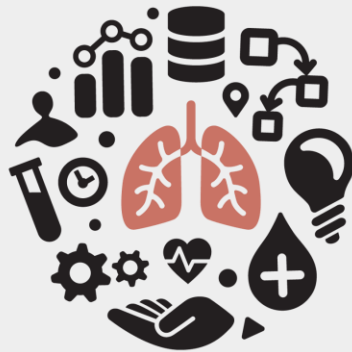




# SAIA-TB

Systems Analysis & Improvement Approach  
Tuberculosis

## **Heterogeneity across 16 facilities: TB cascade performance prior to SAIA-TB implementation in Eastern Cape, South Africa**

June 8-11, 2026

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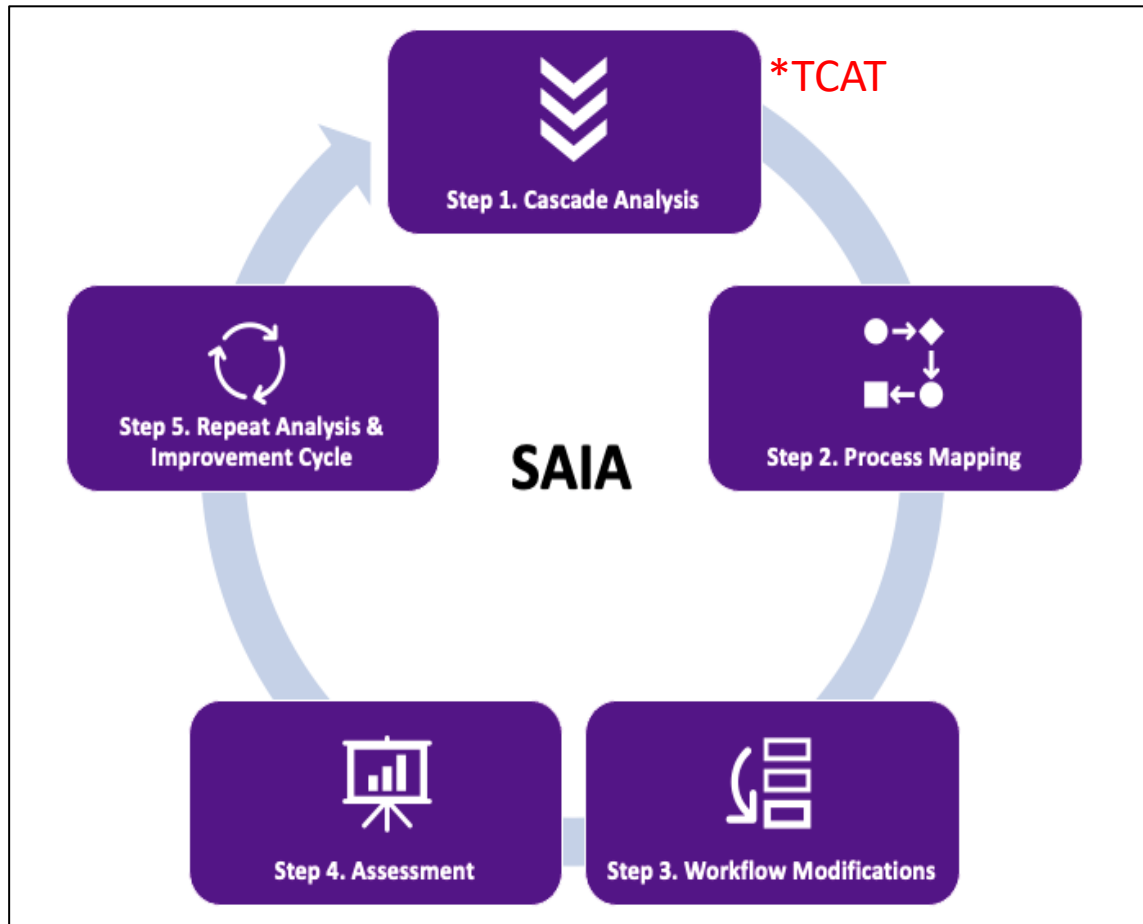
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# Background of overarching SAIA-TB study

- Overall goal is to understand the **effectiveness** of the SAIA-TB implementation strategy on TB cascade optimization, including screening, and successful TPT and TB disease treatment initiation.
- We will **determine drivers of success** among clinics, and **assess acceptability and preferences** of SAIA-TB components among individuals accessing TB care
- Ultimately, this will **improve comprehensive TB care** and **decrease community TB transmission** in this high TB/HIV burden and low resource setting.

# SAIA strategy



# Background for this study

- South Africa remains a high-burden country for TB
- The Sarah Baartman District in the Eastern Cape has the country's highest reported incidence (1,022 cases per 100,000).
  - Mix of rural settings, peri-urban locations, and migratory seasonal labor
- HIV co-infection fuels TB in this setting
  - Among N=30,413 patients screened in the study, 25% PLWH, 58.5% HIV-, 16.5% unknown
  - Two recent studies show 59-69% of patients in EC with TB are PLWH

# Rationale

- The **TB Cascade Analysis Tool (TCAT)** is an iterative tool within the Systems Analysis and Improvement Approach for TB (SAIA-TB) that identifies where patients drop off at each stage of care:
  - Screening, diagnosis, treatment initiation, outcomes, and prevention.
- In preparation for a stepped-wedge cluster-randomized trial implementing the SAIA-TB intervention across 16 facilities, we analyzed 12 months of baseline data to...

# Objectives



Examine pre-intervention trends and facility- and cluster-level performance



Inform intervention planning and strategies



Assess the feasibility of the TCAT tool

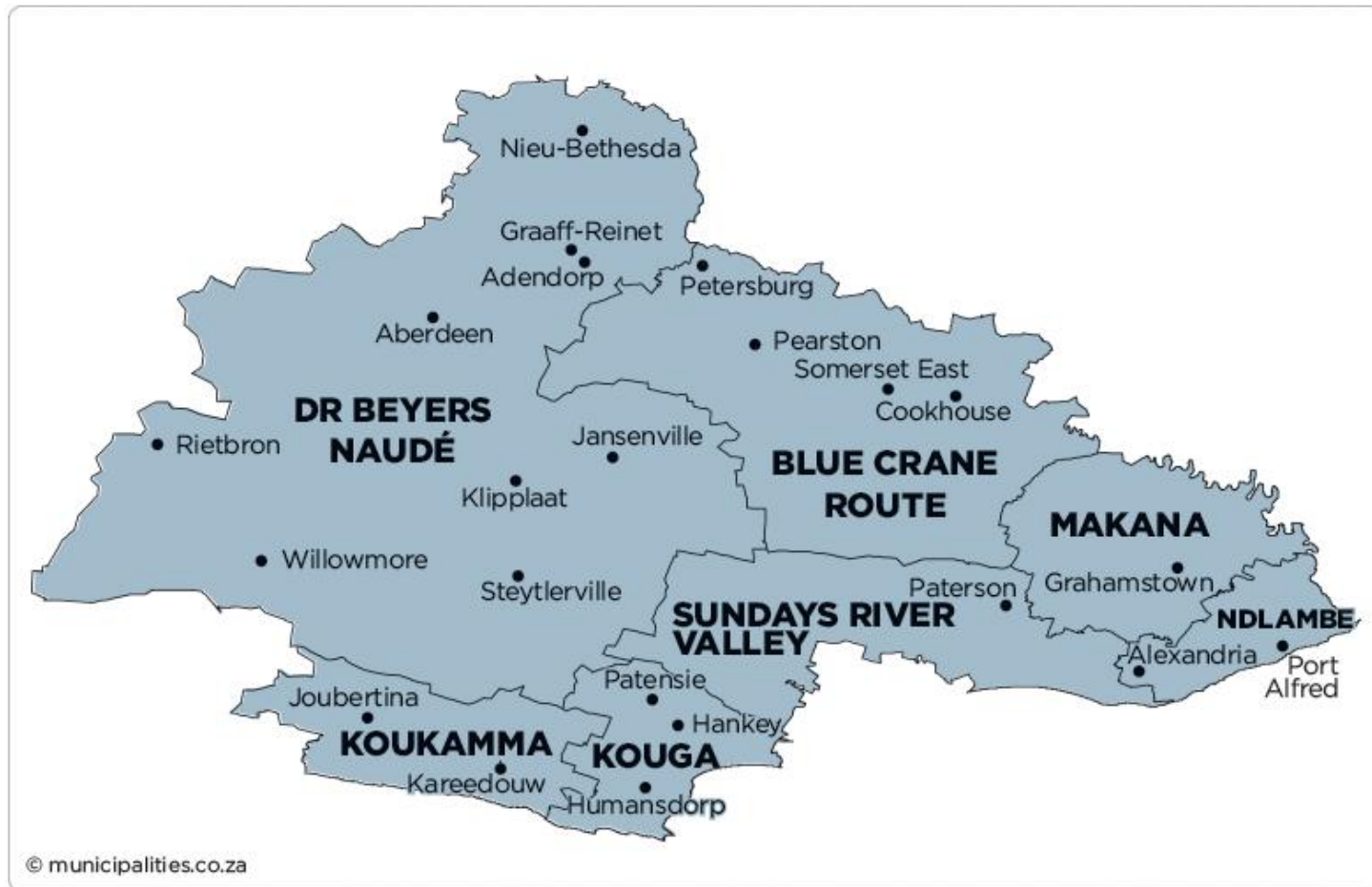
# Methods – setting and sample



Freck Dikgale, Nkwenkwezi data clerk, Brittney van de Water

- Data were collected from January 2024 to January 2025 at 16 facilities in four local municipality clusters
  - Koukamma
  - Kouga
  - Sundays River Valley
  - Ndlambe

# Map of Sarah Baartman district, Eastern Cape

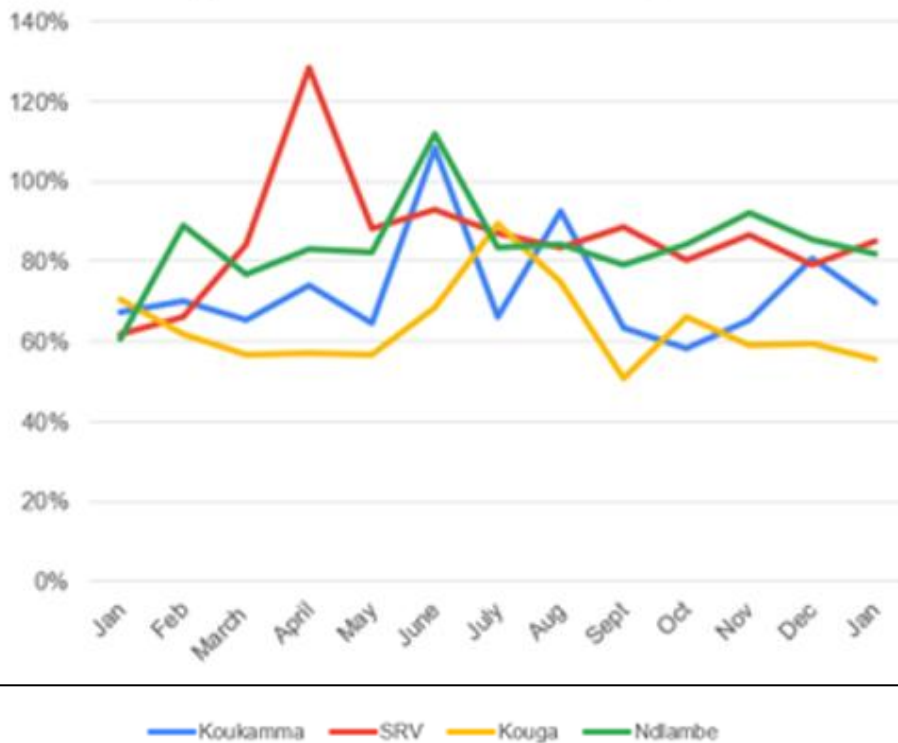


# Methods - analysis

- TCAT steps calculated as proportions
  - **Screening** = # screened / # in Facility Headcount
  - **Treatment initiation** = # who initiated TB treatment / # diagnosed with TB disease (clinical or bacteriological) – CXR, TB NAAT, clinical,
  - **TPT initiation** = # initiated TPT (in TB ID Register) / # eligible in (HHC, high risk – PLWH, silicosis, xxx)
- Presented as cluster averages and ranges over time

# Results - screening

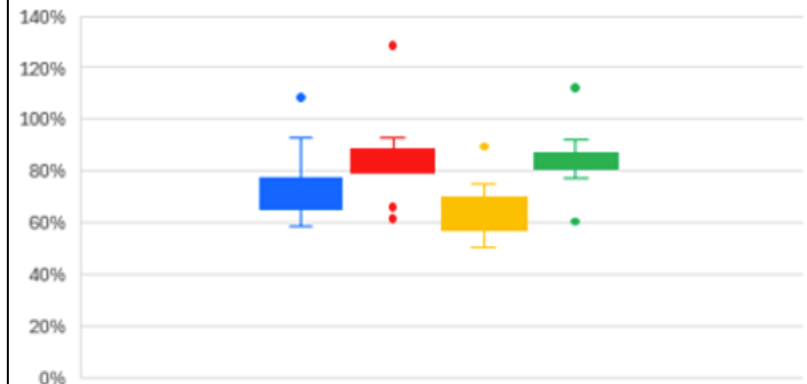
Step 1. % screened of those registered



Average **screening** coverage:

- 74.2% (58.2-108.3%) in Koukamma
- 87.1% (66.0-128.5%) in Sundays River Valley
- 64.4% (50.7-89.4%) in Kouga
- 85.5% (76.9-112.0%) in Ndlambe

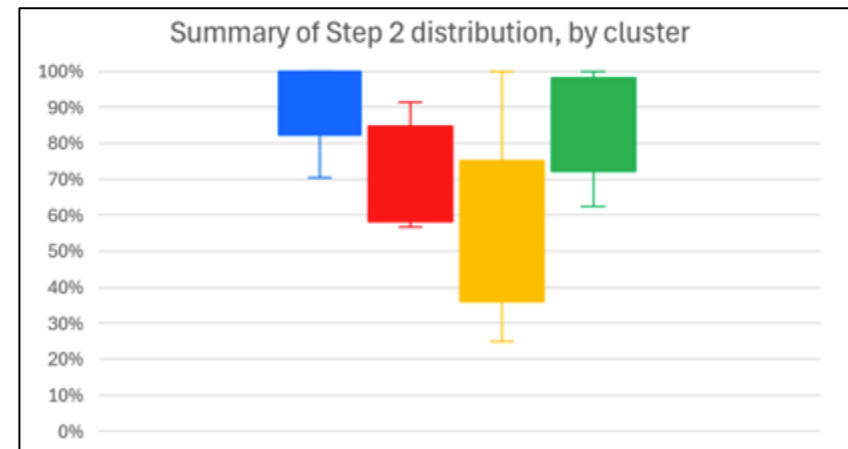
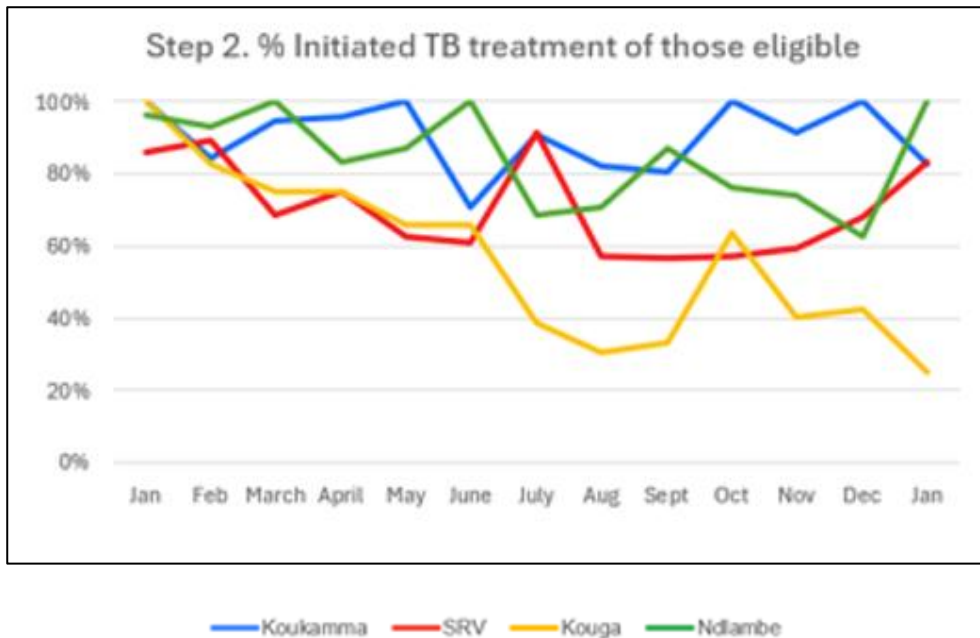
Summary of Step 1 distribution, by cluster



# Results – TB Treatment Initiation

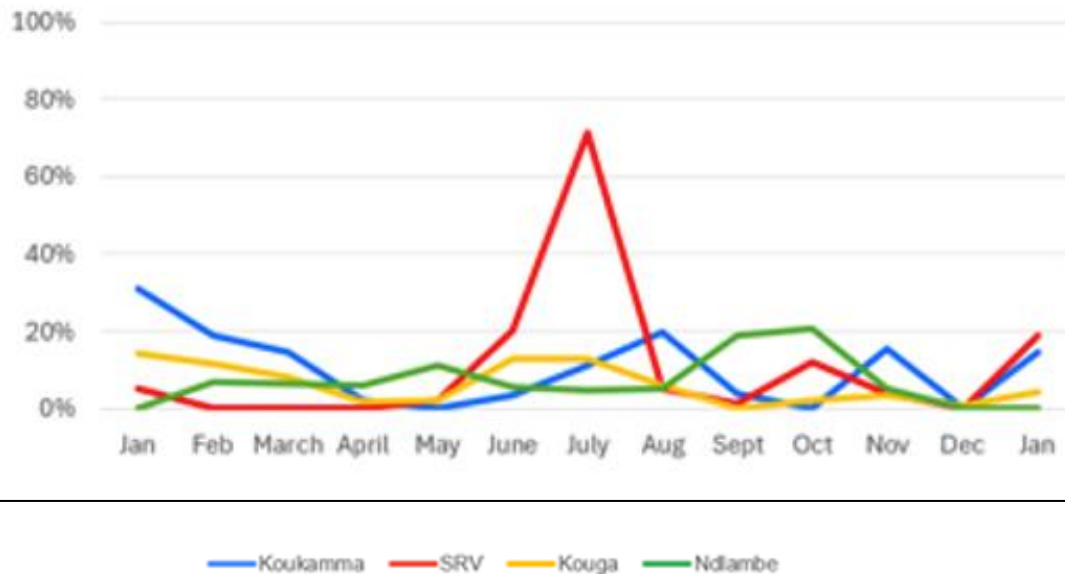
The average **treatment initiation** rate:

- 90.4% (70.6-100%) in Koukamma
- 70.4% (56.7-91.3%) in Sundays River Valley
- 56.9% (25.0%-100%) in Kouga
- 84.5% (62.5-100%) in Ndlambe



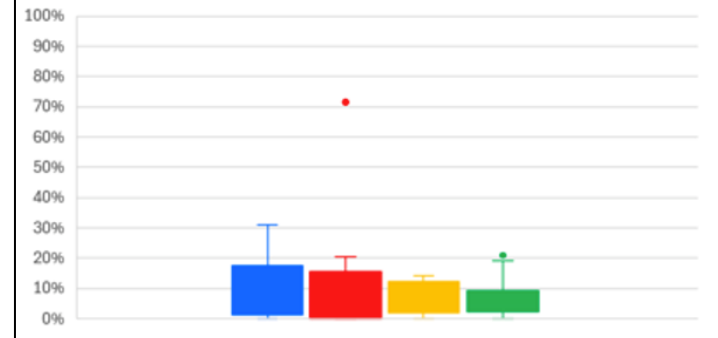
# Results – TB Preventive Treatment

Step 3. % Initiated TPT of those eligible



**TB preventive treatment initiation** was low across all clusters, ranging from 6.3% (Kouga) to 14.1% (Sundays River Valley).

Summary of Step 3 distribution, by cluster



# Interpretation



**Substantial baseline heterogeneity in cascade performance exists across facility clusters, indicating that the TCAT is a robust monitoring and evaluation tool.**



**Findings highlight opportunities to improve facility- and cluster-level TB care.**



**This supports the use of the SAIA-TB implementation strategy to inform sustainable, structural improvements to optimize TB and TPT delivery in this South African context.**

# Programmatic/Policy Implications



Assessing pre-intervention trends is essential to:

quantify attrition across the TB care cascade, identify facility- and cluster-level heterogeneity, and tailor the SAIA-TB intervention to address specific cascade drop-offs.



This exercise helped us **assess** our baseline data and **understand** differences in Department of Health data and study collected data and where exactly discrepancies occur – in source documents, human error, accessing documents, and where to initiate change during the intervention



It provided ample time for **tool refinement** and **active interaction** with study staff, facility staff, district managers and positive engagement

# Conclusion & Key Take-home Messages

Visualizing baseline gaps using the TCAT proved **valuable** prior to intervention rollout.

Substantial heterogeneity in **screening** and **treatment initiation** was observed across all clusters, with uniformly low **TB preventive treatment initiation**.

These findings will enable the SAIA-TB strategy to select **tailored**, facility- and cluster-specific improvement strategies.

This approach provides a **scalable framework** for optimizing TB screening, treatment initiation, and preventive treatment uptake in high-burden settings.



**Thank you!**  
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