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Catalyzing Pediatric Tuberculosis Innovation (CaP TB) in Kenya

The Tuberculosis Epidemic

In 2016, the World Health Organization (WHO) estimated one million children are in need of treatment for TB, yet only approximately 40% are diagnosed and reported to national TB programs.¹ Too little has been done to improve case identification and to expand access to prevention, rapid and accurate diagnoses, or child-friendly treatments that are now available to the many children in need.

TB is the fourth leading cause of death in Kenya. Although the National Tuberculosis, Leprosy and Lung Disease Program (NTLD-P) recognizes the high prevalence of this epidemic and children as a priority population, diagnosis and management of pediatric TB remains a significant challenge. In 2016, Kenya registered 75,916 TB cases. Childhood TB made up only 8.7% of these cases.²

The NTLD-P rolled out GeneXpert devices and recommended Xpert as the standard diagnostic tool for pediatric TB diagnosis, replacing the microscopy diagnostic analysis in most cases and enabling a more accurate and specific diagnosis of TB among children in the country. In addition, the Ministry of Health (MOH) transitioned from the previous first-line formulation of pediatric TB drugs to a new, child-friendly and appropriately-dosed formulation. However, additional support is needed to roll-out these innovations, including ensuring increased demand for and appropriate stock supply of first-line, fixed-dose combination (FDC) treatment for both active and latent TB infection (LTBI), and ordering of dispersible, single-formulation pediatric drugs.

The Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) has been a key implementing partner to the MOH in Kenya. EGPAF has supported the scale-up of prevention of mother-to-child HIV transmission (PMTCT); HIV diagnosis, care, and treatment; and integrated HIV/TB services nationally, since 2000. EGPAF is already working with over 1,000 highly qualified staff and lay cadres from the MOH and disciplined services to support approximately 200 sites across more than 25 counties to implement two comprehensive HIV and TB care and treatment projects. The CaP TB project in Homabay and Turkana Counties will leverage this

CaP TB hopes to double pediatric TB case detection globally.

In Kenya, targets include:

- Identifying approximately 1,300 pediatric TB cases
- Treatment of at least 1,200 pediatric TB cases
- Initiation of at least 5,600 children on LTBI preventive treatment

work and networks set up by other funders to address the gaps in childhood TB diagnosis and treatment in these two counties most affected by TB.

CaP TB in Kenya

CaP TB is funded by Unitaid and runs from 2017 through 2021. Its goal is to reduce pediatric TB morbidity and mortality in nine sub-Saharan African countries (Cameroon, Côte d'Ivoire, Democratic Republic of Congo, Kenya, Lesotho, Malawi, Tanzania, Uganda, and Zimbabwe) and India.

Due to its close and comprehensive work with the MOH, EGPAF is well-positioned to bring innovative solutions to tackle childhood TB, and will use the network built through its expansion of pediatric HIV testing and diagnosis to optimize access to vulnerable and high-risk populations. Building on existing project work and partnerships with the government and local organizations, EGPAF will increase coverage of new pediatric first-line FDCs and promote the introduction of innovative tools and service delivery models for pediatric TB. This work will be focused in Homabay and Turkana, starting with 30 high volume facilities in year 1 and 2 and scaling up to 50 facilities in year 3 and 4. Incremental scale-up will inform further ongoing implementation nationally and globally.

Currently, EGPAF's portfolio in Kenya already includes a Unitaids-funded grant catalyzing access to point-of-care early infant HIV diagnosis (POC EID) and EGPAF will establish strong monitoring and evaluation (M&E) systems to capture appropriate CaP TB project data, leveraging on its existing M&E system for its PEPFAR and Unitaids POC EID projects.

CaP TB Outputs by Objective

Objective 1: Create an Enabling Policy and Regulatory Environment at the Global and National Level

EGPAF will work with Kenya's existing national technical working group on pediatric TB to enhance implementation of innovative and globally-recommended TB diagnosis and treatment guidelines. EGPAF will also work with this group to strengthen policy on the use of child-friendly TB treatment, and on new regimens for preventive treatment among children with LTBI.

Objective 2: Introduction of Effective and Innovative Models of Care to Improve Detection of Pediatric TB Cases

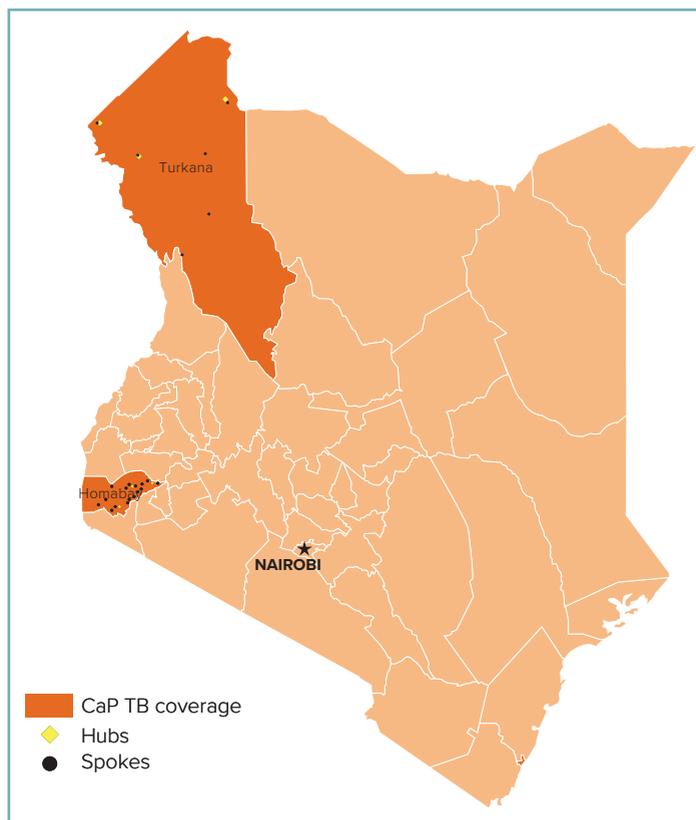
CaP TB will strengthen systematic TB screening in other health service delivery entry points, such as maternal and child health, under-five, and nutrition clinics. EGPAF will build health care workers' capacity on TB screening and community health workers' capacity to conduct TB screening and contact tracing in all implementing sites.

To increase case detection, CaP TB will work with private pharmacies as entry points for active case finding; these locations are often a caregiver's first stop, for cough syrup or antibiotics, when a child develops a cough. CaP TB will also expand case finding through community engagement: with a focus on congregate settings with high index cases, such as urban slum areas, schools, prisons (among children living with inmate mothers), colleges, and orphanages for active case finding.

Without a swift turnaround time from sample collection to initiation on treatment (if needed), improved case detection can only go so far. Leveraging the U.S. President's Emergency Plan for AIDS Relief-supported sample transportation system, EGPAF will accelerate transportation of samples to labs, and ensure timely return of results by working with local motorbike riders. CaP TB aims to further improve the laboratory-based TB diagnosis system by supporting the introduction of a more sensitive assay (called Xpert MTB/RIF Ultra), as soon as it becomes available in or around late 2019 / early 2020 (NTLD-P has upgraded all the GeneXpert machines to be able to use the Xpert ultra cartridge, once available).

Objective 3: Increase uptake of and access to improved pediatric TB treatments for active and LTBI

CaP TB project officers will ensure that site-level staff are prescribing newly introduced treatment formulations according to updated guidelines and standard operating procedures, both for active and latent TB. Clinicians will be trained both on- and off-site, and EGPAF will circulate clinician job aids on pediatric TB identification, diagnosis, and treatment to all supported sites.



Objective 4: Generate novel evidence and cost-effectiveness data

EGPAF will gather data that will inform program refinement and recommendations for further scale-up within Kenya and in other countries where CaP TB is implemented. Furthermore, Kenya will be part of a broader multi-country study assessing whether integrating pediatric TB services into general child health services at health facilities improves identification of children with TB.

Objective 5: Effectively transition this work to management by national entities, thereby ensuring sustainability

EGPAF will work with the NTP and other stakeholders including WHO, Stop TB Partnership, TB accelerated response care, National AIDS and STI Control Program and county governments to ensure childhood TB care and treatment is integrated in national systems and funding. EGPAF will also work with civil society organizations to increase awareness of pediatric TB and demand for the latest treatment options.

References:

1. World Health Organization. Global tuberculosis report. <http://apps.who.int/iris/bitstream/10665/259366/1/9789241565516-eng.pdf?ua=1>. Published 2017. Accessed December 11, 2017
2. Kenya National TB Programme. 2016 Annual Report. 2017.

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