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Paediatric TB Care in West Rand District: High Treatment Initiation with Persistent Gaps in TB Preventive Therapy Uptake

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Background

- Tuberculosis (TB) remains one of the leading infectious causes of morbidity and mortality among children globally.
- According to the WHO Global TB Report 2023, approximately 1.2 million children develop TB annually and more than 200,000 die from TB-related causes.
- Children under five years are particularly vulnerable because of immature immune systems and higher risk of severe forms of TB such as TB meningitis and miliary TB.
- South Africa is among the high TB burden countries and continues to report significant paediatric TB and TB/HIV co-infection rates.
- Early diagnosis, rapid treatment initiation, contact tracing, and TB Preventive Therapy (TPT) remain critical interventions for reducing paediatric TB mortality.

Problem Statement / Rationale

- Although South Africa has improved paediatric TB diagnosis and treatment initiation, gaps remain in TB prevention services.
- TB Preventive Therapy (TPT) uptake among eligible child contacts remains below national and WHO targets in several districts.
- Poor caregiver understanding, incomplete contact tracing, transport challenges, and population mobility continue to affect programme performance.
- Sub-district level variations in performance suggest differences in programme implementation, follow-up systems, and community engagement.
- Understanding these barriers is essential for improving paediatric TB prevention and achieving End TB Strategy targets.

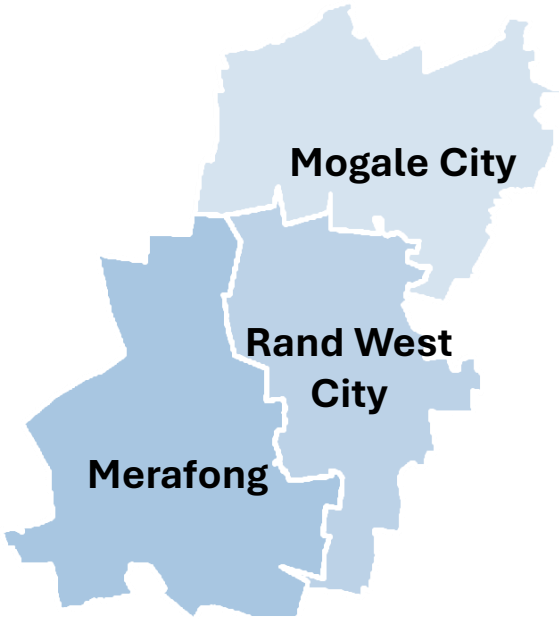
Objective(s)

Primary Objective:

- Determine DS-TB treatment initiation rates among children under five years in West Rand District during 2024.

Secondary Objectives:

- Assess TPT uptake among eligible child contacts.
- Compare programme performance across Merafong, Mogale City and Rand West City sub-districts.
- Identify major barriers contributing to low TPT initiation.
- Generate evidence-based recommendations for programme strengthening.



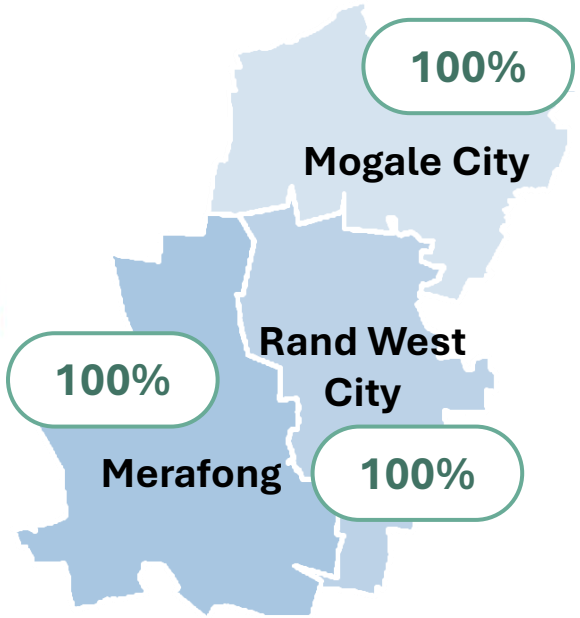
Methods

- **Study Design:** Retrospective descriptive analysis of routine programme data.
- **Study Setting:** West Rand District, Gauteng Province, South Africa.
- **Study Period:** January to December 2024 (Q1–Q4).
- **Study Population:** Children under five years diagnosed with DS-TB and eligible child contacts requiring TPT.
- **Data Sources:** DHIS reports, facility TB registers, TPT registers, and district programme reports.
- **Data Analysis:** Descriptive statistics, quarterly trend analysis, and sub-district comparisons.
- **Ethics:** Data were anonymised and aggregated as part of routine programme performance monitoring.

Results: Paediatric TB Treatment Initiation

- All three sub-districts achieved 100% treatment initiation rates across all four quarters of 2024.
- No delays greater than seven days were reported between diagnosis and treatment initiation.
- District-wide treatment initiation performance met national programme standards.
- The findings suggest strong clinical management systems, effective referral pathways, and improved availability of child-friendly TB formulations.
- Consistent healthcare worker adherence to paediatric TB treatment guidelines was observed.

Paediatric TB treatment initiation (Under 5 years)



100% TB treatment initiation for under 5 years

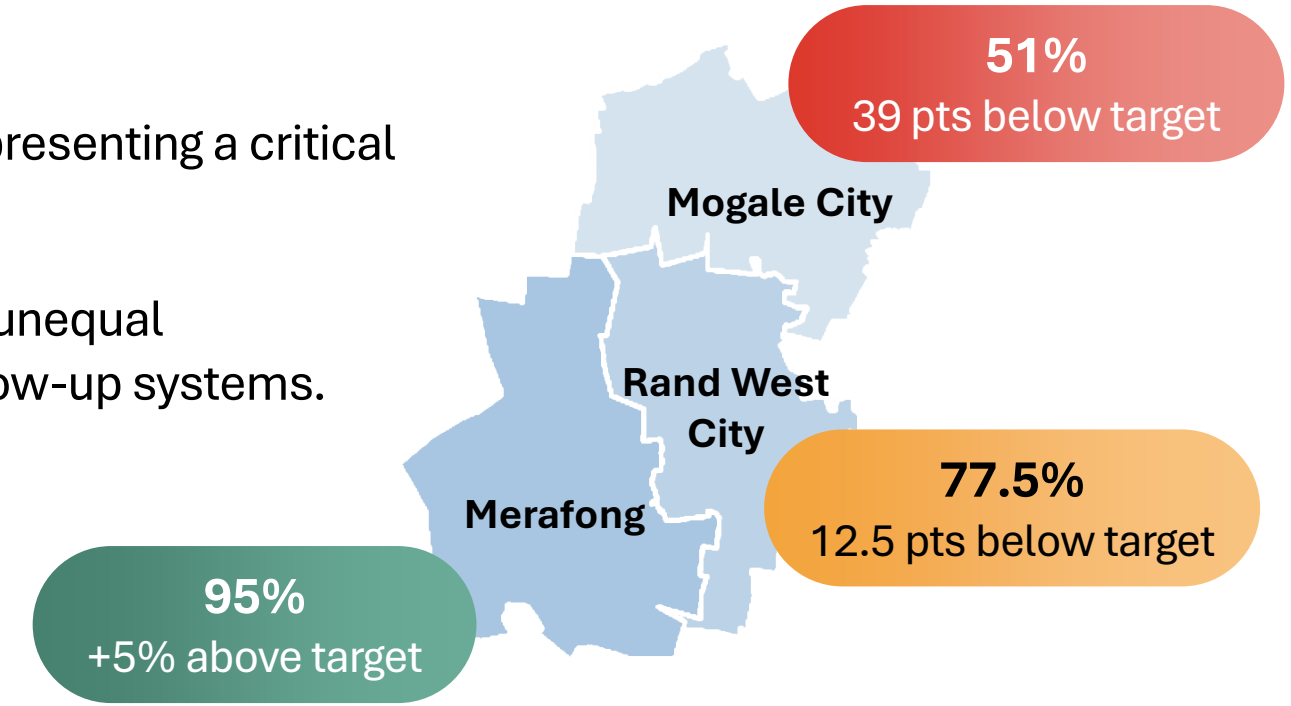
2024 annual for district and all 3 sub-districts

Results: Paediatric TB Treatment Initiation

Indicator	Definition	National Target
Paediatric TB treatment initiation (under 5)	% of diagnosed children who start treatment within 7 days	100% (programme standard)
TPT uptake	% of eligible child contacts who initiate TPT	≥90%
TPT completion	% who complete 6 months of TPT (isoniazid or 3HP)	≥85%

Results: TPT Uptake by Sub-district (annual 2024)

- District TPT uptake was 69.7%, which remains **20.3 points below** the national target of ≥90%.
- Merafong achieved greater than 95% uptake and exceeded programme expectations.
- Rand West achieved 77.5% uptake, indicating moderate performance but remaining below target.
- Mogale City recorded only 51% uptake, representing a critical programme gap.
- The large performance variation highlights unequal implementation of contact tracing and follow-up systems.



Results: Barriers to TPT Initiation

Barrier	% of non-initiation cases	Most affected sub-district
Caregiver refusal	32%	Mogale (45% of refusals)
Child not available for follow-up visits	25%	Mogale (30%)
Incomplete / inaccurate contact information	18%	Rand West (22%)
Eligibility change (confirmed TB disease during screening)	12%	Merafong (15%)
Child moved / transferred out	8%	Mogale (12%)
Operational (e.g., stock-out, staff shortage)	5%	Rand West (7%)

Programmatic / Policy Implications

- Integrate TPT counselling into routine maternal and child health services such as immunisation and growth monitoring.
- Expand community health worker-led household tracing and home-based TPT initiation.
- Improve routine documentation and standardise TPT registers across facilities.
- Introduce early defaulter tracing systems for missed appointments.
- Strengthen district monitoring by including TPT uptake and completion indicators in quarterly reviews.
- Enhance caregiver education through multilingual and culturally appropriate communication materials.

Recommendations

- Strengthen training of healthcare workers and CHWs on paediatric TB prevention and counselling.
- Improve integration of TB services into primary healthcare and child wellness programmes.
- Introduce digital tracking systems for child contacts and TPT follow-up.
- Conduct routine supportive supervision and mentorship in low-performing facilities.
- Expand public awareness campaigns on the importance of TPT in preventing childhood TB disease.

Conclusion & Key Take-Home Messages

- Paediatric TB treatment initiation in West Rand District reached 100% across all sub-districts.
- Despite strong treatment initiation performance, TPT uptake remains below national targets.
- Merafong demonstrates that high TPT uptake is achievable within district health systems.
- Caregiver refusal and poor follow-up remain major barriers affecting programme success.
- Targeted interventions focusing on community engagement, tracing systems, and caregiver education are urgently required.

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Acknowledgements

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