on TB. Another issue is to have an educated population that does not just go to school for the sake of passing exams, but one that will have quality education that can transform people. Therefore, the multi-sectoral approaching TB care and prevention needs to be emphasized so that we can dissect the broad actions that need to happen within the health sector and outside the health sector. Without that approach, we are likely not to achieve the End TB strategy.

8.***As the new UNION President, how do you plan to contribute towards achieving SDG number three?*** We shall play our role as a global organization primarily in contributing to finding solutions to TB and chronic respiratory disease. The range of things we shall do include playing an advocacy role to highlight the problems of chronic respiratory disease. We want to engage with governments to ensure that health systems are strengthened by addressing issues like air pollution because air quality is a driver of respiratory health across the world. At the UNION, we want to continue working with governments and other partners to influence implementation of frameworks like tobacco control. We also want to make occupation health, which includes industrial safety and hygiene, extremely paramount especially in the mining sector. We shall then continue to participate in research that identifies simple and sustainable solutions for TB and respiratory health. In addition, we shall work towards the development of technical interventions that are well researched, simple and obtainable for improving lung health. Lastly, we shall work towards promoting patient-centered operations and implementation research.

9.*What is your message to TB control partners in regards to combating TB?* It is very simple message: We need to do more, do it effectively and do it efficiently.

10. *Benefits of being a UNION member (individual or organizational)?*First, when an individual joins the UNION, the most important thing to do is to have a commitment towards contributing to the fight against TB and the promotion of better lung health. This is because one is joining an organization that has people who share the same mission and vision. However, for the benefit of the members and organizations, the UNION provides a platform where members can share their experiences with others in that space. For example, we have very authoritative journals such as the International Journal for Tuberculosis and the Journal for Public Health Action. Another platform is the UNION Conference where information can be shared and individuals and organizations can network. Finally, we have created sections and sub sections that are important forums for communication where members who are interested in particular issues in TB can participate.

. All in all, the most important drive for joining the UNION for both individuals and organizations should be to give to and not take from the UNION. People have to make the distinction that this is not to receive, but mainly to contribute to the fight against TB. With this, they can stand up and get counted as contributors to the success of controlling the burden of TB across the world.

Child Friendly Medicine

The Ministry of Health on Tuesday, September 27, 2016 announced the launch of appropriately dosed, child-friendly tuberculosis (TB) medicines, making Kenya the first country in the world to roll out these products nationally. The launch organized under the theme 'A TB Free Generation' attracted health practitioners and TB control partners including County Executives Committees (CEC) for Health from various counties in the country. The improved medicines are easier for caregivers to give and for children to take, and are expected to help improve treatment and child survival from TB. Kenya is playing a leading role in the fight against childhood TB by being the first in the world to introduce the improved child-friendly TB medicines," reaffirmed Dr Jackson Kioko, Director Medical Services. Speaking during the launch on behalf of the Cabinet Secretary for Health, Dr Cleopa Mailu, and Dr. Kioko said that Kenya was honored to celebrate what it has advocated for the last four years – having friendly TB medicines for children. "With these appropriate treatments, Kenya is expected to make rapid progress in finding and treating children with TB to achieve a TB free generation."Previously, caregivers had to cut or crush multiple, bitter-tasting pills in an attempt to achieve the right doses for children. This made the six-month treatment journey difficult for children and their families, contributing to treatment failure and death from the disease. Tuberculosis remains a major disease killer of children. According to the World Health Organization (WHO), at least 1 million children suffer from TB each year and 140,000 children die of this preventable, treatable and curable disease. In 2015, Kenya reported nearly 7,000 cases of TB in infants and children, with those under the age of five at the greatest risk of having severe forms of TB and dying from the disease. "There is a higher risk and more rapid progression to active TB among children, thus leading to higher mortality," said Dr Joseph Sitienei, Head of Strategic Health Programs at the Ministry of Health. "There exists a gap in case detection among children, with 29% of children with TB being missed annually," he added. He further noted that increased use of the GeneXpert machine will enhance case detection and identification of Rifampicin resistance among children.

The treatment being introduced is the first to meet WHO guidelines for childhood TB treatment. They are not new drugs but improved formulations that come in the correct doses, require fewer pills, are flavored and dissolve in water. The development of the medicines was overseen by TB Alliance, an international not-for-profit organization, and was funded by UNITAID and other partners. "These new treatments will not have an impact until they reach the children that need them," said Dr. Cherise Scott, Director of Pediatric Programs for TB Alliance. She also reaffirmed that TB Alliance is proud to partner with the Government of Kenya, the first of many countries, as they work to translate the potential of these medicines into lives saved."

Mr. Robert Matiru, Director of Operations at UNITAID emphasized that, “No child should die of TB, yet for too long, we have not had the medicines to mount a sustainable response against childhood TB. UNITAID’s investment in addressing this problem aims to help in equipping countries, health care workers, and families with the tools they need to rise to the challenge.”

Starting October 1, 2016, all children in Kenya initiated on TB treatment will be given the improved formulation. “Childhood TB is a problem that can be solved when we choose to act, “said Dr. Masini, Head of Kenya’s National Tuberculosis, Leprosy and Lung Disease Program. This calls for active diagnosis and case finding to ensure that all children are treated. He further noted that Children often get TB from infected persons in their environment. “One single adult TB case presents the possibility of spreading TB infection to 60 children,” he emphasized. This can be at home, at school or in any other place where children spend their time. Attending the launch too was Hon Stephen Mule, the chairman of the Parliamentarians TB Caucus in Africa who noted that there is need for the Ministry through the TB Program to increase the capacity to diagnose TB at the earliest date possible, and at the lowest level of the health sector in Kenya. The take home message was that children should be presented to the nearest health facility to be tested for TB if they have a cough, fever, night sweats, reduced playfulness, or if they fail to gain weight. Further, it was made clear that if any member of the household is diagnosed with TB, all other household members should be tested for TB, especially children. TB testing and treatment is free at all public health facilities in Kenya.

TB ECHO

The Ministry of Health, National Tuberculosis, Leprosy and Lung Disease Program (NTLDP) is making use of a New Mexico innovative knowledge transfer solution called ECHO. ECHO is a video conferencing platform that enables clinicians in peripheral health facilities to gain expertise from experts in the national and regional centers.

The goal of TB ECHO in Kenya is to increase access to specialist care countrywide by developing professional communities of learning and practice in Kenya. Imagine going to your local clinic and discovering there are complications with your diagnosis and treatment. As it was before, the local team would make referrals often to Nairobi, often at great cost to the patient, where specialist doctors and clinics could be found. However, with TB ECHO, these specialist clinicians are able to confer with local teams enabling delivery of more complex and specialist care without the need to travel to Nairobi. This saving on the part of the patient and increase in confidence to safely deal with more complex cases at the local level for the clinicians is exactly why NTLD Program have invested in this technology. Since the 30th of August, 2016, the NTLD Program through its National TB ECHO Coordinating Mechanism brings together, every Monday and Tuesday 8:00am – 9:00am, the TB ECHO program Management Unit; the National clinical team and County clinical teams- Centers of Excellence (CoE). It is through the ECHO video conferencing facilities that Case based learning occurs, and the promotion of best practices and monitoring of outcomes is discussed. Project ECHO will be a great opportunity for passing knowledge to health care workers in diseases other than tuberculosis. HIV programs, non-communicable diseases and family and child health will benefit immensely from the availability of these equipment and video conferencing facilities. A TB ECHO page under resources was created on the website to host the presentations made during ECHO episodes. TB ECHO is expected to reach an even larger audience as it is used as a key tool to disseminate the results of the TB Prevalence Survey ahead of World TB Day.

. We look forward to significant increase in the quality of care delivered at the local level enabled by the TB ECHO.

One On One with Dr Kamene Kimenye - Mariita on Project ECHO in Kenya

1. What is ECHO? Expanding Capacity for Health Outcomes is a collaborative model of medical education and care management that empowers clinicians everywhere to provide better care to more people, right where they live. The main aim is to transfer knowledge from an area with many experts to that without. ECHO bridges the barriers between specialty and primary care. It links expert teams at an academic 'hub' with primary care clinicians in local communities – the 'spokes' of the model. Together, they participate in weekly tele ECHO clinics, which are like virtual grand rounds, combined with mentoring and patient case presentations. The clinics are supported by basic, widely available teleconferencing technology. During tele ECHO clinics, primary care clinicians from multiple sites present patient cases to the specialist teams and to each other, discuss new developments relating to their patients, and determine treatment. Professor Sanjeev Arora of university of New Mexico who was the only specialist of hepatitis C management developed project ECHO. He had patients waiting for a long time even up to eight months before getting treatment. Therefore, he decided to come up with ECHO model to reach health care workers (HCW) in the peripheral, who would then initiate patients on treatment without having to refer to him, hence reducing the waiting time treatment and increasing access to care.

2. Many people think ECHO is telemedicine, what is the difference between the two? Telemedicine is a model that lets physicians treat their patients remotely via video-chat. Unlike ECHO, telemedicine does not need a hub and spoke structure as it has a direct doctor-patient relationship. It promotes a patient and expert connection and has remote patient monitoring. ECHO promotes case-based learning where patients are de-identified before the video conferencing.

3. When was it launched at the National Tuberculosis, Leprosy and Lung Disease Program (NTLD-Program), Kenya? On August 1, 2016, Kenya implemented the use of ECHO in the management of TB. There has been great progress since then, which includes:

• 15 TB ECHO weekly sessions

• Between 12 and 64 spokes calling in using various equipment from smart phones, laptops to high-tech video conferencing facilities

• A hub and 5 spokes have already been established and set upwithvideo conferencing facilities

• Partnerships established with the HIV program, funding agencies

and implementing partners

• Funds to establish 24 spokes through partners have been sought

• Incoming TB ECHO Coordinator and IT/M&E point persons have been hired through the support of TB ARC to manage the ECHO project

This has started as the country prepares for the official launch that is in the final planning stage.

4. How many people has ECHO reached?

In a period of four months, ECHO has reached the County Tuberculosis and Leprosy Coordinators (CTLCs) and they are greatly benefitting. It has also reached a number of clinicians, 100 sub–county tuberculosis and leprosy coordinators (SCTLC), as well as national program staff. The ECHO project has also been used for laboratory quality improvement and over 47 GeneXpert super users have been reached so far. The platform has also been used for meetings in TB control reducing the cost of travel and saving time. We have so far discussed 13 TB/HIV cases with severe conditions that posed a challenge to the Health Care Workers (HCWs), and proper management instituted e.g. extensively drug-resistant TB (XDR TB) and drug induced liver injury among others. Patient confidentiality is observed during all discussions. There exists a lab ECHO for TB that connects the GeneXpert super users and the County Medical Lab Technicians (CMLTs). The NTLD-Program is in the process of setting up another lab ECHO for culture laboratories and TB microscopy for quality assurance and monitoring of algorithm implementation.

5.Who is eligible to participate in the ECHO sessions? NTLD-Program partners and County TB coordinators receive an email request to join the meetings, as there are TB cases for discussion each week. The cases to be discussed are shared at least five days before the ECHO session. The cases range from TB, TB/HIV, MDR TB, and TB Diabetes among others. An expert in the field makes a 15-minute presentation on the subject as part of training. Any health worker in Kenya is however, eligible and we hope to reach all in future.

6. ***How do participants access ECHO sessions?*** Participants only need to be connected to the internet and have the Zoom application downloaded on their machines to access ECHO sessions. Zoom is a software that provides a video and audio conferencing platform. We share a link and meeting ID with the participants and they can join in from any part of the world using their smart phones, desktop computer, tablet, laptop with a camera or proper video conferencing set up etc. ECHO Zoom can host a meeting of up to 100 -200 participants. However, a proper ECHO session should have a maximum of 25-30 spokes per session. The platform is good as it allows participants to share their presentations, images etc. Participants can also ask questions using the chat options or raise their hand and ask verbally. Information is also shared through ECHO, which is also used as a monitoring tool.

7. How often do the ECHO sessions happen? ECHO sessions take place every week on Tuesday morning from 8:30AM to 9:30AM. As more people call in, ECHO is expanding and future sessions will be scheduled on different days and times of the week.

8. What is the significance of ECHO, and how has ECHO come to change TB operations? TB ECHO has improved interaction between the spokes and the experts sharing a case as they can see each other as opposed to use of cell phone or email. It has come to change TB operations in the following ways:

• Reduced the cost of training as more people can be reached at ago compared to a classroom session. People do not have to travel or leave their place of work

• It is an affordable way of communication Information can be given in little bits as people can listen to small bits of information at a time

• Best practices can easily be picked and shared

• It allows for quick response or sharing in case of emergencies

• ECHO has improved the uptake of new policy directions especially Isoniazid Preventive Therapy (IPT), improved pediatric regimen the and use of GeneXpert

9. What is the source of funding for TB ECHO and what are the financial implications? With funding from USAID, TB ARC is currently funding the equipping of the national hub as well as staff supporting ECHO. The cost implication is mainly on the purchase and setting up of equipment, provision of internet, and a stipend to the expert making the presentation as well as costs for the incoming staff.

10. What next for ECHO? At the moment, we are setting up a hub at the National TB Program offices and identifying clusters that have the conferencing facilities for decentralization and site assessment for setting up. Picking lists of clinical teams is also ongoing so that they can be introduced to ECHO.

With the rapid expansion, we have recruited a Help Desk Coordinator and an ICT Officer to manage the day-to-day ECHO needs. This is because we are exploring how to record the sessions, upload and share them via podcasts or Sound Cloud on the NTLD-Program website www.nltp.co.ke. This will create a reference point where anyone can download a past session and refer to a particular discussion. iECHO will also be used. We are also planning to decentralize project ECHO as we have expanded and managing a huge number of participants in one session is becoming challenging. With decentralization, ECHO will be used by clinical teams i.e. CTLCs and some SCTLCs who will undergo training so as to coordinate clusters meeting per county and use it to discuss programmatic and clinical issues.

Health Summit

Over the last few months in 2016, H.E. President Uhuru Kenyatta has held several summits at State House to engage his line ministries on the successes and challenges faced. On ***Tuesday, September 13, 2016,*** the 5th State House Summit focused on Health, dubbed Transforming Healthcare Kenya. To prepare for this summit, the National TB Program communications team through

TB ARC, PATH developed two outputs for sharing by the CS, Dr. Cleopa Mailu. This included a milestone chart and a 2-min video. See below attachments for this.

NTLD- Program Health milestones u

Health Summit prep. action points.

Revised - Concept for Short Video for 1

Integrated curriculum of trainers

The National TB, leprosy and lung disease program developed an integrated curriculum and guideline that encompasses all the thematic areas for TB, leprosy and lung disease management. The aim of the integrated curriculum training of trainers (TOT) held in Kitengela on the week of December 19, 2016, was to pretest the curriculum through a TOT on the curriculum and guideline. The TOT trains frontline health care workers who are directly involved in management of TB in health facilities in Kenya. The purpose of this trip was to prepare and train TOT on facilitation skills. A similar training is scheduled to take place the 2nd week of January 2017.

Trainers trained on the proper use of inhaler

integrated curriculum and guidelines TOT, Dec 2016