



The USAID/Kenya and East Africa Afya Jijini Program



Margaret Odera, a mentor mother at the Mathare North Health Centre in Nairobi County, is passionate about encouraging new mothers on TB Stigma reduction, improvement of utilization of health care services, as well as adherence to drugs for improved health outcomes.

TUBERCULOSIS TECHNICAL BRIEF

Afya Jijini's technical approach to strengthening tuberculosis prevention and control within Nairobi City County

USAID's *Afya Jijini* program aims to improve access to and quality of health services in Nairobi City County (NCC). The program strengthens county-level institutional capacity to manage these health services, including tuberculosis (TB), as a central strategy for health care improvement. Managed by IMA World Health (IMA), *Afya Jijini* is a five-year contract implemented in collaboration with local sub-contractors: the Christian Health Association of Kenya (CHAK), Mission for Essential Drugs and Supplies (MEDS), and the National Organization of Peer Educators (NOPE).

DATES OF IMPLEMENTATION

September 1, 2015 – August 31, 2020

BACKGROUND

TB remains the leading infectious disease in Kenya and is a major public health concern. The recent 2016 Ministry of Health (MOH) TB Prevalence Survey was a wake-up call for the country, finding twice as much TB (426 cases per 100,000 population) as previously estimated, after years of declining case notification.¹ Nearly half of all estimated TB cases were not diagnosed, notified, or treated in 2018.² A high-burden, multi-drug resistant TB (MDR-TB) country, Kenya also sees disproportionate mortality levels among MDR-TB patients, at 15% of all clients.³ Pediatric TB clients are additionally at risk and experience poorer clinical outcomes. An estimated two-thirds of pediatric TB cases are never diagnosed and treated.⁴ Many pediatric TB cases are treated presumptively as common acute respiratory infections. Additionally, health care workers (HCWs) lack the technical skills and confidence to conduct nasopharyngeal and gastric aspiration to collect sputum from children, which inhibits accurate diagnosis.

Nairobi itself contributes significantly to Kenya's increasing TB burden, estimated to account for 15% of all TB cases nationally. NCC is the highest burden county.⁵ The recent Kenya TB prevalence survey found 760 cases per 100,000 population in urban settings as compared to rural ones. As a metropolis, Nairobi features unique characteristics that drive its TB caseload. Nairobi's informal settlements provide fertile ground for TB transmission within crowded and poorly ventilated dwellings. Socioeconomic factors like poor housing, crowding, poverty, alcohol, and drug abuse also drive susceptibility. Clients with coughs often frequent private pharmacies due to their proximity or cheaper cost, as they do not require fees for diagnostic X-rays. As a result, the MOH has identified urban slum dwellers as a key population for TB interventions in its 2019-2023 national TB strategy.

In addition, a large proportion of Nairobi's residents participate in cyclical, rural-to-urban migration for work. This creates challenges for TB treatment adherence, tracking clients, and documenting cure rates. The clients also transfer to other health facilities within Nairobi after being diagnosed at large hospitals, creating documentation challenges. Finally, NCC is home to the largest concentration of people living with HIV (PLHIV), who are more vulnerable to contracting or dying from TB due to co-infection.

APPROACHES

The *Afya Jijini* team works closely with NCC to implement high-impact, evidence-based approaches to urban TB control that respond to the challenging operating context. The overall program approach is guided by the newly-released National Strategic Plan for TB, Leprosy and Lung Disease (2019-2023) and the NCC HIV and TB county-level health strategy. It focuses on integrating TB and HIV interventions, understanding that co-infection helps fuel both epidemics. It works at all levels of the health system – from community to county – to address the TB and HIV continuum of care and advance Kenya's Journey to Self-Reliance (J2SR). Specifically, it focuses efforts on 36 focal TB-HIV sites, where it provides training, clinical mentorship, and continuing education on some of the most challenging TB issues, including pediatric TB case finding, diagnosis, and MDR-TB. Throughout, *Afya Jijini* emphasizes a focus on data-driven quality improvement (QI), using indicator reviews to target intensive interventions. It also uses a health systems strengthening approach to address some of the leading systems issues that impact TB success, including the supply chain, and monitoring and evaluation. The section below describes *Afya Jijini's* primary TB prevention and treatment approaches in NCC:

¹ MOH. Kenya TB Prevalence Survey, 2016

² MOH. National Strategic Plan for TB, Leprosy, and Lung Health 2019-2023. 2019.

³ National TB, Leprosy and Lung Disease. (2018). Annual TB Report. Nairobi: National TB, Leprosy and Lung Disease

⁴ MOH. National Strategic Plan for TB, Leprosy, and Lung Health 2019-2023. 2019.

⁵ MOH. Kenya TB Prevalence Survey, 2016.

TB-HIV INTEGRATION

Afya Jijini focuses on the prevention, diagnosis, and treatment of clients with HIV, who are at high risk for contracting TB and comprise a significant proportion of Nairobi's overall TB burden. The project works across the TB-HIV clinical cascade, ensuring new TB cases know their HIV status and are immediately enrolled in HIV treatment if diagnosed. County Treatment Preparation and Adherence counselors provide HIV testing services in TB clinics for all clients as needed, and escort newly-positive clients to the Comprehensive Care Center (CCC) while providing counseling. Conversely, all HIV clients are screened for TB during each CCC visit, and suspected cases are diagnosed using GeneXpert or TB-LAM (when indicated for very sick clients). Working with Sub-County TB and Leprosy Coordinators (SCTLCs), the project mentors CCC clinicians on the provision and documentation of isoniazid preventive therapy (IPT) for PLHIV as an evidence-based strategy to reduce TB acquisition.

Documentation of IPT remains a challenge for most facilities (with a separate card needing to be filled). As such, *Afya Jijini* cluster teams conduct chart abstraction monthly with facility staff to monitor IPT documentation and initiation. More broadly, the sub-county monitors TB-HIV QI efforts through on-site supportive supervision and through the support of facility-level QI Teams, which routinely monitor critical TB-HIV indicator performance and develop action plans for challenges.

PEDIATRIC HIV DIAGNOSIS AND TREATMENT

Afya Jijini strengthens NCC's ability to address the persistent challenge of finding, diagnosing, and treating children, a priority TB population for the MOH. Kenya – including Nairobi – struggles to find and successfully treat pediatric clients. Working with sub-counties, the project trains and mentors clinicians to increase their awareness of the signs and symptoms of pediatric TB, which is often misdiagnosed as an upper respiratory infection in children. The project also trains and coaches clinicians in facilities on pediatric diagnosis techniques, including gastric aspiration. The project worked with NCC to develop a new TB screening algorithm for use in NCC schools to identify pediatric TB cases. The tool enables teachers and support staff to screen students routinely, rather than only on special health outreach days during which health care workers visit schools. The new approach has found and treated more than 200 new TB cases, contributing significantly to the NCC's overall pediatric TB diagnoses.

MDR-TB

Afya Jijini assists the NCC to address the growing threat of DR-TB. The County was named an official DR-TB County in February 2019. The program trains and mentors sub-counties in conducting DR-TB surveillance at 42 TB-HIV facilities and other large volume sites, ensuring all clients receive GeneXpert diagnostics and are tracked through cure. Data inform TB case finding and treatment interventions, focusing on sub-counties with an MDR-TB burden like Embakasi. *Afya Jijini* works with SCTLCs to conduct monthly clinical DR-TB clinical meetings to review patients on second-line treatment and to monitor the quality of care, instituting treatment regimen changes to prevent serious side effects from adverse drug reactions like hearing loss.

FACILITY-LEVEL INFECTION PREVENTION AND CONTROL (IPC)

The project collaborates with NCC to improve its ability to prevent nosocomial TB transmission. Given that TB prevalence is higher among patients visiting a health facility, it is critical that the county adopt TB prevention measures within sites to reduce transmission of the infectious disease. To that end, *Afya Jijini* supports SCTLCs to conduct facility IPC assessments to identify gaps and challenges in service delivery points and implement immediate remedies. They also ensure sites identify IPC focal persons and include TB IPC activities in annual work plans. Sub-counties also monitor the semi-annual TB screening from HCWs to ensure that they are not contracting or spreading HIV, in line with the national strategy.

Afya Jijini also helped the NCC adopt an innovative facility-level TB detection strategy: cough monitors. The project trained and mentors 31 lay cough monitors who work across 42 facilities to identify coughers, screen them, collect sputum for adult patients, and escort them for further, fast-tracked TB diagnostics and treatments. They also complete TB presumptive registers, document TB suspect contacts, and follow up with clients to ensure they are enrolled and retained in the continuum of care (if applicable). Cough monitors also provide evidence-based TB messaging in outpatient department waiting bays to increase awareness of TB and de-stigmatize it.

COMMUNITY-LEVEL ACTIVE CASE FINDING (ACF) AND DEFAULTER TRACING

Afya Jijini collaborates with SCTLCS to conduct ACF in targeted communities and congested informal settlements to identify TB cases and start them on treatment. ACF is useful for following up when data indicates outbreaks and TB hotspots, for tracking index client contacts, and in informal settlements where under-reporting is suspected. Community ACF is an important strategy to reach patients who may not report to the health facility for treatment until later in disease progression, particularly men, and in stopping further spread. *Afya Jijini* has worked with private chemists to conduct TB screening and sputum collection in some cases to help identify potential cases in the community, given the popularity of private drug shops in informal settlements. The program also launched an innovative ACF approach targeting drinking den owners. Drinking dens are popular, typically enclosed shanties in informal settlements where men gather to drink illegal alcohol and socialize. They are also suspected to be places with high potential for TB transmission. In the ACF approach, *Afya Jijini* works with SCTLCS and community health volunteers (CHVs) to sensitize drinking den owners on TB signs, and CHVs escort suspected cases for free screening and treatment enrollment.

CHVs and cough monitors also work with facilities to conduct TB client defaulter tracing in the community or by phone, return them to care, and document them in registers. This support is critical, as Nairobi's highly urban population is migratory, and clients often move without informing their initial point of service. CHVs can visit their temporary homes and track the outcomes.

COUNTY AND SUB-COUNTY HEALTH SYSTEM STRENGTHENING

Afya Jijini strengthens the county's health system to improve TB detection and clinical outcomes, including assuming and leading these efforts as part of the J2SR. It has improved TB coordination across implementing partners and other stakeholders at the county and sub-county level, improving efforts to conduct non-duplicative case finding and coordinating the rollout of new national TB guidelines. *Afya Jijini* also works with the sub-county to improve the supply chain for TB commodities and lab reagents, providing coaching in forecasting, commodity management and reporting into national systems to prevent stock-outs of GeneXpert cartridges and IPT. Within monitoring and evaluation (M&E), *Afya Jijini* trained focal health care workers to use TIBU – the national case-based electronic surveillance system for TB – and DHIS2 for TB performance reporting.

RESULTS

- 98% of TB patients tested for HIV at their most recent appointment.
- 93% of new HIV cases among TB patients were enrolled on ART (Y4/Q2).
- 95% of PLHIV clients were enrolled in or completed a course of IPT during Year 4 at targeted facilities with active WITs.
- Launched innovative community- and school-based TB screening programs that are finding more TB cases among men and children.
- Scaled up the use of GeneXpert for TB diagnosis by establishing six testing hubs and sample networking to service 36 high-volume HIV and TB facilities.

- J2SR: *Afya Jijini* works with multiple local organizations to improve their community TB detection capabilities under its grants-under-contracts mechanism. It also engages CHAK as a local sub-contractor, which provides substantial TB QI oversight and technical assistance to sites.

LESSONS LEARNED

Afya Jijini remains committed to learning and improving its impact on urban TB services. In the past four years, the project has identified a number of challenges and corresponding lessons learned, including:

- IPT provision, a critical intervention to prevent mortality and TB acquisition by PLHIV, remains a challenge at facility level. These challenges range from commodity stock-outs, to documentation in registers, to clinician biases in prescription.⁶ It requires extra focus by TB-related technical assistance and HSS activities, including QI, to see improvements.
- Adult and pediatric TB case finding requires new facility- and community-level approaches to be successful. *Afya Jijini* implemented several successful approaches (cough monitors, modified school screening, drinking den targeting, etc.) Challenges still remain, however, including in tracing treatment defaulters such as drug users.
- Clinical QI is critical to address urban TB. USAID’s TB-ARC and *Afya Jijini* trained all SCTLCS in TB CQI, focusing on poor performing indicators in confirmed cure rates and IPT in children. The sub-counties now conduct monthly clinical reviews and work with facility QIT to implement small doable actions to improve TB indicators. This has increased IPT uptake dramatically.

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⁶ Some clinicians, for example, report that they view taking IPT is an “extra burden” to ART patients and may impede their ART adherence and are therefore reluctant to prescribe them.