

## Enhancing Tuberculosis Management through Cross-Border Collaboration, Governance and Patient-Centered Approaches in Trans Nzoia

County:	Trans Nzoia County		
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### Introduction

Communicable diseases are illnesses transmitted either directly between individuals or indirectly through vectors like insects. These diseases arise from infectious agents, including bacteria, viruses, fungi and parasites. Transmission methods include direct contact, airborne droplets, contaminated food or water and vector-borne pathways. They include Chickenpox, COVID-19, Ebola, Hepatitis B, Sexually Transmitted Diseases (STIs) and Tuberculosis (TB) to name a few.

Tuberculosis, a contagious bacterial infection caused by *Mycobacterium tuberculosis* spreads through the air when an infected person coughs, sneezes or talks, releasing tiny droplets containing the bacteria.



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Though TB primarily affects the lungs, it can also impact other parts of the body, such as the kidneys, spine and the brain. There are three major types of TB.

**Latent TB Infection:** This is when bacteria remain in the body in an inactive state and cause no symptoms. However, it can become active, particularly when the immune system is weakened.

**Active TB Disease:** This occurs when the bacteria multiply and cause symptoms such as a persistent cough, chest pain, coughing up blood, fever, night sweats and weight loss.

**Drug-Resistant TB (DR-TB):** This occurs when the *Mycobacterium tuberculosis* bacteria develop resistance to the standard drugs used to treat TB, particularly isoniazid and rifampicin, the two most potent first-line anti-TB drugs.

The successful treatment of tuberculosis (TB) globally has been hindered by several challenges, with one of the most significant being patients' failure to complete the full course of prescribed medication. This issue not only undermines the effectiveness of treatment but also contributes to the emergence of drug-resistant TB strains, complicating global efforts to control the disease.

In Kenya, under the Department of National Strategic Public Health Programs, the Directorate of Preventive and Promotive Health in the Ministry of Health hosts the National Tuberculosis, Leprosy and Lung Disease Program (NTLD-P). The program works with County Governments to formulate policies, set standards, develop capacity, identify and mobilize resources, ensure an uninterrupted supply of commodities, supervise, coordinate, monitor and evaluate the implementation of TB, Leprosy and Lung disease control activities.

Trans Nzoia County, located in the former Rift Valley Province, spans an area of 2,495.5 square kilometers and is home to 990,341 residents, as reported by the 2019 census. The County's border with Uganda renders it vulnerable to cross-border disease transmission, such as tuberculosis (TB). Individuals who have not undergone early detection and have familial ties on both the Kenyan and Ugandan sides can inadvertently spread the disease. In such cases, treatment initiated in Kenya may go unnoticed in Uganda, leading to interruptions or inconsistencies in the treatment regimen.

Kenya currently offers a 9-month TB treatment regimen, whereas Uganda still follows an 18-month regimen. This disparity in treatment protocols, combined with frequent border movements and patient transfers, disrupt effective drug administration. Consequently, this leads to the development of drug-resistant TB strains.

Trans Nzoia County continues to face significant human resource for health (HRH) challenges, with various departments suffering from a shortage of healthcare workers and insufficient replacement of retiring staff. This shortage impedes early detection of diseases, leading to delays in diagnosing and treating tuberculosis (TB) and contributing to the development of more aggressive strains and their subsequent spread. Additionally, the County struggles with inadequate isolation facilities for TB

patients. The lack of dedicated isolation areas means that TB patients are often placed in wards with other patients, increasing the risk of disease transmission.

The limited availability of genotyping sites for tuberculosis (TB) in the County has presented a significant challenge in accurately identifying drug-resistant strains. Genotyping is a crucial diagnostic tool that allows for the differentiation of drug-resistant TB strains from drug-susceptible ones by analyzing the genetic makeup of the bacteria. It is essential for tailoring effective treatment regimens and managing the spread of resistant strains.

The absence of comprehensive policies and structured protocols has been a challenge. Improved governance would enhance the implementation of standardized protocols, ensure adequate resources for isolation and ultimately contribute to more effective management and containment of TB.

Despite facing various challenges inherent to being a border County, the region has actively collaborated with multiple partners to address and manage TB. In 2021 the County was ranked top 19 according to the National Tuberculosis, Leprosy and Lung Disease Program scorecard used to rank and evaluate TB in the Counties.

The program assessed the County based on the successful completion of the following requirements;

1. The number of TB cases diagnosed and documented in healthcare facilities.
2. Evaluation of diagnostic tests.
3. Transmission rate index.
4. Number of screened patients who have received medication.
5. Number of patients who have successfully completed treatment.
6. The program monitors TB patient contacts by tracking individuals receiving preventive therapy, those undergoing continuous treatment, patients quarantined at home with health workers delivering medication and those on treatment but traveling to Uganda to ensure they can access their medication.

### **Implementation of the practice**

- In 2004, the County Government of Trans Nzoia partnered with AMPATH to enhance drug delivery and facilitate the collection of sputum samples via motorbikes from patients' homes to hospitals. This initiative specifically targeted TB patients who had already been diagnosed, screened and undergoing treatment. The treatment process involves conducting six sputum tests to monitor the presence of tuberculosis and for the patient to be declared cured.
- In 2020, Trans Nzoia County, in partnership with World Vision, conducted outreach programs to provide TB testing and treatment services in areas along the Kenya-Uganda border.
- In 2021, Amref in partnership with the County, implemented the Directly Observed Treatment (DOT) method by assigning dedicated healthcare officers to visit the homes of patients with



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drug-resistant TB. These patients, quarantined at home are provided with food and isolated to prevent the spread of the disease.

- The National Tuberculosis, Leprosy, and Lung Disease Program convenes all national TB coordinators hold quarterly meetings. During these sessions, challenges are identified, solutions are proposed and peer-to-peer exchanges take place to foster collaboration and improvement in TB management.
- A key challenge raised by border counties was the cross-border transmission of TB at various entry points, including dry borders like Busia, wet borders such as those near Lake Victoria, and pastoralist entry routes. Counties at these points, including Trans Nzoia, which hosts the Endebess border, submitted proposals to the National Tuberculosis, Leprosy, and Lung Disease Program which committed to address these concerns.
- The NTLD-P strengthened the proposals and submitted them to the Tuberculosis Implementation Framework Agreement (TIFA), a USAID-supported project. TIFA facilitates TB-focused grants aimed at enhancing National TB Programs, empowering them to effectively manage their national responses and accelerate progress toward the elimination of TB.
- In 2023, the proposal was approved, and implementation began in 2024. The solutions included organizing meetings between the Ugandan and Kenyan sides, starting in Tororo, Uganda and later in Eldoret Kenya. These meetings brought together health directors to exchange knowledge and identify key challenges hindering TB elimination. A major issue highlighted was the difference in treatment regimens, with Kenya offering a 9-month regimen, while Uganda following an 18-month regimen.



*Trans Nzoia County officials holding a strategic plan to end TB*





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- To integrate governance into TB management, the County established a technical working group comprising sub-county TB coordinators who identify treatment and prevention challenges and develop solutions. Additionally, the County organizes continuous sensitization forums where a cohort of TB patients undergoing treatment for drug-resistant strains is provided with food incentives and training on the importance of completing their full treatment regimen.

#### Results of the practice

- **Improved Governance and Coordination:** Strengthened oversight and collaboration through the technical working group has facilitated more effective decision-making and streamlined efforts in addressing TB treatment and prevention challenges. This has led to a more coordinated approach across sub-county health teams, improving the overall management of TB cases
- **Increased Treatment Adherence:** The provision of food incentives and educational programs for drug-resistant TB patients has led to higher rates of treatment completion.
- **Reduced TB Transmission:** Better patient management, including home-based care for drug-resistant TB patients, has contributed to a reduction in TB transmission within communities.
- **Improved Cross-Border Collaboration:** Engagement between Kenya and Uganda has fostered cooperation in addressing cross-border TB transmission, despite differences in treatment regimens.
- **Enhanced Diagnostic Capacity:** Efforts to expand testing and monitoring of TB patients, especially in border areas, have improved early detection and timely treatment of drug-resistant TB cases.

#### Lessons learnt:

- The scarcity of genotyping and diagnostic testing sites hinders rapid identification of drug-resistant TB strains, therefore, there is a need for expanding diagnostic capacity.
- Offering home-based treatment with dedicated healthcare workers for drug-resistant TB patients helps prevent disease spread and ensures consistent medication delivery.
- Effective TB control in border regions requires cooperation between neighboring countries to address differences in treatment protocols and enhance disease management across borders.
- Providing food incentives and education to TB patients, especially those with drug-resistant strains, plays a crucial role in encouraging adherence to treatment regimens.

#### Conclusion

- The implementation of governance-driven strategies and cross-border collaboration in Trans Nzoia County has demonstrated significant progress in the fight against tuberculosis (TB), particularly in managing drug-resistant strains. Through the establishment of a technical working group, improved coordination and oversight have strengthened the County's ability



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to address TB challenges more effectively. Further, cross-border engagement with Uganda has been crucial in addressing regional disparities in treatment protocols, advancing efforts to control TB transmission across borders. These efforts mark a critical step towards TB elimination, highlighting the importance of sustained collaboration, resource allocation and patient-centered approaches.