



Status of Implementation of the Nurse-Initiated Management of Drug- Resistant TB (NIMDR-TB) Programme in South Africa



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Abbreviations

CNP	Clinical Nurse Practitioner
DR-TB	Drug-Resistant Tuberculosis
EDL	Essential Drug List
EML	Essential Medicines List
EC	Eastern Cape Province
EDRWeb	Electronic Drug-Resistant Tuberculosis Register
FS	Free State Province
GP	Gauteng Province
HIV	Human Immunodeficiency Virus
KZN	KwaZulu-Natal Province
LP	Limpopo Province
MO	Medical Officer
M&E	Monitoring and Evaluation
MDR-TB	Multidrug Resistant Tuberculosis
MP	Mpumalanga Province
NC	Northern Cape Province
NEMLC	National Essential Medicine List Committee
NICD	National Institute for Communicable Diseases
NDoH	National Department of Health
NHLS	National Health Laboratory Service
NICD	National Institute for Communicable Diseases
NIMART	Nurse Initiated Management of Antiretroviral Treatment
NIMDR-TB	Nurse Initiated Management of Drug-Resistant TB
NTP	National Tuberculosis Control Programme
NW	North West Province
OSCE	Objective Structured Clinical Examination
PHC	Primary Health Care
Pre-XDR-TB	Pre-extensively-Resistant Tuberculosis
PTB	Pulmonary Tuberculosis
RTC	Regional Training Centre
RR-TB	Rifampicin-Resistant Tuberculosis
SANC	South African Nurses Council
SOP	Standardised Operating Procedures
STG	Standard Treatment Guidelines
TB	Tuberculosis
WC	Western Cape Province
XDR-TB	Extensively Drug-Resistant Tuberculosis



Executive Summary

The Nurse Initiated Management of Drug-Resistant Tuberculosis (NIMDR-TB) programme was established to support decentralised management of DR-TB in South Africa by training nurses to initiate and manage uncomplicated RR/MDR and now, Pre-XDR-TB at primary healthcare (PHC) and sub-district levels. This rapid review evaluates the programme's implementation, achievements, challenges, and opportunities for strengthening its impact on DR-TB care.

The review demonstrates that NIMDR-TB has significantly contributed to the decentralisation of DR-TB services, thereby improving access to care closer to patients' homes, reducing out-of-pocket costs such as loss of income, travel and child-minding expenses, and relieving pressure on hospital-based services. Assessment of EDRWeb data between 2020 and 2024 indicate that the outcomes of nurse-initiated DR-TB treatment are non-inferior to the outcomes of treatment initiated by doctors.

Despite these successes and wide acceptance of the value of the NIMDR-TB programme, there is substantial variation in the number of nurses trained, those who are certified, and in the number of nurses that are actively initiating DR-TB treatment following certification. These variations are not wholly explained by differences in population size, disease burden and geography and signify an urgent need to strengthen the programme further.

The barriers to the equitable implementation and impact of the NIMDR-TB programme include the poor retention of NIMDR-TB nurses in active service due to high attrition rates of NIMDR-TB nurses from DR-TB management, poor selection of candidates for NIMDR-TB training, the policy of staff rotation, inadequate post-certification support and limited career pathways. Additionally, policy gaps undermine institutional support for the programme. The PHC Standard Treatment Guidelines do not allow for the initiation of DR-TB treatment by nurses at primary care level, and the South African Nursing Council (SANC) has not formally recognised the programme. Weak monitoring and evaluation systems further hinder tracking of training, certification, and treatment initiation, limiting the programme's ability to measure impact and identify gaps. The variability in implementation across provinces partially reflects the differences in the capacity of Regional Training Centres, availability of experienced trainers, and collaboration between provincial and district TB managers. While provinces such as Northern Cape, Free State and Gauteng demonstrate strong ownership and coordination, others rely heavily on the NTP and external partners for training and mentorship.

To ensure equitable access to DR-TB care and maintain service continuity at the primary care level, the programme should set a target of at least two trained and certified NIMDR-TB nurses per sub-district as a minimum standard for national coverage. To enhance the NIMDR-TB programme, a multi-pronged approach is recommended, including developing an enabling policy framework, formal recognition of certification, appointment of national and provincial coordinators, strengthening candidate selection, improving post-training mentorship and support, enhancing retention through career pathways and incentives, capacitating Regional Training Centres, and establishing a standardised monitoring and evaluation system.

In conclusion, the NIMDR-TB programme has proven its value in decentralising DR-TB care and improving patient outcomes. Coordinated health system support, sustained investment, and policy alignment are essential to realise its full potential and ensure equitable, high-quality DR-TB services across South Africa.

1. Introduction

1.1. Background on DR-TB treatment in South Africa

South Africa's long-standing model of specialist, hospital-based care for drug-resistant tuberculosis (DR-TB) underwent a significant reform in 2011, with the adoption of a national policy promoting the decentralisation and deinstitutionalisation of DR-TB services. This shift aimed to improve access to care by enabling patients to receive treatment closer to their homes, reduce disruption to their livelihoods by allowing earlier return to work, and lower health system costs through delivery of care at primary health care (PHC) level rather than specialised hospitals.

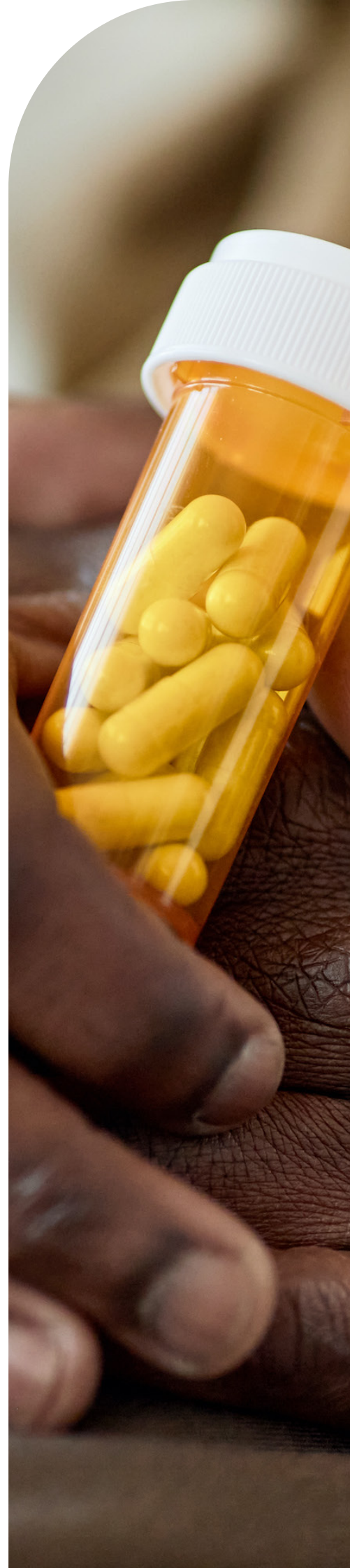
However, limited availability of medical officers (MOs) at district level posed a barrier to implementing decentralised care models. To address this, the inclusion of professional nurses in the initiation and management of DR-TB treatment was explored. Jhpiego (now JPS Africa) successfully piloted this approach, demonstrating its feasibility and safety. These results informed national policy, and in 2014 the National Department of Health (NDoH) formally introduced the Nurse-Initiated Management of DR-TB Treatment (NIMDR-TB) programme. The initiative drew on lessons from the successful Nurse Initiation and Management of Antiretroviral Therapy (NIMART) model used in the HIV programme, leveraging established task-sharing strategies to strengthen decentralised service delivery (NDoH, 2022).

1.2. Evidence of effectiveness of nurse-initiated care, TB and HIV

Evidence demonstrates that treatment outcomes are not compromised by NIMDR-TB treatment. Results from a clinical cohort in KwaZulu-Natal supports the effectiveness of task-sharing between nurses and doctors in managing multidrug-resistant tuberculosis (MDR-TB). In a retrospective cohort study of 197 patients initiated on MDR-TB treatment between 2012 and 2015, Farley et al. (2017) compared treatment outcomes between patients managed by clinical nurse practitioners (CNPs) and those managed by medical officers (MOs). The overall treatment success rate was 58%, with no statistically significant difference by provider type: treatment success was 61% among patients initiated by CNPs compared to 53% among those initiated by MOs. These findings demonstrate that task-sharing did not compromise clinical outcomes and reinforced the potential of the NIMDR-TB programme to safely expand access to quality DR-TB care through nurse-led service delivery.

The NIMART experience is highly relevant to the decentralisation of DR-TB treatment in South Africa. NIMART has been implemented since 2010 as a task-sharing strategy to expand access to HIV treatment through PHC services. The programme has been supported by structured training, ongoing mentorship, integration of HIV services into routine PHC delivery, and the development of tailored clinical guidelines (Crowley et al., 2021). NIMART is now widely accepted in South Africa, with antiretroviral medicines included in the Essential Drug List (EDL) for PHC.

A ten-year review of the programme found that NIMART not only improved HIV service coverage by increasing treatment initiation and reducing the burden on referral facilities but also enhanced professional development among nurses (Crowley et al., 2021). Nurses reported increased confidence, role clarity and empowerment associated with their expanded clinical responsibilities, while appropriate training and support were linked to improved job satisfaction and quality of care. These lessons offer important insights for the implementation of nurse-led DR-TB care under the NIMDR-TB model.



1.3. Overview of the NIMDR-TB programme

A central component of the NIMDR-TB programme is the expansion of access to DR-TB care by capacitating professional nurses to initiate and manage uncomplicated RR/MDR and now Pre-XDR-TB patients at PHC level across South Africa. Implementation is guided by a Standard Operating Procedure (SOP) that outlines programme requirements, training, and clinical governance processes (NDoH, 2022). Nurse training in DR-TB initiation has been a cornerstone of the programme and has demonstrated feasibility and effectiveness in the South African context (Farley et al., 2017). The training was initially led by Jhpiego and has since evolved, with a revised national curriculum adopted in 2019.

The current standardised NIMDR-TB training model, as outlined in the NDoH SOP, consists of three core components:

1. Online and/or in person didactic training (with a minimum pass rate of 70%).
2. Four-day practical training at decentralized DR-TB sites (aided by a NIMDR-TB practical workbook that requires completion).
3. One day Objective Structured Clinical Examination (OSCE) (with a 70% pass requirement for certification).

The practical training component of the NIMDR-TB programme equips nurses to initiate newly diagnosed DR-TB patients, conduct and interpret required tests, and report treatment data in EDRWeb. Trainees also gain experience in pharmacy processes to access relevant medications and learn about the roles of allied health professionals, including dietitians and social workers.

Upon successful completion of the training components and practical workbook, nurses are considered competent to initiate NIMDR-TB treatment. To support successful completion given the rigorous pass requirements, the programme specifies that selected nurses should have prior DR-TB experience and that training selection should align with planned decentralised sites.

The SOP also delineates the responsibilities of the Provincial and National Departments of Health. Provincial Departments oversee the selection of nurses and coordinate the training process with Regional Training Centres (RTCs). The NDoH provides ongoing support, participates in the OSCE assessment, and confirms competency by signing off training certificates.

1.4. Challenges with current policy

Despite the potential of the NIMDR-TB programme to expand access and promote equity, and evidence demonstrating its effectiveness, the current policy framework does not support sustained national implementation. A key barrier is a stipulation in the *Standard Treatment Guidelines (STGs) and Essential Medicines List (EML) for South Africa: Primary Care Level, 2024 Edition* that all drug-resistant TB patients must be referred to a medical officer at the primary care level for treatment initiation.

1.5. Rationale for review

Despite strong evidence for the effectiveness of the NIMDR-TB approach, the programme lacks full recognition, despite a policy framework, which limits its implementation across provinces. The purpose of this report is to provide an overview of the programme's status and to highlight both the benefits and the barriers to its successful national scale-up.

1.6. Objectives of the review

- To describe the numbers of nurses trained across the country, at provincial, district, sub-district and facility levels.
- To describe the proportion of trained nurses certified and non-certified to serve as NIMDR-TB nurses.
- To compare treatment outcomes of NIMDR-TB nurse-treated patients and MO-treated patients.
- To explore the perceptions of TB programme officials regarding the value and effectiveness of nurse-led MDR-TB care.
- To map and describe NIMDR-TB training providers in the country.



2. Methodology

2.1. Study design

We employed a mixed-methods design, applying both quantitative and qualitative approaches. The use of mixed methods was deemed appropriate given the dual focus on measurable programme outputs and the exploration of contextual, operational, and experiential dimensions of implementation. Quantitative data provide objective measures of training outputs and treatment outcomes, while qualitative inquiry offers insights into perceptions, processes, and systemic challenges that underpin programme performance.

2.2. Data sources and data collection

Quantitative data were drawn from two primary sources an online survey of provincial DR-TB managers and analysis of DR-TB data in EDRWeb.

2.2.1. Online survey

The primary objectives of the survey were to collect data on the number of nurses trained and certified to provide NIMDR-TB services at provincial, district, and sub-district levels, as well as to determine how many of these nurses are actively working at initiating sites. Provincial DR-TB managers were asked to submit their training registers and complete an online Google form, reporting the numbers of nurses trained, certified, and currently active. These data were supplemented with information from external service providers.

2.2.2. EDRWeb secondary programme data

The proportion of patients initiated by nurses and MOs were tracked from 2020 to 2024. Patient-level data were extracted from the national electronic database, EDRWeb, to enable a comparative analysis of treatment outcomes between patients initiated by nurses under the NIMDR programme and those initiated by doctors within the broader cohort.

2.2.3. Qualitative data

Qualitative data collection employed multiple strategies to capture diverse perspectives from key stakeholders. Three semi-structured group interviews were conducted with national and provincial DR-TB managers to gather collective insights on programme successes, enablers and operational barriers. In addition, three semi-structured key informant interviews were held with representatives from external training service providers to explore their experiences with training, mentorship, and programme implementation.

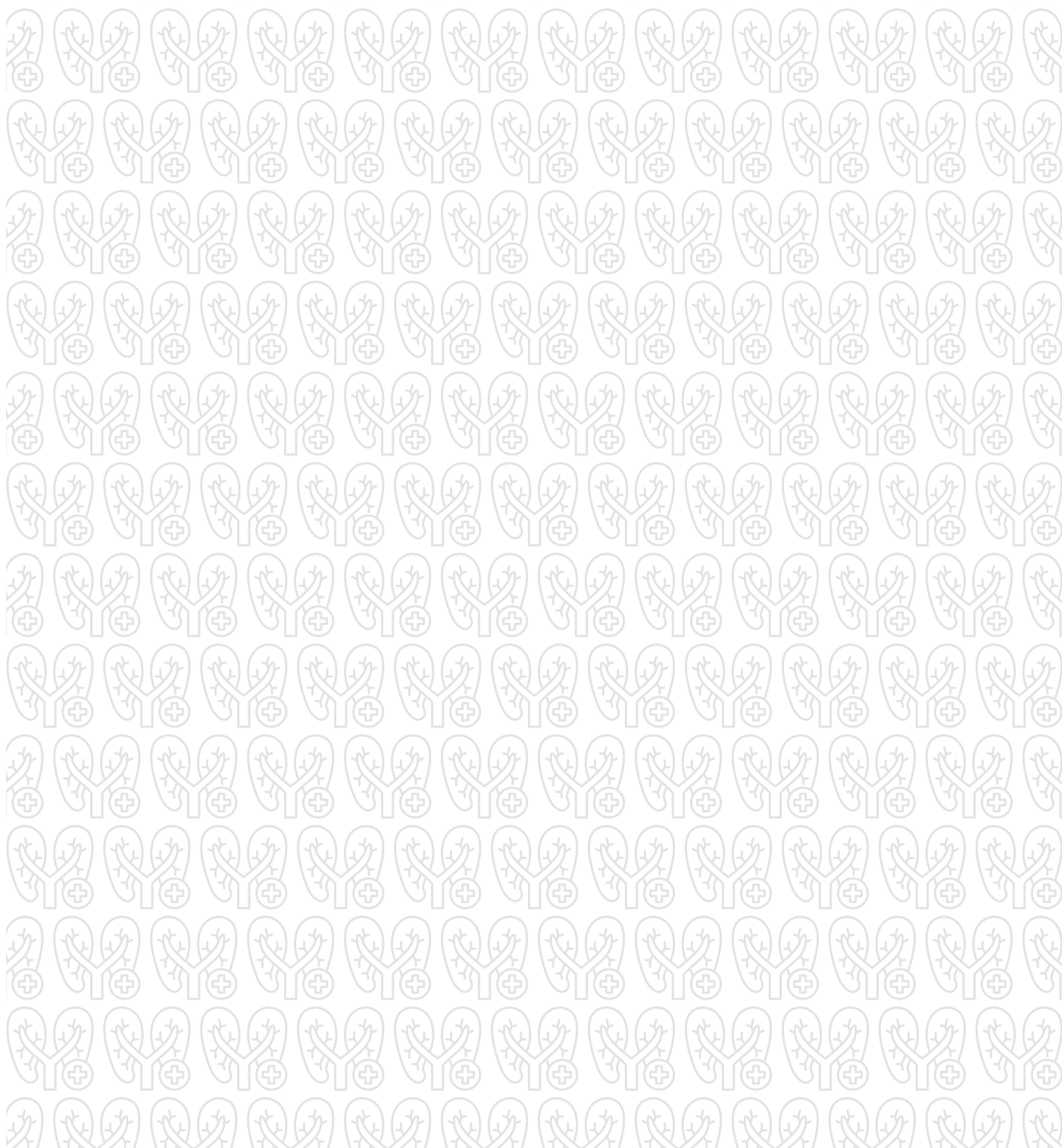
2.3. Data analysis

Quantitative data were analysed using descriptive statistical techniques, with results presented in graphs and tables to highlight patterns in training coverage and patient outcomes. Analysis of EDRWeb data specifically compared treatment outcomes between nurse-initiated and doctor-initiated patients, providing an empirical basis for assessing the effectiveness of the NIMDR-TB model.

Qualitative data were analysed thematically to identify recurring patterns across interviews. Key themes included perceptions of the effectiveness and value of NIMDR-TB, operational challenges and system bottlenecks, and experiences on mentorship, supervision, and the scalability of the model. Findings from the training content review were integrated to contextualise the results and highlight variations in training quality and consistency across providers.

2.4. Limitations

The main limitation of the study was inconsistent reporting of training outputs across provinces. Despite repeated requests, some data were missing, and the quality of available data varied. Only three provinces were able to provide information on the number of NIMDR-TB nurses actively initiating DR-TB treatment, both in total and disaggregated by district and sub-district. Key informant interviews revealed that requested sub-district level data were generally unavailable due to the absence of a systematic approach for capturing and maintaining training records.

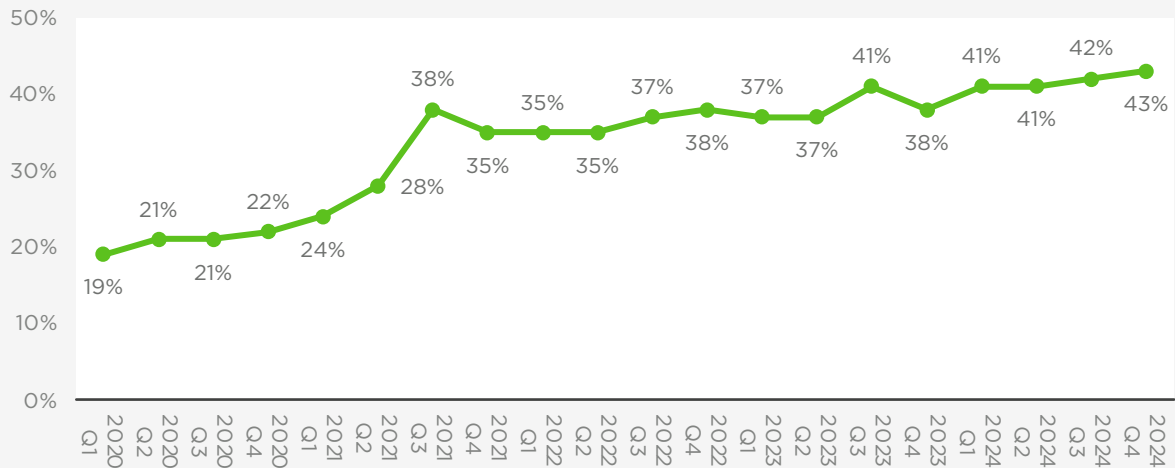


3. Findings

3.1. Trend in NIMDR-TB initiation: 2020-2024

The programme has expanded over the years with a sharp increase in the proportion of NIMDR-TB initiated cases from 19% to 38% between 2020 and 2021, and then a slower increase to 43% by the end of 2024 (Figure 1). This suggests that the growth in the programme has plateaued.

Figure 1: Percentage of patients on DR-TB treatment who were initiated by a nurse (Source: EDRWeb accessed Sept 2025)



3.2. NIMDR-TB nurse training coverage, certification and activity in DR-TB initiation sites

Information on NIMDR-TB nurse training coverage, certification and activity were obtained from the online survey. As indicated, the quality and completeness of the data varied considerably. While some provinces provided comprehensive responses, others submitted incomplete data with notable gaps.

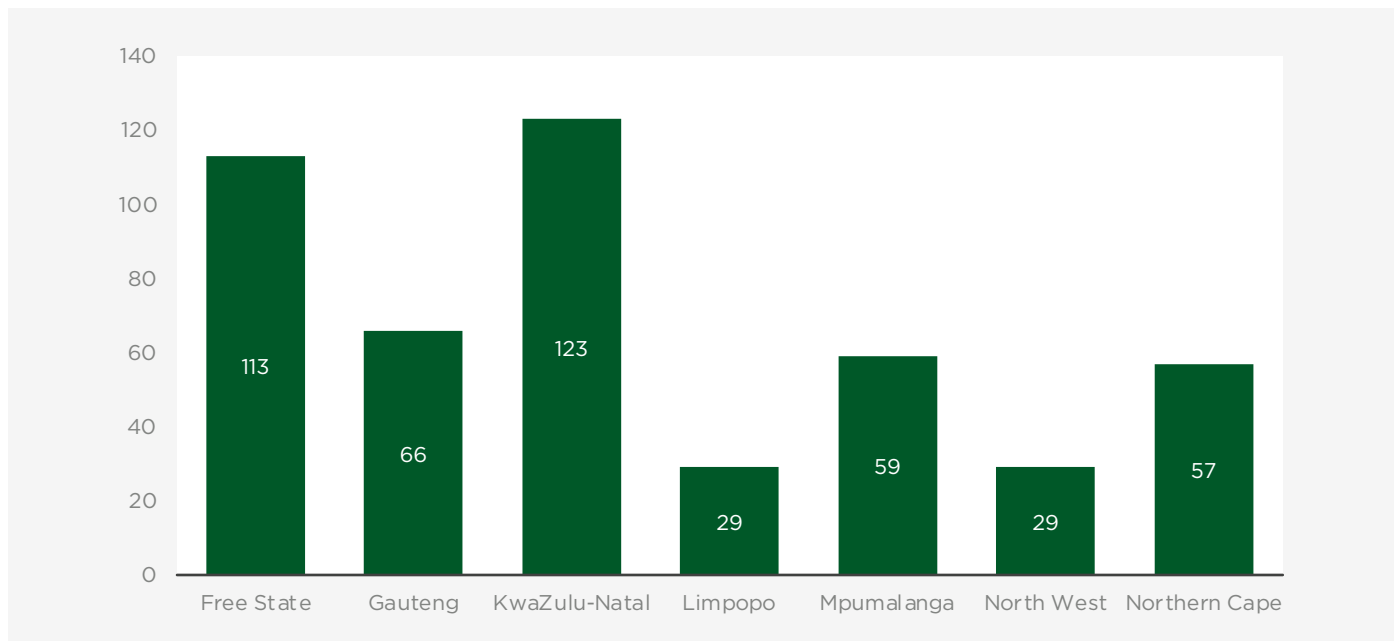
3.2.1. National overview

Available data on the number of trained nurses was gathered from seven of the eight provinces implementing the NIMDR-TB programme. The Western Cape is not currently participating in the programme, and data from the Eastern Cape was not available at the time of reporting (only attendance for BPaL-L training was available). Across these seven provinces, 475 nurses have been trained in NIMDR-TB, covering 38 of the 52 districts.

Provinces were asked to supply training records dating back to the start of the programme in 2014. However, most provinces did not provide records, such as dates and attendance registers, for training conducted prior to 2017. KwaZulu-Natal and Northern Cape were the exception with the lists including nurses trained as far back as 2014 and 2015, respectively. During qualitative interviews, most feedback focussed on the newer training curriculum, which includes 3-day online/face-to-face didactic training, 4 days focussed practical exposure, and an OSCE. Nevertheless, several informants also reflected on the previous 8-week training curriculum.

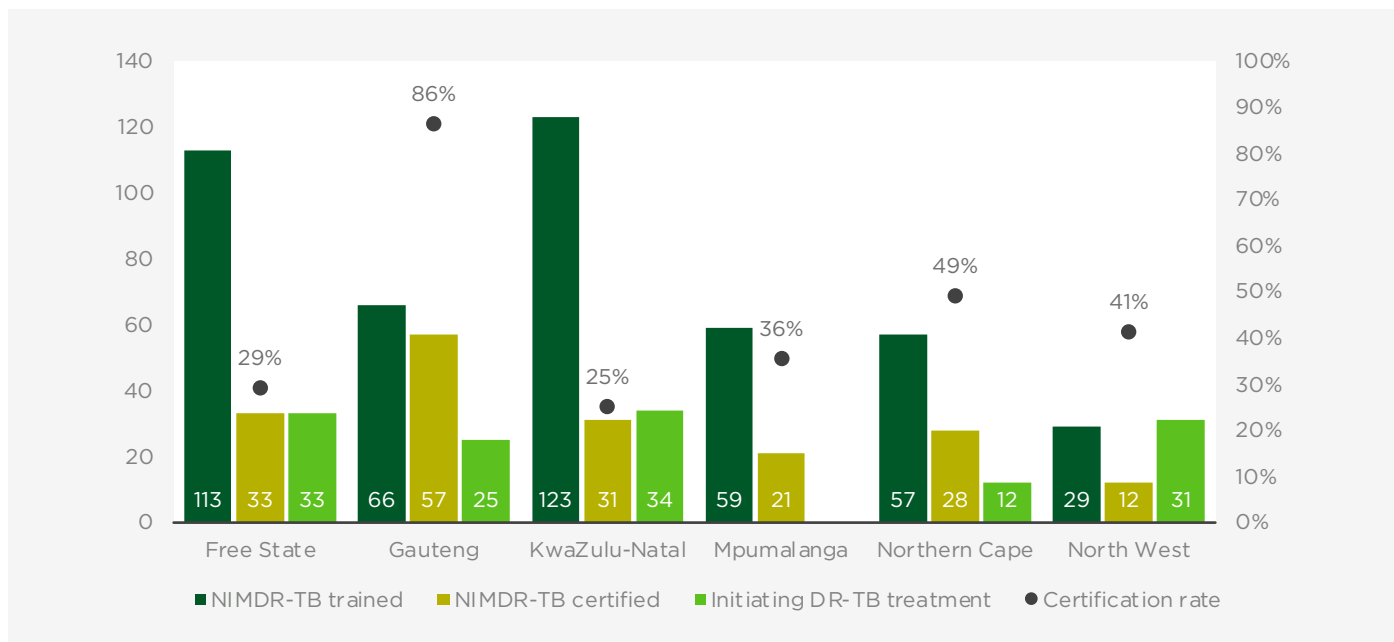
As shown in Figure 2, there is notable variation in the number of nurses trained per province. KwaZulu-Natal reported the highest number of trained nurses (123), followed by the Free State (113), Gauteng (66) and Mpumalanga (59). The Northern Cape trained 57 nurses, while North West and Limpopo trained 29 each.

Figure 2: Number of nurses trained on NIMDR-TB across provinces



Six provinces provided data on trained and certified DR-TB nurses, with five reporting the number of currently active nurses. (Figure 3). North West and Gauteng reported the highest certification rates at 97% and 86%, respectively. In contrast, Mpumalanga reported that 36% of trained nurses were certified, while the remaining three provinces each reported certification rates below 30%. Across these six provinces, the overall certification rate was 41%, representing 182 NIMDR-TB-certified nurses. In Limpopo, OSCEs for 29 nurses who were trained in 2024 are scheduled for October 2025.

Figure 3: Number of trained nurses vs those certified and initiating treatment across provinces



In Free state, the numbers of NIMDR-TB nurses actively initiating DR-TB treatment matches the numbers certified as competent. However, the number of active NIMDR-TB nurses falls far below the number of NIMDR-TB-certified nurses in Gauteng (25/57) and Northern Cape (12/28). Conversely, in North West and KwaZulu-Natal, the number of nurses reported as actively initiating DR-TB treatment exceeds the number of nurses reported as NIMDR-TB -trained. Given the difficulty that several provinces had in accessing historical NIMDR-TB records, this mismatch most likely reflects underreporting of the number of NIMDR-TB certified nurses, rather than the involvement of uncertified nurses in DR-TB treatment initiation.

Based on available data, approximately 135 NIMDR-TB nurses are actively initiating DR-TB treatment across the 6 provinces that reported this data.

3.2.2. Provincial and district distribution of NIMDR-TB training

Table 1 shows that the NIMDR-TB training took place across 35 districts in the 7 out of the 9 provinces, with 100% district coverage in these provinces except Limpopo. Where sub-district training coverage data were available, coverage ranged from 38% in the Northern Cape to 94% in Mpumalanga.

Table 1: Provincial, district and sub-district distribution of NIMDR-TB trained nurses (2025)

Province	Number of DR-TB patients initiated on treatment in 2024 (EDRWeb)	Number of districts	Number of districts wherein training was conducted	District Training coverage	Number of sub-districts	Number of sub-districts wherein training conducted	Sub-district training coverage
Free State	196	5	5	100%	22	17	77%
Gauteng	685	5	5	100%	26	Missing	Missing
Mpumalanga	319	3	3	100%	18	17	94%
KwaZulu-Natal	1 389	12	12	100%	64	Incomplete	Incomplete
Limpopo	201	5	1	100%	21	Missing	Missing
Northern Cape	240	5	5	100%	26	10	38%
North West	244	4	4	100%	18	16	88%
SOUTH AFRICA	3 274	39	35	100%	195	Incomplete	Incomplete

The 35 districts covered by the programme exhibited considerable variation in training numbers, ranging from as few as 2 nurses in some districts to 52 in others. This variation likely reflects differences in district size, population density, TB burden, and the capacity to implement the programme effectively.

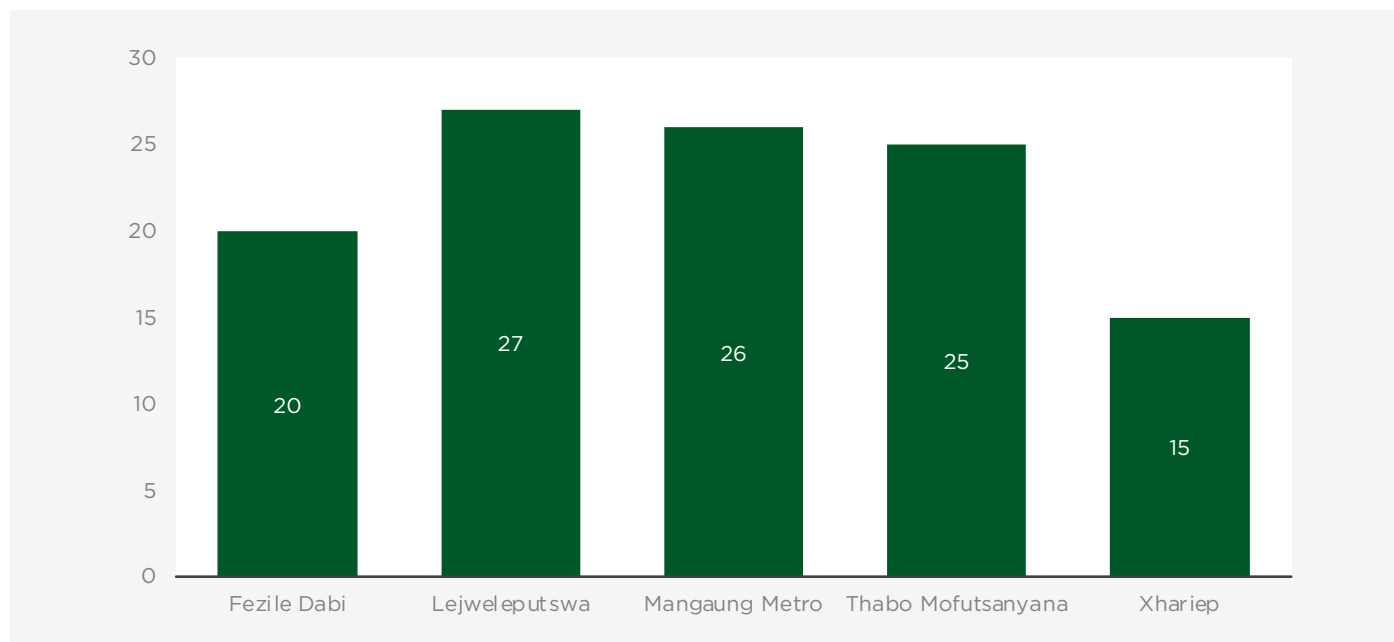
Top Performing districts by training numbers:

- eThekweni (KwaZulu-Natal): 52 nurses trained across 34 sub-districts
- Lejweleputswa (Free State): 27 nurses trained across 4 sub-districts
- Mangaung Metro (Free State): 26 nurses trained across 3 sub-districts
- Thabo Mofutsanyane (Free State): 25 nurses trained across 4 sub-districts
- Ehlanzeni (Mpumalanga): 25 nurses trained in all 3 sub-districts
- Tshwane (Gauteng): 19 nurses trained
- Ekurhuleni (Gauteng): 18 nurses trained
- JHB Metro (Gauteng): 16 nurses

3.2.2.1. Free State

Figure 4 shows the distribution of trained NIMDR-TB nurses across the five districts of Free State province. Overall, the data indicate a relatively balanced training rollout, with most districts having comparable numbers of trained nurses. Lejweleputswa (27), Mangaung Metro (26) and Thabo Mofutsanyane (25) account for most (69%) of the trained nurses, suggesting a strategic focus on areas with higher population density or greater TB burden.

Figure 4: Free State district level distribution of trained NIMDR-TB nurses



Overall, the Free State shows a strong and relatively even distribution of training efforts, positioning the province well for effective scale-up of NIMDR-TB services, provided that certification and activation follow at a similar pace.

Table 2 presents data at district and subdistrict levels. Across the province, 113 nurses have been trained, of whom 33 (29%) are certified, with 33 (100%) currently initiating treatment. This high activation rate indicates that all certified nurses are successfully transitioning into service. District-level certification rates were relatively consistent, except for Xhariep sub-district in which only 3 of the 15 trained nurses are certified. The certification rates in the remaining four sub-districts are higher and similar with Fezile Dabi and Lejweleputswa at 30% each, Mangaung at 31% and Thabo Mofutsanyane at 32%. Overall, the data suggests that the Free State is making solid progress in converting training into practice. Continued support for certification processes could help sustain and further improve this performance.

Table 2: Free State certification and active practice of NIMDR-TB treatment data at district level

District	Sub-District	Nurses Trained	Nurses Certified	Nurses Initiating	Certification Rate (%)	Activation Rate (%)
Fezile Dabi	Metsimaholo	7	2	2	29%	100%
	Ngwathe	6	2	2	33%	100%
	Moqhaka	7	2	2	29%	100%
Total		20	6	6	30%	100%
Lejweleputswa	Tswelopele	7	2	2	29%	100%
	Nala	8	2	2	25%	100%
	Masilonyana	6	2	2	33%	100%
	Matjhabeng	6	2	2	33%	100%
Total		27	8	8	30%	100%
Mangaung Metro	Thaba Nchu	9	3	3	33%	100%
	Naledi	8	2	2	25%	100%
	Bloemfontein	9	3	3	33%	100%
Total		26	8	8	31%	100%
Thabo Mofutsanyane	Nketoana	6	2	2	33%	100%
	Setsoto	7	2	2	29%	100%
	Phumelela	6	2	2	33%	100%
	Dihlabeng	6	2	2	33%	100%
Total		25	8	8	32%	100%

District	Sub-District	Nurses Trained	Nurses Certified	Nurses Initiating	Certification Rate (%)	Activation Rate (%)
Xhariep	Letsemeng	5	1	1	20%	100%
	Mohokare	5	1	1	20%	100%
	Kopanong	5	1	1	20%	100%
Total		15	3	3	20%	100%
FREE STATE TOTAL		113	33	33	29%	100%

3.2.2.2. Gauteng

Figure 5 illustrates the distribution of NIMDR-TB trained nurses across the five districts of Gauteng. Overall, the data indicate a relatively balanced distribution among the metropolitan districts, with some variation in training coverage.

Tshwane leads with 19 trained nurses, representing the capital district's substantial healthcare infrastructure and institutional capacity. Ekurhuleni follows closely with 18 nurses, indicating strong participation from this major industrial metropolitan area. Johannesburg Metro has 16 trained nurses, demonstrating solid engagement from the economic centre of the province. The smaller districts show lower but proportionate numbers, with Sedibeng contributing 8 nurses and West Rand 5 nurses. This distribution reflects the relative population size and healthcare infrastructure of these districts compared to the major metropolitan areas. Overall, the training distribution aligns well with population density and TB burden patterns across the province. The certification rates are 100% in Ekurhuleni and Sedibeng, 88% in Johannesburg Metro, 80% in West Rand and 68% in Tshwane. Provincial informants reported that the RTC collaborates well with the provincial DR-TB directorate and plans and budgets for NIMDR-TB training.

Figure 5: Gauteng district level distribution of trained NIMDR-TB nurses



3.2.2.3. KwaZulu-Natal

Figure 6 illustrates the distribution of 123 NIMDR-TB trained nurses across the 11 districts of KwaZulu-Natal. There are notable disparities in training coverage, partly reflecting differences in population size and disease burden. Training is highly concentrated in eThekweni, which accounts for 52 trained nurses – the largest in the province - consistent with its status as the most populous district, the highest burden of people diagnosed with RR-TB and the most (15) decentralised DR-TB initiating sites.

Uptake in the remaining districts is more variable and not entirely explained by population size or disease burden. For example, the deeply rural districts of uThukela and uMzinyathi report low numbers of trained nurses (3 and 4 respectively), whereas Harry Gwala has a substantially higher number at 12. Four districts achieved 100% sub-district coverage of DR-TB initiating sites by 2025: iLembe trained 11 nurses, uMkhanyakude and uMgungundlovu trained 5 each, and KCD trained 6. The absence of trained NIMDR-TB nurses in the other districts may contribute to gaps in DR-TB initiation services in some of the affected sub-districts.

Figure 6: KwaZulu-Natal district level distribution of trained NIMDR-TB nurses

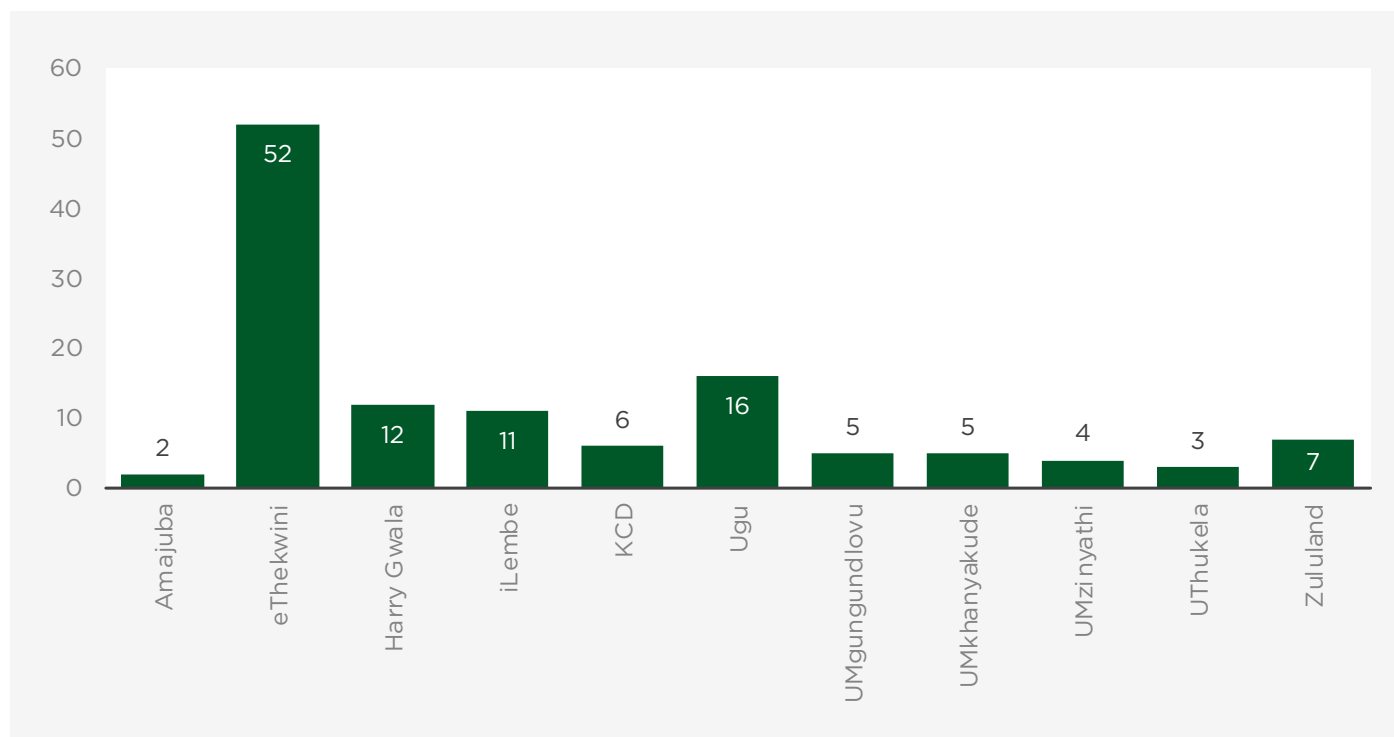


Table 3 presents certification and activation rates at district and sub-district level for the 123 nurses trained across the province. The provincial certification rate is 26% (31/123) and the activation rate is 110%. The 110% activation rate is explained below.

Reported certification rates are lower than the provincial average in the 4 districts with the most NIMDR-TB trained nurses, viz., 21% (11/52) in eThekweni, 8% (1/12) in Harry Gwala, 6% (1/16) in Ugu, and 0% (0/11) in iLembe. Notably, Amajuba, uThukela and uMzinyathi districts, which trained fewer nurses, have achieved a 100% certification rate. Zululand achieved a certification rate of 71% (5/7).

Table 3: KZN certification and active practice of NIMDR-TB treatment data at district level and sub-district levels

District	Sub-District	Nurses Trained	Nurses Certified	Nurses Initiating	Certification Rate (%)	Activation Rate (%)
Amajuba	Danhausser	1	1	1	100%	100%
	Newcastle	1	1	1	100%	100%
Total		2	2	2	100%	100%
eThekweni	Inanda	13	3	3	23%	100%
	Pinetown	13	3	3	23%	100%
	Durban	13	3	3	23%	100%
	Umlazi	13	2	2	15%	100%
Total		52	11	11	21%	100%
Harry Gwala	Greater Kokstad	4	1	1	25%	100%
	Ubuhlebezwe	4	0	0	0%	N/A
	Umzimkhulu	4	0	0	0%	N/A
Total		12	1	1	8%	100%
iLembe	Ndwedwe	4	0	0	0%	N/A
	KwaDukuza	4	0	0	0%	N/A
	Maphumulo	3	0	0	0%	N/A
Total		11	0	0	0%	N/A

District	Sub-District	Nurses Trained	Nurses Certified	Nurses Initiating	Certification Rate (%)	Activation Rate (%)
KCD	City of Umhlathuze	2	0	1*	0%	N/A
	Mthonjananeni	1	1	1	100%	100%
	Mlalazi	3	2	1	67%	50%
Total		6	3	3	50%	100%
Ugu	Umuziwabantu	8	1	1	13%	1
	Umdoni	8	0	0	0%	N/A
Total		16	1	1	6%	100%
UMgungundlovu	Umsunduzi	2	0	2*	0%	N/A
	Mshwathi	1	0	1	0%	N/A
	Mngeni	1	0	0	0%	N/A
	Mpofana	1	0	1	0%	N/A
Total		5	0	4*	0%	N/A
UMkhanyakude	Jozini	2	0	1*	0%	N/A
	Umhlabuyalingana	2	0	1	0%	N/A
	Big 5	1	1	1	100%	100%
Total		5	1	3*	20%	300%*
UMzinyathi	Umvoti	1	1	1	100%	100%
	Umsinga	1	1	0	100%	0%
	Endumeni	1	1	1	100%	100%
	Nqutu	1	1	1	100%	100%
Total		4	4	3	100%	75%
UTHukela	Inkosi Langalibalele	2	2	1	100%	50%
	Alfred Duma	1	1	1	100%	100%
Total		3	3	2	100%	67%
Zululand	Pongola	2	1	1	50%	100%
	Ulundi	2	1	1	50%	100%
	Nongoma	1	1	1	100%	100%
	Abaqulusi	2	2	1	100%	50%
Total		7	5	4	71%	80%
KWA-ZULU NATAL TOTAL		123	31	34*	26%	110%*

*City of Umhlathuze (KCD), Umsunduzi (uMgungundlovu), and Jozini (uMkhanyakude) sub-districts report more nurses are initiating DR-TB treatment than are certified.

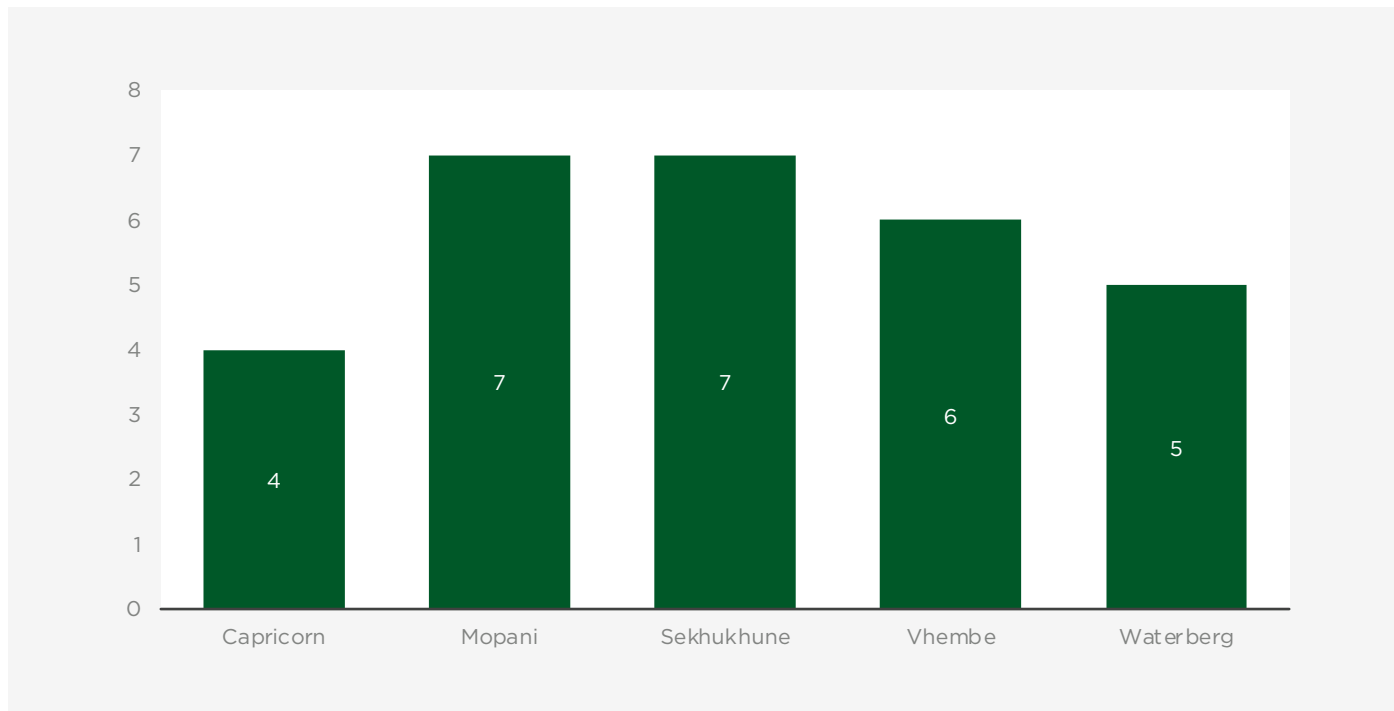
These figures above point to a significant bottleneck between training and certification, particularly in rural districts. While activation among certified nurses is strong, improving certification rates is critical to fully leverage the investment in training and expand DR-TB service coverage across the province.

In three sub-districts, the number of nurses reported as actively initiating DR-TB treatment exceeds the number of nurses reported as NIMDR-TB -trained. Given the difficulty that several provinces had in accessing historical NIMDR-TB records, this mismatch most likely reflects underreporting of the number of NIMDR-TB certified nurses, rather than the involvement of uncertified nurses in DR-TB treatment initiation.

3.2.2.4. Limpopo

Figure 7 presents the distribution of 29 out of 36 nurses, who achieved 70% or more in the NIMDR-TB training post-test, across districts in Limpopo province. NIMDR-TB training is heavily supported by the National TB Programme in Limpopo because there is no RTC. Twenty-eight (28) nurses attended NIMDR-TB OSCEs in October 2025, and 18 (64%) of these achieved certification.

Figure 7: Limpopo District level distribution of trained NIMDR-TB nurses



There were no data reported on sub-district level distribution of NIMDR-TB training.

3.2.2.5. Mpumalanga

Figure 8 illustrates the distribution of 59 trained NIMDR-TB nurses across three districts in Mpumalanga. Training coverage is unevenly distributed, with Ehlanzeni accounting for the highest number (25 nurses), followed by Gert Sibande (20 nurses), and Nkangala with the lowest (14 nurses). This distribution reflects a strategic prioritisation of Ehlanzeni, possibly due to higher TB burden or operational readiness. Gert Sibande shows moderate investment in training, while Nkangala may require additional support to ensure equitable access to NIMDR-TB services across the province.

Figure 8: Mpumalanga district level distribution of trained NIMDR-TB nurses

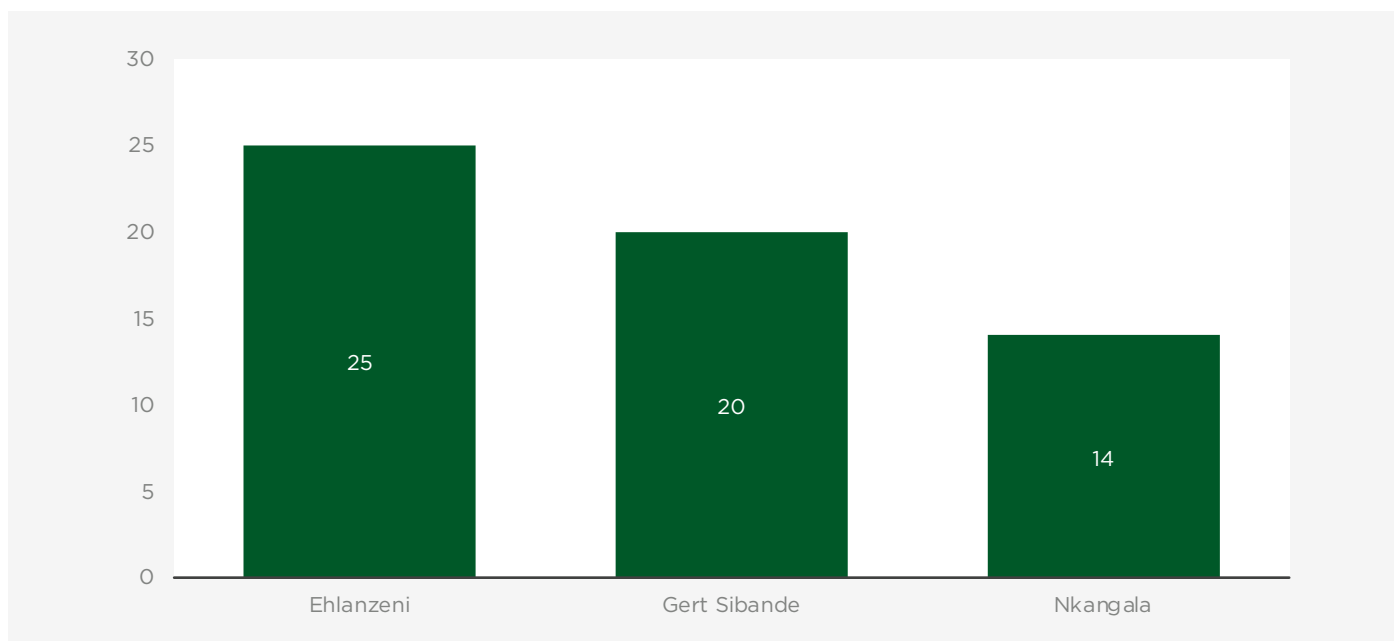


Table 4 presents numbers of nurses trained and certified by district and sub-district. Overall, Mpumalanga has trained 59 nurses with certification rate of 36% (21/59). No figures were provided for the number of nurses actively initiating DR-TB treatment. The certification rate is at least 36% (9/25) in Ehlanzeni, 25% (5/05) in Gert Sibande, and 21% (3/14) in Nkangala. However, because the sub-district placement of four certified NIMDR-TB nurses was not specified, these sub-district certification rates may slightly over- or underestimate the true figures.

Table 4: Mpumalanga training certification of NIMDR-TB nurses at district level

District	Sub-District	Nurses Trained	Nurses Certified	Certification Rate (%)
Ehlanzeni	Bushbuckridge	9	3	33%
	Mbombela	11	3	27%
	Nkomazi	4	3	75%
	Sub-district not specified	1	-	-
Total		25	9	~36%*
Gert Sibande	Chief Albert Luthuli	5	2	40%
	Govan Mbeki	7	1	14%
	Lekwa	3	1	33%
	Mkhondo	1	1	100%
	Msukaligwa	1	0	0%
	Pixley ka Isaka Seme	1	0	0%
	Sub-district not specified	2	-	-
Total		20	5	~25%*
Nkangala	Dr. JS Moroka	3	0	0%
	Emakhazeni	1	0	0%
	Emalahleni	4	2	50%
	Steve Tshwete	1	0	0%
	Thembisile Hani	2	0	0%
	Victor Khanye	1	1	100%
	Sub-district not specified	2	-	-
Total		14	3	~21%*
MPUMALANGA TOTAL		59	21	36%

* Five NIMDR-TB trained nurses are not allocated to a sub-district.

Four of them achieved NIMDR-TB certification but their sub-district location is unknown.

3.2.2.6. Northern Cape

Figure 9 shows the distribution of NIMDR-TB trained nurses across the five districts of the Northern Cape, reflecting a relatively even training effort. Four districts - JT Gaetsewe, Namakwa, Pixley Ka Seme, and ZF Mgcawu - each report 10 trained nurses, while Frances Baard reports 17 trained nurses. This balanced distribution suggests a commitment to ensuring geographic coverage, with slight prioritisation of Frances Baard, likely due to its urban profile or higher programmatic demand. Continued support is essential to ensure these trained nurses progress to certification and active service roles, thereby strengthening DR-TB management capacity throughout the province.

Figure 9: Northern Cape district level distribution of trained NIMDR-TB nurses

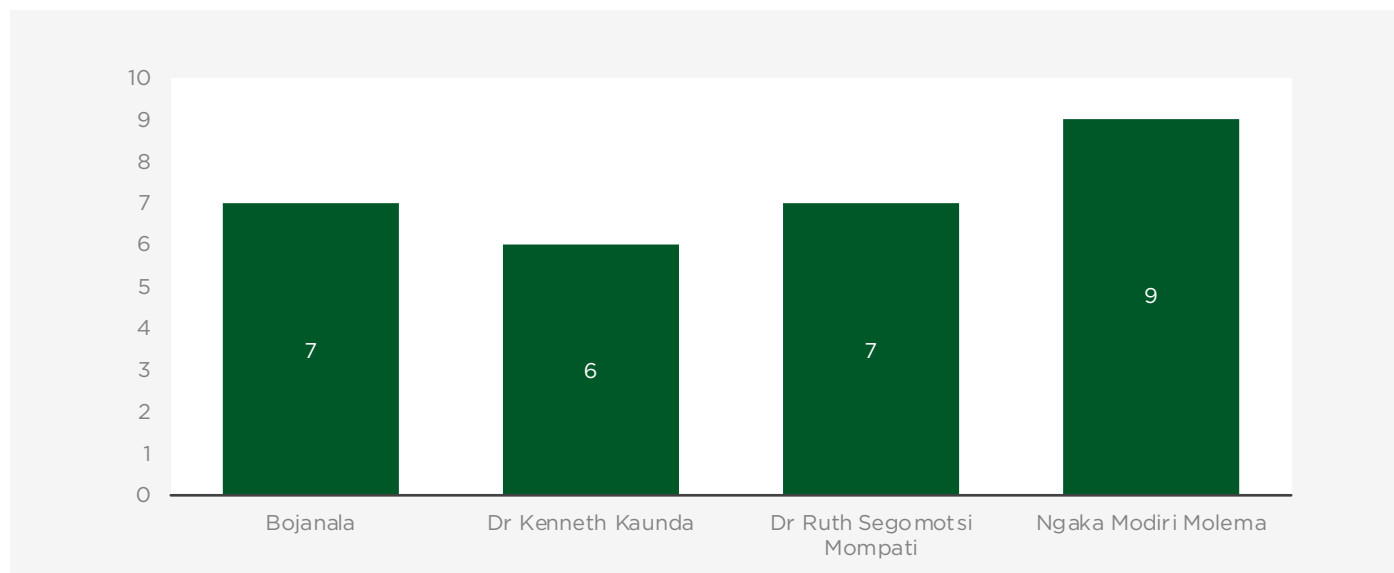


Table 5 presents data on NIMDR-TB training, certification, and activation in the Northern Cape. Across the province, 57 nurses were trained, 28 certified (60%) and 14 actively initiating treatment, representing a 50% activation rate. While the province shows a relatively high certification rate compared to other provinces, only half of those certified are currently initiating treatment.

Certification and activation rates vary widely across districts. Frances Baard trained 17 nurses and certified 5, but none are currently initiating treatment (0% activation). JT Gaetsewe trained 10 nurses, with 6 certified, and 3 initiating. Namakwa trained 10 nurses, with 3 certified and 1 initiating. Pixley Ka Seme certified 5 of 10 trained nurses but only 2 are initiating. ZF Mgcawu demonstrated the strongest district performance, with 9 of 10 trained nurses certified and 6 initiating treatment (67% activation).

These figures indicate strong progress in training and certification but reveal bottlenecks in transitioning certified nurses into active service in several districts. Targeted post-certification support and improved system-level integration may help enhance activation rates across the province.

Table 5: Northern Cape certification and active practice of NIMDR-TB treatment data at district level

District	Sub-District	Nurses Trained	Nurses Certified	Nurses Initiating	Certification Rate (%)	Activation Rate (%)
Frances Baard	Sol Plaatje	9	3	0	33%	0%
	Dikgatlong	8	2	0	25%	0%
Total		17	5	0	29%	0%
JT Gaetsewe	Gamagara	5	3	2	60%	67%
	Joe Morolong	5	3	1	60%	33%
Total		10	6	3	60%	50%
Namakwa	Nama Khoi	6	2	1	33%	50%
	Kamiesberg	4	1	0	25%	0%
Total		10	3	1	30%	33%
Pixley Ka Seme	Emthanjeni	5	3	1	60%	33%
	Kareeberg	5	2	1	40%	50%
Total		10	5	2	50%	40%
ZF Mgcawu	Dawid Kruiper	5	4	3	80%	75%
	Kai-Gariep	5	5	3	100%	60%
Total		10	9	6	90%	67%
NORTHERN CAPE TOTAL		57	28	12	60%	50%

3.2.2.7. North West

Figure 10 shows the distribution of NIMDR-TB trained nurses across the four districts of the North West province. Training numbers are relatively small but consistent, suggesting a targeted or phased approach to training. Ngaka Modiri Molema has the highest number of trained nurses (9), followed by Bojanala and Dr. Ruth Segomotsi Mompoti, each with seven trained nurses, while Dr. Kenneth Kaunda has the lowest, with six trained nurses.

Although overall numbers are lower compared to other provinces, training has reached all districts with minimal variance. This balanced distribution provides a strong foundation for expanding coverage and ensuring equitable access to NIMDR-TB services as the programme scales up.

Figure 10: North West district level distribution of trained NIMDR-TB nurses

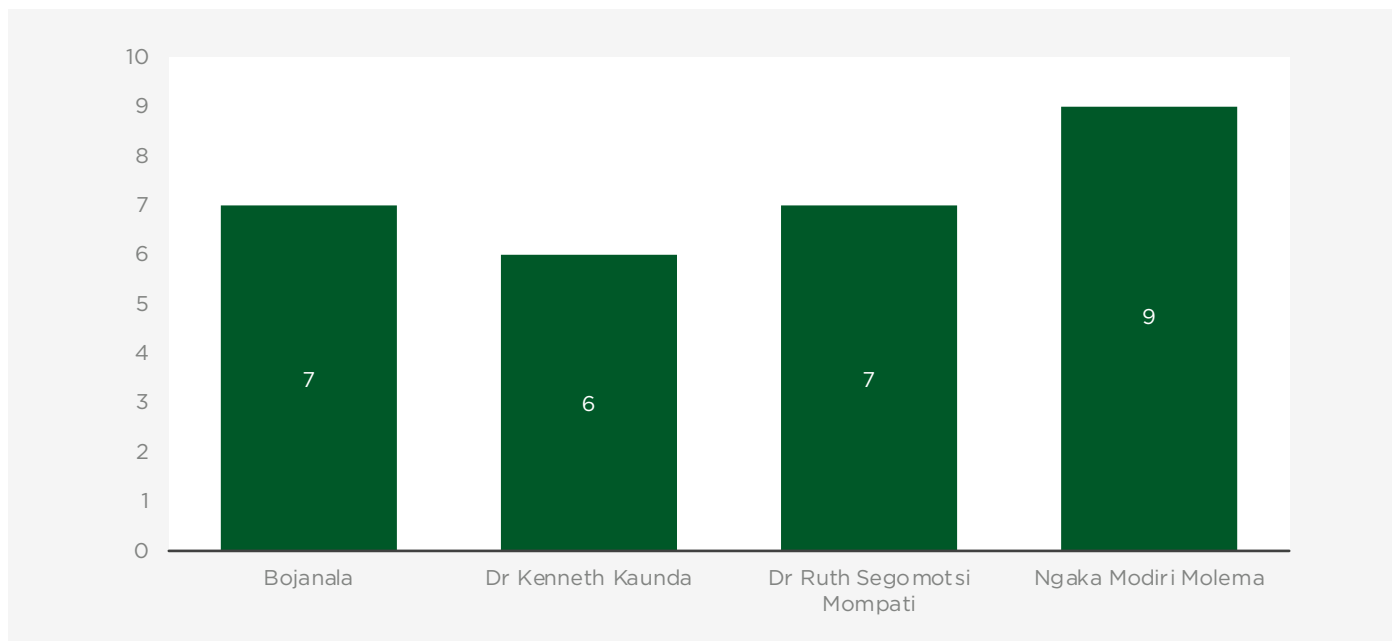


Table 6 presents data on NIMDR-TB training, certification, and activation in the Northern West. Across the province, 29 nurses were trained, 12 certified (41%), and 31 are currently initiating treatment, resulting in an unusually high activation rate of 258%. As mentioned above for Kwa-Zulu-Natal, it is likely that this activation rate represents underreporting of the number of certified nurses, rather than the involvement of uncertified nurses in DR-TB treatment initiation. Further verification is needed to validate certification and initiation figures and ensure consistent tracking of certification status.

At the district level, Bojanala trained 7 nurses, certified 4 (57%), and has 8 currently initiating treatment (activation rate of 200%). Dr. Kenneth Kaunda trained 6, certified 2 (33%), and has 7 initiating (350%). Dr. Ruth Segomotsi Mompoti trained 7, certified 3 (43%), and has 6 initiating, while Ngaka Modiri Molema trained 9 nurses, certified 3, and has 10 (333%) currently initiating.

Table 6: North West certification and active practice of NIMDR-TB treatment data at district level

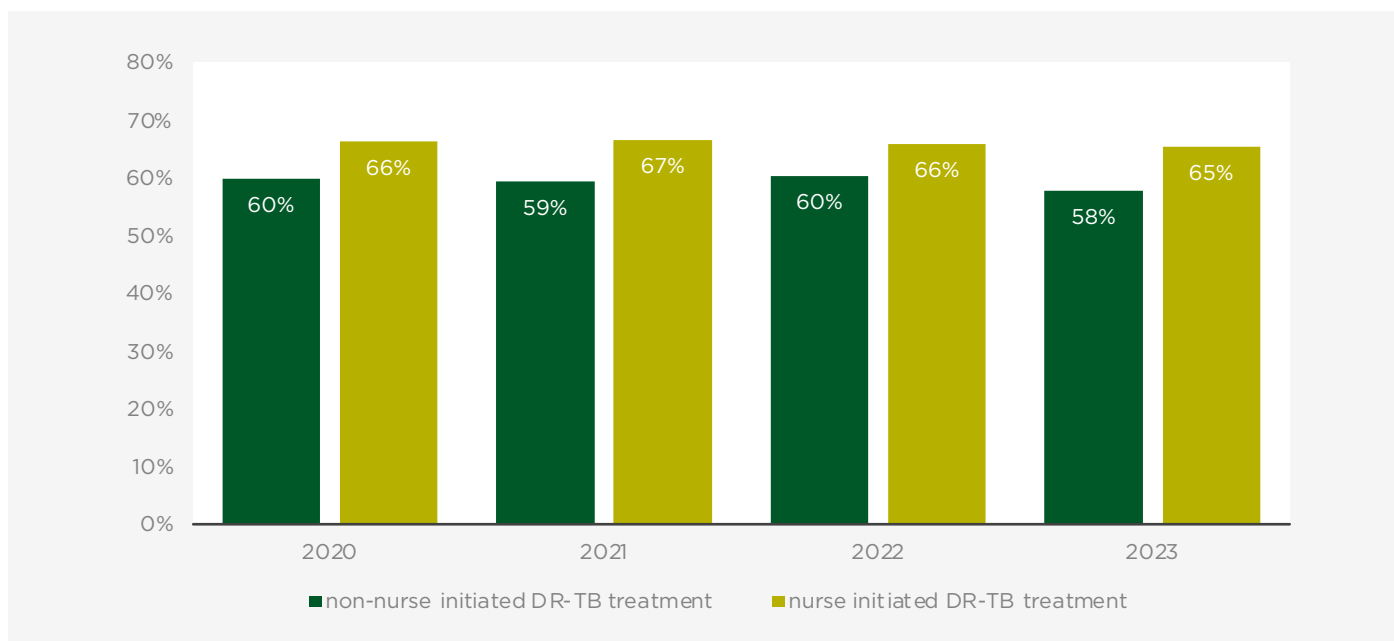
District	Sub-District	Nurses Trained	Nurses Certified	Nurses Initiating	Certification Rate (%)	Activation Rate (%)
Bojanala	Kgetleng	1	1	1	100%	100%
	Madibeng	2	1	2	50%	200%
	Moretele	1	0	1	0%	N/A
	Moses Kotane	2	1	2	50%	200%
	Rustenburg	1	1	2	100%	200%
Total		7	4	8	57%	200%
Dr. Kenneth Kaunda	JB Marks	3	1	2	33%	200.0%
	Matlosana	3	1	3	33%	300.0%
	Maquassi Hills	0	0	2		N/A
Total		6	2	7	33%	350%

District	Sub-District	Nurses Trained	Nurses Certified	Nurses Initiating	Certification Rate (%)	Activation Rate (%)
Dr. Ruth Segomotsi Mompoti	Kagisano Molopo	2	1	1	50%	100%
	Lekwa-Teemane	2	1	1	50%	100%
	Mamusa	1	0	1	0%	N/A
	Naledi	1	0	1	0%	N/A
	Taung	1	1	2	100%	200%
Total		7	3	6	43%	200%
Ngaka Modiri Molema	Ditsobotla	3	1	1	33%	100%
	Mahikeng	3	1	3	33%	300%
	Ramotshere Moiloa	2	1	2	50%	200%
	Ratlou	1	0	2	0%	N/A
	Tswaing	0	0	2		N/A
Total		9	3	10	33%	333%
NORTH WEST TOTAL		29	12	31	41%	258%

3.3. Treatment Outcomes

Analysis of DR-TB treatment outcomes data from EDRWeb from 2020 to 2023 show consistently that the outcomes of nurse-initiated and medical officer-initiated treatment are comparable with no significant differences between the two groups. The comparable outcomes are seen clearly for DR-TB treatment success rates in Figure 11 below.

Figure 11: Treatment success rate by nurse initiated or non-nurse-initiated treatment
(Source: EDRWeb, accessed Sept 2025)



3.4. Stakeholder Perspectives

The qualitative component explored perspectives from provincial personnel and external training providers involved in the NIMDR-TB programme. Common themes emerged across these stakeholder groups, and the findings are presented in an integrated manner, with notable differences highlighted where relevant. Participants' involvement in DR-TB management varied, with several having extensive experience in the field. Some training providers had been engaged since the early pilot programmes, which initially trained nurses as DR-TB case managers. These providers contributed to the development and subsequent evolution of a specialised curriculum and formal certification process, aimed at equipping nurses to manage uncomplicated DR-TB patients comprehensively.

3.4.1. Perceptions of effectiveness and value of NIMDR

“NIMDR-TB nurses provide the hands that enable the decentralisation of DR-TB services” NTP member and trainer, August 2025

All participants acknowledged the value of the NIMDR-TB programme in enabling trained nurses to provide care at decentralised sites, especially in settings where doctors were unavailable. In provinces with decentralised facilities staffed by NIMDR-TB nurses, participants noted tangible benefits for patients, including improved access to care close to home and reduced costs related to travel and time off work. Some provinces also observed improved outcomes associated with NIMDR-TB nurses, such as shorter time to treatment initiation, reduced losses to follow-up, and higher treatment success rates. While certain provinces reported better outcomes for nurse-initiated care compared to doctor-led care, others found comparable results. Provincial managers further noted that NIMDR-TB nurses often demonstrate higher adherence to guidelines and SOPs than medical officers. Beyond clinical care, some trained nurses contributed to strengthening EDRWeb data quality by working closely with data capturers to ensure accurate record-keeping.

Training providers echoed this assessment, emphasising the programme’s role in strengthening DR-TB services over the past decade. They cited evidence from interprofessional MDR-TB short courses in 2017-2018, where primary health care nurses performed equally to medical officers on post-test scores (Farley et al., 2021). Joint training sessions also revealed that nurses often possessed more detailed knowledge of the TB programme than medical officers, fostering mutual respect and collaboration. Providers noted that the expansion of decentralised DR-TB initiating facilities to almost every sub-district in South Africa would not have been possible without NIMDR-TB nurses. While the recent decline in DR-TB incidence results from multiple interventions, participants emphasised that NIMDR-TB nurses have contributed value at every stage of the clinical care pathway.

3.4.2. Operational Challenges

3.4.2.1. Low case load in some districts

Several provinces noted that in districts with low DR-TB caseloads, trained nurses often struggle to complete their practical training and workbooks in preparation for the OSCE and certification. In some cases, trainees were relocated to other districts to gain sufficient clinical experience. Even once placed in a facility, low patient numbers can limit opportunities for hands-on practice.

“If your facility sees one DR- TB patient every 4 months, there is not enough exposure. The more experience you have the better you become and so there needs to be a plan to keep up these skills”. Provincial Key Informant, August 2025

The new shortened curriculum attempts to address this challenge by selecting facilities for the practical mentorship phase with adequate DR-TB caseloads, ensuring candidates gain exposure to patients across the clinical cascade. Since implementing these changes, progression to certification has reportedly improved, and interest in NIMDR-TB training among nurses has increased.

“Once they have been through their mentorship and passed the OSCE, you see the excitement of them wanting to practice, you can see their commitment to working in the programme.” NTP and trainer, August 2025

Provincial managers and training providers emphasised that NIMDR-TB nurses need regular patient contact to maintain skills and confidence. Very low caseloads, particularly in rural decentralised sites, can lead to erosion of competence and confidence if nurses do not receive sufficient practical exposure.

3.4.2.2. Staff turnover

Provinces reported that trained, certified, and experienced NIMDR-TB nurses frequently leave their posts due to retirement, promotion, or movement out of DR-TB services. This has created gaps in service provision, particularly in provinces without an active NIMDR-TB training programme. Lack of recognition and/or incentivisation was frequently cited as a reason for nurses leaving, with many moving to better-recognised and better-incentivised posts, such as maternity services. Conversely, promotion of experienced NIMDR-TB nurses to facility operational manager roles or positions at RTCs has strengthened province-led NIMDR-TB training.

“Another of our big challenges is that, even though we have certified a lot (of NIMDR-TB nurses), we still lose too many of them out of the (DR-TB) programme because there are greener pastures elsewhere.” Provincial Key Informant, August 2025

In several provinces, rotational staffing systems at facility level also undermined service continuity. NIMDR-trained nurses are often rotated to other departments after six months, leaving DR-TB sites without trained staff. Because NIMDR-TB skills are scarce, these nurses may be lost to the system as DR-TB clinicians, and no immediate replacements are available. Provinces reported engaging with facilities to address these rotations, often resolving the gaps.

“The Ideal Clinic (realisation) plays a big role in the high attrition on NIMDR-TB nurses. You (the NIMDR-TB nurse) are just getting confident, and you are excited to see patients where you are. But then you need to leave and go work in a different setting.” National TB Programme member, August 2025

“I am concerned at the huge waste of manpower and money because so many nurses are NIMDR-TB trained and then are not even placed in DR-TB services, or they are moved out.” Provincial DR-TB manager, August 2025

Informants emphasised that NIMDR-TB certification is not linked to a clear career pathway or recognised financially as a scarce skill. As a result, trained nurses may voluntarily leave the field. Unlike NIMART nurses, NIMDR-TB nurses and the programme currently lack comparable acknowledgement and health system support, despite demonstrated effectiveness.

3.4.2.3. Reluctance to work in TB services

Some provincial managers reported that certain clinicians are reluctant to work with TB, particularly DR-TB patients, due to perceived personal risk or co-morbidities. This reluctance limits the pool of nurses willing to undergo NIMDR-TB training. While these risks are largely mitigated by proper respiratory precautions, stigma and fear can discourage nurses from participating in DR-TB services.

3.4.3. Training and mentorship for NIMDR-TB

3.4.3.1. Selection for training

Selection of nurses for NIMDR-TB training varies across provinces. Under the new training format, candidates ideally have prior DR-TB experience. Training providers agreed with the SOP and published research that nurse practitioners with several years of clinical experience are the most suitable candidates. Nurses who engage well with the content typically have a background in TB or a strong interest in DR-TB.

Successful certification and placement in DR-TB facilities were reported to correlate closely with effective coordination between provincial DR-TB managers and district TB coordinators, particularly when aligned with a clear district plan for decentralisation and facility capacity-building.

In some provinces, selection is decentralised to the district level, whereas in others, provincial managers map training needs based on gaps in decentralised services. Training sessions may target nurses alone or include other health personnel. When new protocols or treatment regimens are introduced, previously trained nurses are encouraged to update their skills.

Another approach involves selecting nurses already trained in NIMART or licensed to prescribe medication at the primary care level. However, this approach faces challenges due to the limited number of PHC nurses and the fact that many are based at hospital-level facilities rather than in decentralised sites.

3.4.3.2. Training models

Since 2005, the NTP has fostered productive public-private partnerships to develop formal education packages for clinician DR-TB training and to explore differentiated models of care, including task shifting and task sharing to NIMDR-TB nurses. These efforts have enabled the safe decentralisation and deinstitutionalisation of DR-TB services to PHC facilities nationwide. Academic partners have presented outcomes from these initiatives at international conferences and in peer-reviewed journals.

A major change was the transition from the original 8-week curriculum to a condensed 2-week programme, with deliberate placement of candidates in facilities that offer optimal exposure and mentorship during the practical training phase. The NDoH has also explored interdisciplinary training models to enhance collaboration across health cadres.

“Yes, it (the 4-day practical exposure and mentorship) is very effective because in my experience most candidates pass the OSCE, despite the high pass mark (70%).” NGO training partner, August 2025

Over the years, the NDoH has collaborated with multiple partners to supplement and support NIMDR-TB training in various ways. In many provinces, reliance on NTP personnel for didactic training exceeds available resources. Training models therefore differ across provinces: some work with operational RTCs to facilitate sessions, as reported in the Northern Cape and Gauteng. In Gauteng, the RTC budgets for NIMDR-TB training and has previously subcontracted NGO providers to manage logistics and OSCE administration, while Centre of Excellence clinicians and Global Fund District Support Partners serve as faculty. In provinces without RTC capacity, such as Limpopo, the NDoH directly supports training. Some RTCs, despite having NIMDR-TB in their training plans, are unable to offer full structured training due to a lack of qualified facilitators.

“We do not have the capacity in the Regional Training Centre to facilitate DR-TB training. Not just to do house rules or read the slides, but people who understand DR-TB and NIMDR-TB well.” Provincial DR-TB manager, August 2025

Several provinces reported that external training providers previously supporting NIMDR-TB have exited without clear handover mechanisms. While some RTCs now offer refresher training for previously trained staff, initial structured training is not consistently provided. Although online or virtual DR-TB training exists in some provinces, informants emphasised that practical, supervised experience remains critical to building competence and confidence.

3.4.3.3. Emergence of online training

An area of innovation has been the adoption of several online platforms to disseminate the official NDoH DR-TB training materials. These platforms increase access for both nurses and doctors, including those wishing to pursue training at their own pace. Online training has helped reach geographically dispersed staff and supplement in-person training. For details of these platforms, see Appendix 3.

3.4.3.4. Training providers and partners

Provincial managers emphasised that a critical mass of provincially based master trainers is needed to ensure sufficient numbers of trained NIMDR-TB nurses to cover all sub-districts. These trainers should work closely with the provincial RTC to develop and implement a comprehensive training plan. However, in many provinces, reliance on NTP personnel for didactic NIMDR-TB training exceeds available resources, making this approach unsustainable.

In some provinces, notably Northern Cape and Gauteng, this burden is lessened. In the Northern Cape, the RTC - assisted historically by JPS Africa—has its own budget for NIMDR-TB training and manages the organisation, coordination, and delivery of most training in partnership with provincial DR-TB management. The NTP is engaged mainly for OSCE assessments after candidates complete their practical training. The Northern Cape, the RTC manager, an experienced NIMDR-TB nurse, leverages her expertise effectively in training delivery.

In Gauteng, the province allocates its training budget to FPD, which coordinates logistics for NIMDR-TB courses and OSCEs, providing additional faculty support only as needed.

3.4.3.4. Barriers to training

Key barriers to effective training include a shortage of provincial trainers, which increases reliance on the NDoH. Where provincial trainers are available, such as through RTCs, they often provide training across multiple clinical areas and may not prioritise NIMDR-TB. Additional barriers identified in the online survey included staff shortages, insufficient funding, and over-reliance on external partners.

Provincial managers also highlighted the rapid pace of DR-TB regimen changes. Nurses sometimes need to retrain soon after completing courses, which can be demoralising and contribute to feelings that their prior training is quickly outdated.

3.4.3.5. Support for NIMDR-TB certified nurses

Ongoing support for certified NIMDR-TB nurses is crucial. In general, provincial doctors trained in DR-TB provide mentorship and supervision for newly trained nurses. In a few donor-funded districts, additional continuous training and support are available.

Newly trained nurses sometimes lack confidence to work independently due to the skills required. This gap is mitigated by pairing them with medical officers or experienced nurses for mentorship during initial placement, helping to build competence, confidence, and successful integration into DR-TB service delivery.

3.4.4. Monitoring of NIMDR-TB programme

Training partners were generally able to locate and collate records of NIMDR-TB trainings and the numbers of individuals trained. However, provincial offices and the NTP often faced challenges in accessing or maintaining such records. This limits the programme's ability to accurately track progress, including the distribution of trained nurses across districts and sub-districts over time.

Several provincial managers raised specific concerns regarding the documentation of NIMDR-TB services. Key issues included the capacity of data capturers to enter accurate clinical information into EDRWeb, despite receiving in-service training. Misuse of terminology due to poor understanding of definitions was noted as a recurring problem.

Additional challenges relate to service attribution. In some sub-districts, NIMDR-TB services may be underestimated when patients are initiated and managed by outreach teams from adjacent sub-districts, resulting in incomplete reporting of programme reach and activity.

3.4.5. Policy shortcomings that undermine the DR-TB programme

Section 56 of the Nursing Act 33 of 2005 provides a mechanism for authorising nurses to perform specific clinical functions, including prescribing medicines, provided they complete appropriate post-graduate training and are registered with the South African Nursing Council (SANC). An example of such a qualification is the Diploma in Primary Health Care Nursing.

Nurses holding this authorisation may prescribe medicines for adults and children only in accordance with the latest Primary Health Care (PHC) Standard Treatment Guidelines (STG) and Essential Medicines List (EML). According to the most recent PHC STG and EML (2024), all drug-resistant TB patients must be referred to a medical officer at the primary care level for treatment initiation. In contrast, NIMART nurses are permitted to initiate ART, as no similar restriction exists for HIV treatment.

The PHC STG and EML are reviewed biennially by the National Essential Medicines List Committee (NEMLC), with the most recent review conducted in 2024. Consequently, the next opportunity to include DR-TB medicines for nurse initiation will be in 2026, where it should be strongly advocated for.





4. Discussion

This rapid review highlights the vital contribution of the NIMDR-TB programme to the decentralisation of DR-TB services. The NIMDR-TB approach exemplifies a successful differentiated care model that enhances patient access, reduces user costs, alleviates the burden on medical officers and hospital systems, and promotes equity in access to health services.

Key barriers to full programme impact include gaps in the policy framework, limited capacity of RTCs, high staff turnover, low rates of certification and deployment of trained nurses, and weak monitoring systems for NIMDR-TB training, certification, and initiation.

Despite substantial resources developed by the NTP—including the NIMDR-TB Standard Operating Procedure (SOP), clinical guidelines co-developed by nurses, and standardised training content and practical handbooks—significant policy gaps continue to hinder the programme from achieving the recognition, institutional support, and health system integration that have enabled the success of NIMART. Effective DR-TB treatment at primary care level requires the inclusion of DR-TB medicines in the PHC Essential Drug List (EDL). Current gaps between policy and practice limit the programme's full adoption and endorsement by the health system. Additionally, the NIMDR-TB qualification is not formally recognised by the South African Nursing Council (SANC), and DR-TB content is largely absent from standard nursing diplomas or degrees, restricting the formal pathways for skills recognition and career progression.

The rapidly evolving DR-TB treatment landscape, including the introduction of new regimens with novel agents such as BPaL-L, has shifted training focus towards a more user-friendly, shorter regimen which has fewer adverse events. This regimen is well-suited for NIMDR-TB nurse initiation in uncomplicated RR/MDR and PreXDR-TB patients.

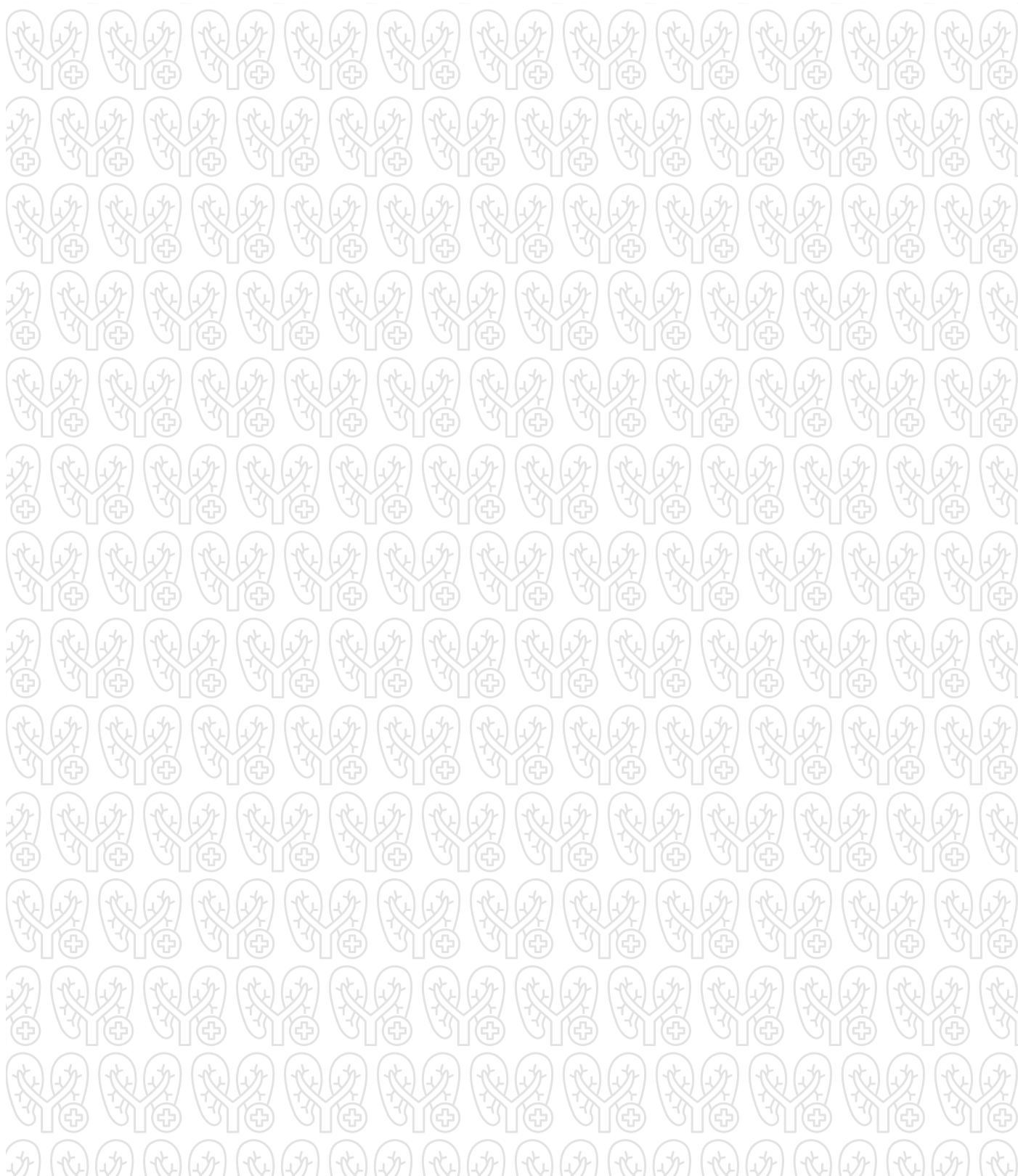
Among provinces that submitted complete data, there is substantial variation in the numbers trained, certified, and actively initiating treatment. This reflects differences in implementation intensity and training coverage across provinces and underscores the need for a more consistent and equitable rollout of training across districts and facilities. Training coverage and deployment must also be interpreted in relation to provincial population size, DR-TB incidence, and geographic distribution. For a more equitable allocation, data on active NIMDR-TB nurses should be linked to district/sub-district case load (newly diagnosed or initiated cases) to generate ratios of nurses per cases, which would better indicate service coverage and equity.

Certification rates remain low in several provinces, with Free State and KwaZulu-Natal reporting less than 25% and 10%, respectively. Gauteng and North West showed higher rates but still below 50%. While stringent pass criteria are necessary to ensure high clinical standards, these findings indicate a need for stronger support mechanisms to ensure trained nurses achieve certification and are effectively deployed. This includes urgent capacitation of RTCs, strengthening partnerships with experienced training providers, and actively engaging provincial DR-TB doctors from Centres of Excellence in training, practical mentorship, and OSCE assessments. Placing responsibility for leading NIMDR-TB training with RTCs, as is done with NIMART, is a key priority for programme sustainability.

Retention of certified NIMDR-TB nurses in decentralised facilities is also a concern. Low caseloads, particularly in rural areas, reduce opportunities for clinical practice, leading to decreased confidence and skill attrition. Additionally, the absence of formal recognition and career pathways for NIMDR-TB skills undermines

motivation and encourages movement to better-recognised posts. These findings highlight the need for structured ongoing support, mentorship, refresher training, and defined career progression within DR-TB services to maintain both skills and programme impact.

A major systemic challenge is the absence of a standardised, routine data collection and monitoring system for NIMDR-TB training and service delivery. Current gaps in documentation—covering names, positions, numbers, and deployment locations of trained, certified, and active nurses—limit the ability of national, provincial, and district health services to harness the investment made in the programme. Implementing a robust monitoring system, potentially linked to a dashboard tracking the decentralisation of DR-TB services, would provide critical insight into coverage, gaps, and opportunities for strengthening the programme.





5. Conclusion

The NIMDR-TB programme has made a significant contribution to South Africa's progress in decentralising drug-resistant TB services and improving patient-centred care. By enabling initiation and management of uncomplicated RR/MDR and PreXDR-TB at primary care level, the programme has reduced the burden on specialised TB hospitals, enhancing patient access and continuity of care, and strengthening equity in service delivery—particularly for rural and underserved populations.

Despite this, the review highlights stark provincial variation in programme implementation, reflecting uneven investment in training, support, and integration into provincial health systems.

While there is widespread acceptance of the value of nurse-led DR-TB care, the scale-up of the programme has been constrained by systemic weaknesses across several domains:

- **Policy Barriers:** The lack of alignment between the NIMDR-TB scope of practice and current policies—particularly the fact that the current PHC Standard Treatment Guidelines do not allow for the initiation of DR-TB treatment by nurses at primary care level or the South African Nursing Council (SANC) that has not formally recognised the programme. This significantly weakens programme legitimacy and sustained adoption, and policy reform is now urgent.
- **Training and Capacity:** The availability and capability of RTCs remain a major bottleneck. Their inconsistent involvement limits the number of nurses trained and perpetuates reliance on the NTP and external partners. Provincial disparities in training intensity require urgent attention to ensure equitable coverage.
- **Certification and Competency:** Certification rates of trained nurses remain suboptimal, in some provinces falling below 25%. This gap appears linked to challenges in accessing suitable practical training sites, limited exposure to sufficient caseloads, and variable mentorship support. Without certification, trained nurses cannot initiate DR-TB treatment, resulting in lost investment and reduced service capacity.
- **Retention and Workforce Stability:** High staff turnover among certified NIMDR-TB nurses erodes service continuity. Contributing factors include the absence of defined career pathways and rotation policies that move skilled nurses out of TB services. These undermine workforce retention and programme stability.
- **Monitoring and Accountability:** The absence of a standardised, integrated system to record training, certification, placement, and activity of NIMDR-TB nurses prevents effective planning and programme oversight. Weak monitoring also limits accountability for equitable distribution of DR-TB services and obscures workforce gaps.

Overall, the NIMDR-TB programme has demonstrated strong potential for impact. However, realising its full value requires deliberate, coordinated action to secure policy and regulatory alignment, scale high-quality training and mentorship, improve workforce retention, and institutionalise programme monitoring. With targeted investment and stronger governance, NIMDR-TB can become a cornerstone of differentiated, decentralised TB care and accelerate progress toward national TB recovery targets. The next section proposes a focused programme of action to strengthen and scale the NIMDR-TB model as a strategic pillar of DR-TB service delivery and health system resilience.



6. Plan to enhance the NIMDR-TB Programme

To ensure equitable access to DR-TB care and maintain service continuity at the primary care level, the programme should set a target of at least two trained and certified NIMDR-TB nurses per sub-district as a minimum standard for national coverage. To achieve this target, a coordinated set of measures is required across policy, training, certification, mentorship, retention, and monitoring, as outlined in the following recommendations.

6.1. Enabling Policy framework

An enabling policy environment is essential to institutionalise and scale the NIMDR-TB programme. Without formal policy recognition, the programme risks remaining fragmented, dependent on individual champions, and vulnerable to shifts in leadership and priorities. Establishing a supportive policy framework will strengthen commitment to NIMDR-TB at all levels of the health system and secure its legitimacy as a core component of DR-TB service delivery.

To achieve this, the National TB Programme (NTP) must compile and present evidence demonstrating the necessity, effectiveness, and safety of nurse-led DR-TB initiation to key policy stakeholders. Priority actions include:

Revision of the PHC Standard Treatment Guidelines (STG) and Essential Medicines List (EML):

- The National Essential Medicines List Committee (NEMLC) reviews the PHC STG and EML every two years. Through its representation on the NEMLC, the NTP should advocate for a clause in the STGs allowing the initiation of DR-TB treatment by trained and certified NIMDR-TB nurses. This revision must be tabled for consideration in the 2026 review to reflect current best practice and decentralisation goals.

Engagement with the South African Nursing Council (SANC): Advocacy efforts with SANC should focus on:

- Addressing concerns about the clinical safety of nurse-initiated RR-TB treatment by presenting evidence from South Africa and other high-burden countries demonstrating excellent outcomes using newer, shorter, and safer DR-TB regimens.
- Supporting the formal recognition of NIMDR-TB as a defined competency within nursing practice, with associated scope-of-practice provisions.
- Inclusion of DR-TB management—including NIMDR-TB roles—in the undergraduate nursing curricula for both the Diploma in Nursing and Bachelor of Nursing programmes.
- Developing structured career pathways and professional progression opportunities linked to NIMDR-TB certification to improve attraction, retention, and service continuity.
- By driving these policy reforms, the NTP will build the regulatory legitimacy needed to expand NIMDR-TB coverage, protect quality of care, and strengthen the sustainability of decentralised DR-TB services.

6.2. Strengthening Programme Leadership and Coordination

The effective implementation of the NIMDR-TB programme requires clear leadership, accountability, and coordination across all levels of the health system. Currently, the absence of a dedicated management structure has contributed to fragmented implementation, inconsistent communication, and inadequate monitoring of programme performance.

To address this gap, it is recommended that additional human resources are allocated to the already constrained national DR-TB directorate. One of the key roles for an additional staff member would be to act as a dedicated NIMDR-TB Coordinator who will liaise with complementary focal persons at provincial level.

This coordination structure would:

- Provide strategic leadership and accountability for NIMDR-TB implementation as part of the broader decentralisation of DR-TB services.
- Ensure sustained visibility and prioritisation of the programme within provincial TB planning and health system agendas.
- Strengthen communication and technical support between the NTP, Provincial TB Managers, RTCs, partner organisations, and implementing districts.
- Monitor and manage the NIMDR-TB cascade, including:
 - Training enrolment and completion
 - Certification rates
 - Active deployment and retention of NIMDR-TB nurses
 - Coverage across districts and sub-districts
 - Patient outcomes from nurse-initiated DR-TB treatment
- Drive data use for programme improvement, using monitoring results to identify service gaps, inequities in coverage, and opportunities for targeted support.
- Promote cross-district learning and best practice sharing through routine review meetings, mentorship forums, and learning collaboratives.
- Support advocacy and resource mobilisation for the programme at national and provincial levels.

The appointment of NIMDR-TB coordinators will ensure structured oversight and strengthen the capacity of the TB programme to deliver decentralised, equitable, and high-quality DR-TB services.

6.3. Strengthening selection of candidates for NIMDR-TB-training

Careful and strategic selection of candidates is essential to ensure that those trained progress to certification and contribute meaningfully to decentralised DR-TB services. Selection should prioritise candidates who are both capable and committed to delivering DR-TB care at primary care level. The following criteria and principles are recommended:

Selection Criteria

- Recommended qualification: Candidates with a Diploma in Primary Health Care (PHC) and dispensing licence.
- NIMART foundation: Certification and experience in NIMART is strongly recommended, as it provides a valuable foundation in chronic infectious disease management and task-shifting approaches. However, lack of NIMART certification should not automatically exclude promising candidates, especially in underserved districts.
- Relevant clinical exposure: Prior experience in DR-TB services—either through working at a DR-TB site or managing TB/HIV comorbidities—is highly advantageous.
- Demonstrated commitment: Candidates must show interest in TB care and a willingness to work in DR-TB service delivery, including adherence to programme protocols and continued professional development.
- Service alignment: Selections must align with provincial DR-TB decentralisation plans and staffing needs. Priority should be given to sub-districts and facilities with high DR-TB caseloads, limited clinical coverage, or planned expansion of decentralised care.

Selection Process

- Candidate selection should be a collaborative process involving:
 - Provincial DR-TB Managers
 - District TB Coordinators
 - Facility Managers
 - RTC Managers
 - National TB Programme representatives where needed
- Selections must be linked to a deployment plan to ensure that trained nurses return to facilities with DR-TB caseloads and appropriate mentorship support for certification and retention.
- Proper selection ensures that training investments translate into certified, confident, and active NIMDR-TB clinicians who strengthen the decentralised DR-TB model of care.

6.4. Post-Training Mentorship, Clinical Exposure and Ongoing Support

Successful completion of NIMDR-TB training must be followed by structured mentorship and supportive supervision to ensure that trained nurses gain confidence, achieve certification, and remain active in DR-TB service delivery. The following principles should guide post-training deployment:

Clinical Placement for Competency Development

- Trained candidates must be placed at facilities with adequate DR-TB caseloads to ensure consistent clinical exposure across the full care cascade—from diagnosis to treatment monitoring and management of adverse events.
- Placement should be purposefully aligned with provincial and district decentralisation plans to prevent underutilisation of trained staff in low-volume sites.
- Whenever feasible, candidates should rotate through designated DR-TB Centres of Excellence to consolidate skills during the mentorship phase.

Structured Mentorship and Support

- Each trainee should be assigned a clinical mentor—ideally a medical officer or experienced NIMDR-TB nurse—responsible for guiding case management, reviewing clinical decisions, and supporting OSCE preparation.
- Protected mentorship time must be scheduled to allow case reviews, bedside teaching, and reflective learning.
- Peer-support mechanisms (e.g. WhatsApp groups, case review forums, or ECHO-style virtual mentoring sessions) should be established to connect NIMDR-TB nurses across districts.

Continuous Professional Development

- Regular refresher training is essential to maintain clinical competency, especially in the context of rapid regimen updates such as BPAL-L. Ongoing training must include pharmacovigilance, drug interactions, comorbidity management (including HIV and diabetes), and patient-centred adherence support.
- Nurses should have access to updated clinical guidelines, decision-support tools, and job aids to reinforce learning in practice.

Structured mentorship and ongoing clinical support are critical to transition training into practice, reduce attrition, and build long-term DR-TB clinical capacity within the health system.

6.5. Retention of NIMDR trained and certified nurses

Ensuring that trained and certified NIMDR-TB nurses remain active in DR-TB service delivery is critical to sustaining programme impact. The following strategies can strengthen retention:

1. Clear Career Pathways

- Develop and implement defined career pathways that recognise NIMDR-TB certification and advanced practice in DR-TB management.
- Link career progression to professional development milestones, including leadership roles in TB programmes, training, mentorship, and clinical supervision.

2. Recognition and Incentives

- Enhance formal recognition of NIMDR-TB skills and expertise within the health system.
- Offer non-financial incentives such as refresher courses, exposure to national or multi-district learning platforms, participation in conferences, and opportunities for mentorship roles.
- Explore financial incentives, including recognition of NIMDR-TB as a scarce skill under the Occupational Services Dispensation, to reward and retain specialized clinical expertise.

3. Limiting Rotation

- Minimise rotation of trained NIMDR-TB nurses away from DR-TB service points to preserve skills, maintain service continuity, and reduce gaps in patient care.
- Advocate through the NDoH to provincial and district PHC managers to prioritise retention of NIMDR-TB nurses within DR-TB facilities.

4. Dedicated Posts and Funding

- Establish specific posts for NIMDR-TB nurses within facilities/districts to ensure sustainable service coverage.
- Identify alternative funding sources for these positions, including provincial budgets, donor support, and programmatic allocations, to maintain stability in staffing and service delivery.

A coordinated approach incorporating career progression, recognition, strategic placement, and secured funding is essential to retain skilled NIMDR-TB nurses and optimise decentralised DR-TB service delivery.

6.6. Strengthening collaboration with provincial Regional Training Centres

To ensure sustainable and province-led NIMDR-TB training, it is essential to strengthen the capacity and collaboration of RTCs. Key actions include:

1. Mapping and Needs Assessment

- Conduct a comprehensive mapping of all RTCs to identify the training they currently offer, gaps in capacity, and areas requiring additional support.
- Assess which RTCs are ready to lead NIMDR-TB training independently and which require targeted capacity development.

2. Train-the-Trainer Workshops

- Implement train-the-trainer programmes for RTCs that are not currently delivering NIMDR-TB training, to ensure they have the knowledge, skills, and confidence to lead effectively.
- These workshops can be facilitated by the NTP and, where necessary, supported by experienced external training providers.

3. Programme Orientation and Alignment

- Ensure all RTCs are fully aligned with the NIMDR-TB programme's vision, mission, and objectives.
- Build provincial ownership by enabling RTCs to manage the planning, organisation, and delivery of training with appropriate NTP oversight.

Strengthening RTC capacity will promote decentralised, province-led training, reduce reliance on external partners, and ensure a sustainable approach to building and maintaining the NIMDR-TB workforce.

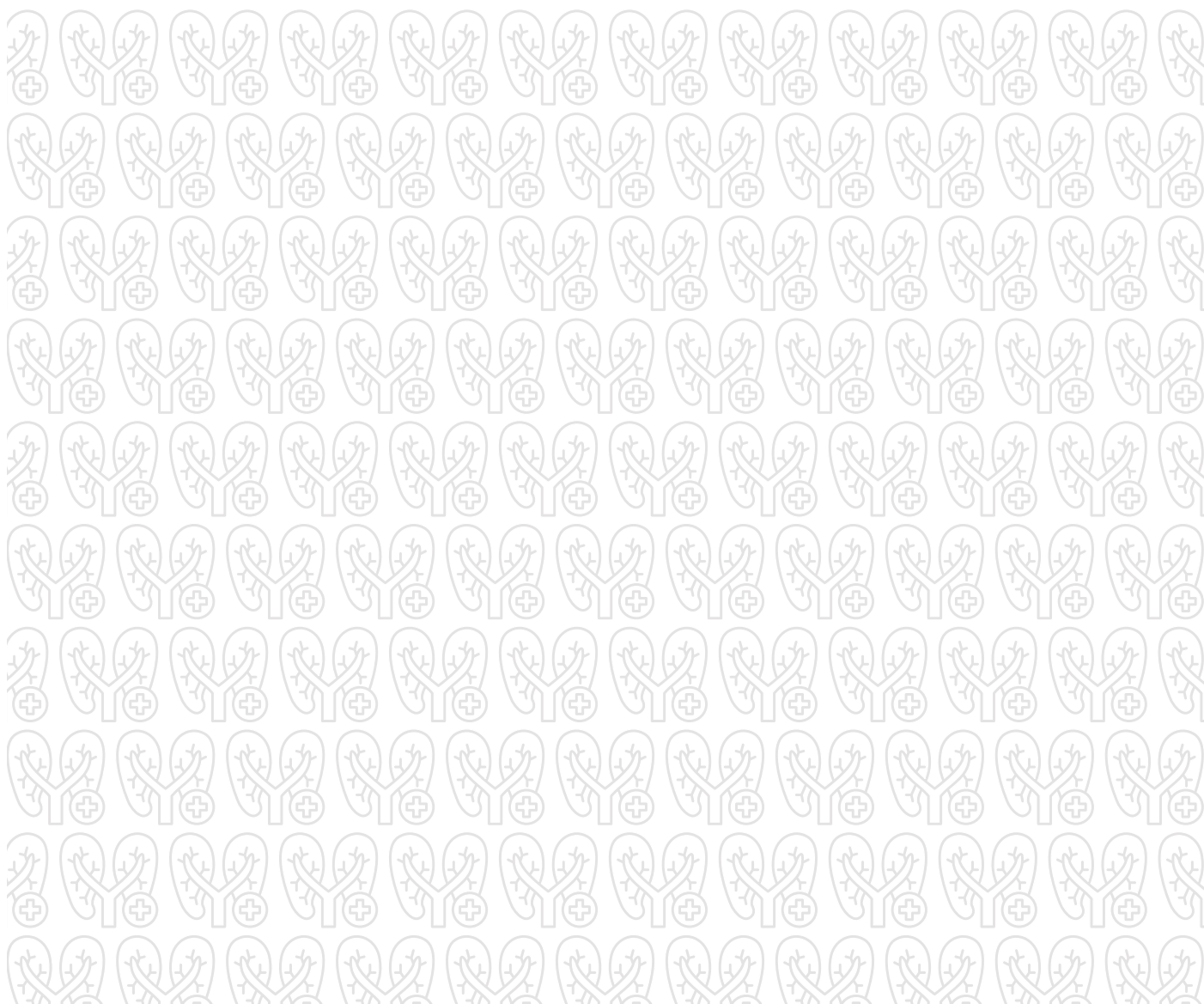
6.7. Monitoring and evaluation system

Currently, there is no standardised system to track NIMDR-TB training, certification, and service provision at the provincial level. The NTP should take the lead in designing a system that is accessible at national, provincial, and district levels, enabling real-time oversight and decision-making.

The M&E system should ideally form part of the EDRWeb system, which would be ideal and could include the following components:

- Comprehensive nurse database: Track all nurses trained in NIMDR-TB, including practical training completion, certification status, current placement, retirement, transfers, and DR-TB treatment initiation activity. This would allow the creation of programme “cascades” at national, provincial, and district levels to monitor attrition and guide remedial action.
- GIS mapping: Visualise the current placement of NIMDR-TB nurses alongside the location of decentralised DR-TB initiation sites (both active and planned) to assess geographic coverage and identify gaps.

Such a system would provide real-time insights into training coverage, certification progress, and service delivery, ensuring that the NIMDR-TB programme is responsive, targeted, and aligned with national priorities, while maximising the return on investment in this critical health workforce initiative.



7. Responsibilities for proposed recommendations

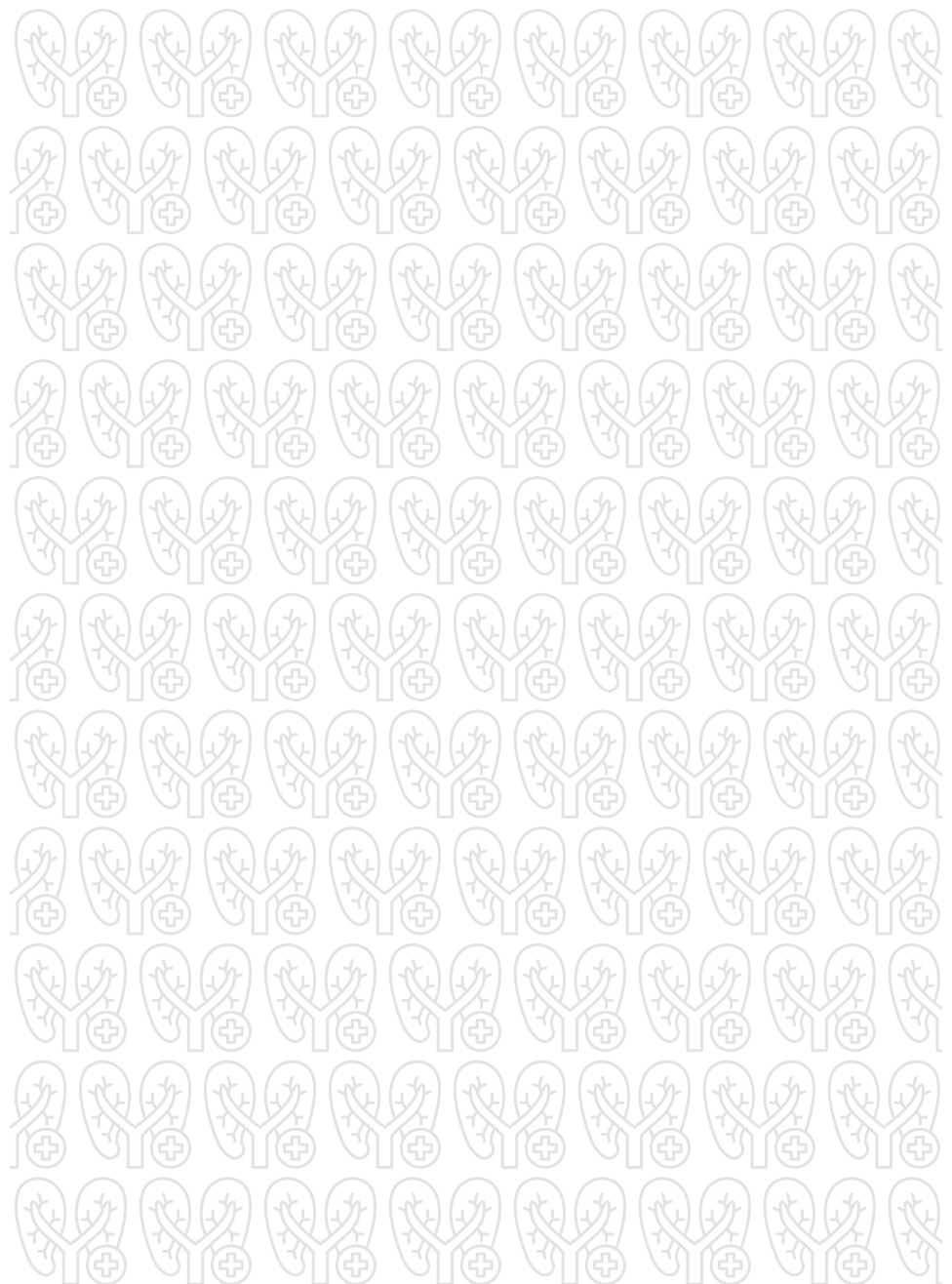
Below is a summary of the key recommendations and how these may be supported at both national and provincial levels.

National DOH	Provincial DOH
Advocacy	
<ul style="list-style-type: none"> • Revise decentralisation policy/plan to include a requirement for at least 3 NIMDR-TB trained and certified staff per sub-district • Support research to build more evidence in favour of NIMDR-TB • Advocacy to the NEMLC for revision of the PHC STG and EML • Advocacy to SANC: <ul style="list-style-type: none"> • Safety concerns • Increasing DR-TB management content in undergraduate diploma and degree curricula • Career pathing for NIMDR-TB nurses 	<ul style="list-style-type: none"> • Implement the revised decentralised MDR-TB policy/plan aiming at appointing at least 3 NIMDR-TB nurses per sub-district • Support research aiming a building evidence in favour of NIMDR-TB • Advocacy with key provincial stakeholders, i.e. HOD's, RTC's and nursing directorates for buy-in into the implementation of NIMDR-TB to ensure swift roll-out of the programme
Monitoring and evaluation of the NIMDR-TB programme	
<ul style="list-style-type: none"> • Develop a standardised reporting system that keeps a record of names, number and placement of nurses trained, certified and initiating. 	<ul style="list-style-type: none"> • Maintain a record of names, number and placement of nurses trained, certified and initiating DR-TB treatment
Strengthening RTC capacity for NIMDR-TB training and coordination	
<ul style="list-style-type: none"> • Support and adjudicate NIMDR-TB courses for RTC facilitators • Identify a NIMDR-TB coordinator 	<ul style="list-style-type: none"> • Select a DR-TB member to champion and coordinate NIMDR-TB training • Select RTC members for NIMDR-TB Train the Trainer courses • Enlist the clinicians at Centres of Excellence to train and mentor RTC members as NIMDR-TB trainers
Selection of candidates for NIMDR-TB training	
<ul style="list-style-type: none"> • Liaise closely with district TB coordinators to review selected candidates for NIMDR-TB training, in the context of the district decentralisation plan 	<ul style="list-style-type: none"> • Work with the provincial DR-TB manager and the district health management team to develop a rational district plan for strengthening DR-TB services in every sub-district • Make carefully considered choices: <ul style="list-style-type: none"> • PHC nurse recommended • Prior experience in DR-TB • A passion for, or at least, an interest in TB • Work with RTC to develop a training plan, with timelines, for each nurse and follow up to ensure implementation and placement
Strengthening the OSCE process	
<ul style="list-style-type: none"> • Support provinces and RTCs to set up and maintain their capacity for practical training, mentorship and OSCEs • Participate in the OSCE processes when possible 	<ul style="list-style-type: none"> • Maintain a training plan for the practical and mentorship phase of NIMDR-TB training • Select and train clinicians on the OSCE process and documentation • Allocate mentees to designated clinicians according to a roster • Arrange the OSCE at a suitable facility
Retention of NIMDR-TB nurses in DR-TB services	
<ul style="list-style-type: none"> • Developing career pathways based on NIMDR-TB certification and practice • Recognition of NIMDR-certification and practice as a scarce skill 	<ul style="list-style-type: none"> • RTC to organise refresher trainings, mentorship through short placements at a Centre of Excellence or busy DR-TB initiating facilities and WhatsApp groups to maintain knowledge, skills and confidence • Monitor placement and practice of NIMDR-TB nurses



8. References

1. Farley JE, Kelly AM, Reiser K, Brown M, Kub J, et al. (2014) Development and Evaluation of a Pilot Nurse Case Management Model to Address Multidrug Resistant Tuberculosis (MDR-TB) and HIV in South Africa. PLoS ONE 9(11): e111702. doi:10.1371/journal.pone.0111702
2. Crowley T, Mokoka E, Geyer N. Ten years of nurse initiated antiretroviral treatment in South Africa: A narrative review of enablers and barriers. S Afr J HIV Med. 2021;22(1), a1196. <https://doi.org/10.4102/sajhivmed.v22i1.1196>
3. Republic of South Africa National Department of Health (2022) Standard Operating Procedures (SOPs) Nurse initiated multi-drug-resistant TB initiation 2022_V3



9. Appendices

9.1. Interview tools

Self-Completion Questionnaire for Provincial DR-TB and Regional Training Centre Managers

National NIMDR-TB Training Review

Provincial DR-TB Managers Self-Completion Questionnaire July 2025

Province:

Date:

Names of informants:

Position of informants:

1. Does your TB Department currently provide in-house NIMDR-TB training? (This does not include training conducted by an external training provider)
2. Please enter all the NIMDR-TB courses you have conducted up until 30th June 2025 and fill in the related variables. If you have conducted any BPAL-L Training Courses for nurses, outside of your NIMDR-TB courses, please enter these too.

3. Table 1

Year (yyyy)	Start date (dd/mm/yy)	Title of training	Number of days	Province where training took place	District where training took place	Which districts were attendees drawn from?	Number of PNs trained

4. Please upload/email the Attendance Sheets for each of these trainings (with identifiers obscured)
5. Please upload/email all training material used (slides, guides, handbooks), including all versions and modifications.
6. Are there external providers who conduct NIMDR-TB training in your province? If yes, please complete below.

7. Table 2

Please list all the providers of NIMDR-TB training in your province	Length of NIMDR training	Contact person	Contact persons email address

8. Please fill in the following table **for each district** in your province for each year since 2014 (NIMDR-TB Training only):



9. Table 3

District	Year (yyyy)	Total number of nurses who attended NIMDR-TB training	Total number who were certified competent

10. As of today, what is the total number of NIMDR-TB nurses who are actively initiating DR-TB treatment in each district and sub-district?

11. Table 4

District	Sub-district	Total number of NIMDR-TB nurses who are actively initiating DR-TB treatment

Thank you for completing this form.

Self-Completion Questionnaire for NIMDR-TB Training Providers

National NIMDR-TB Training Review

NIMDR-TB Training Providers self-completion questionnaire

July 2025

Organisation/Entity:

Date:

Name/s of informant/s:

Position/s of informant/s:

1. Where are you based? Please indicate all offices by province and town.
2. Which provinces do you provide NIMDR-TB Training for?
3. When did you start training in each province?
4. Please enter all the NIMDR-TB courses you have conducted up until 30th June 2025 and fill in the related variables. IF you have conducted any BPAL-L Training Courses for nurses, outside of your NIMDR-TB courses, please enter these too.

Start date (dd/mm/yy)	Title of training	Number of days	District	Province	Number of PNs trained	Number of PNs who achieved ≥ 70% in the post-test

Attendance Records and Materials

5. Please email the Attendance Sheets for each of these trainings (with no identifying information such as the names of participants, age, etc)
6. Please email all training material used (slides, guides, handbooks), including all versions and modifications.

Thank you for assisting with the review!

National NIMDR-TB Training Review

Provincial DR-TB Managers: KII Guide

Date:

Background: Provide information from information sheet

Consent (to participate, to audiorecord):

Position:

Time in position (years):

1. NIMDR-TB programme

1.1. Please can you share your views of the NIMDR programme in your province?

Probes: Are there advantages? Are there disadvantages? Please elaborate.

1.2. In your view what are the main challenges and barriers to the NIMDR-TB programme in your province?

How can they be overcome?

Probe: Staffing, training, certification, support

2. Selection and training of NIMDR-TB in your province

2.1. Please explain how professional nurses are selected for NIMDR-TB training in your province.

Probes: Who is involved in the decision? What are the criteria used to make the selection?

2.2. Who does your NIMDR-TB training?

Probe: please share service providers

2.3. As a province, how do you support the NIMDR-TB training?

Probe: What material resources are provided by provincial DOH? What technical assistance do you provide?

2.4. Describe how effective you think the NIMDR-TB training process has been in your province?

Probe: Strengths - What factors have created these strengths?

Probe: What are enabling factors that promote training?

Weaknesses - Follow up on the root causes for these gaps?

Probe: What are the most important barriers to NIMDR training?

3. Certification

3.1. How do NIMDR-TB trained nurses become certified competent?

3.2. In your experience, do most nurses who attend the practical training become certified competent?

Probe: Why? Why not? What are all the steps. How do they happen?

Functioning at NIMDR-TB sites

4. Functioning of NIMDR-TB trained nurses at the initiation sites

4.1. What input/resources are needed to bring a NIMDR-TB- trained and certified PN to the point of having confidence and skill to initiate and manage MDR-TB patients?

Probe: What factors assist in this process?

What factors hinder this process?

4.2. Are there actions to ensure that the NIMDR-TB trained nurses are allocated to a DR-TB initiation site, and remain active in that site?

Probe: Please explain

4.3. What are the reasons that a NIMDR-TB trained PN would not end up being actively and effectively involved in a DR-TB initiating facility?

5. Overall views on the NIMDR-TB training

5.1. Briefly explain you think the process of NIMDR-TB training, certification, allocation and CME be improved?

Do you have any final remarks?

Thank you for your time.

NIMDR-TB Programme Update

NIMDR-TB Training Providers: KII Guide

Date:

Background: Provide information from information sheet

Consent (to participate, to audiorecord):

Position:

Time in position (years):

1. NIMDR-TB programme

1.1. Please can you share your views of the NIMDR programme?

Probes: Are there advantages? Are there disadvantages? Please elaborate.

2. Selection and training of NIMDR-TB

2.1. Please how professional nurses are selected for NIMDR-TB training by your organisation

Probes: Who is involved in the decision?

What are the criteria used to make the selection?

In your experience could selection be changed in any way? How?

2.2. Who does your NIMDR-TB training?

Probe: Do you partner with other organisations? How are your trainers trained?

3. What materials and methodologies do you use?

Probe: What are their strengths?

How could they be strengthened?

3.1. Describe how effective you think the NIMDR-TB training process has been?

Probe: Strengths – What factors have created these strengths?

Probe: What are enabling factors that promote training?

Weaknesses – Follow up on the root causes for these gaps?

Probe: What are the most important barriers to NIMDR training?

4. Certification

4.1. How do NIMDR-TB trained nurses become certified competent? Are you involved in certification?

4.2. In your experience, do most nurses who attend training become certified competent?

Probe: Why? Why not? What are all the steps? How do they happen?

5. Functioning of NIMDR-TB trained nurses at the initiation sites

4.2. What in your view determines if an NIMDR-TB- trained and certified PN will be active in initiating DR-TB treatment?

Probe: Are there provincial level factors? Are there district level factors? Are there other factors? Please explain.

6. Overall views on the NIMDR-TB training

6.1. Briefly explain how you think the process of NIMDR-TB training, certification, allocation and CME be improved?

7. Other training providers

7.1. Do you know any other organisations other than the provincial Regional Training Centres that conduct training?

Do you have any final remarks?

Thank you for your time.

9.2. Training provider list

Name	Provinces served	Training context
National TB Programme	All	<ul style="list-style-type: none"> Face to face using online content Conduct OSCEs
Foundation for Professional Development (FPD)	Gauteng	<ul style="list-style-type: none"> Face to face using online content Group self-study using online content with mentor present to answer individual questions face to face
JHU	Eastern Cape Kwa-Zulu Natal	<ul style="list-style-type: none"> There is an ongoing cluster-randomized, non-inferiority trial evaluating the integration of DR-TB in primary care as well as the roles of nurses in the management of such patients. In KZN and EC
JPS Africa (Formerly Jhpiego)	Northern Cape	<ul style="list-style-type: none"> Didactic, face to face training
Academy for Quality Healthcare (AQAH)	Open to all applicants at own cost	<ul style="list-style-type: none"> Self-study Online course with 37 sessions. Each session comprises readings/presentations, videos, and quizzes. Based on NDoH guidelines.

9.3. On-line DR-TB training content

Pragmatic and Clinical Management of Drug-Resistant Tuberculosis in SA

Course content for the official 18-module NDoH trainings entitled “*Pragmatic and Clinical Management of Drug-Resistant Tuberculosis in SA*”, one course for adults and one for paediatrics, was hosted on a commercial ePlatform called *EM Guidance* from October 2021 to October 2023.¹ All South African medical professionals who were registered with their relevant professional councils could access this material on their laptops or mobile devices free of charge. At the end of the course, participants had the option of completing an online quiz and obtaining CPD credits.

The NTP and training partners relied heavily on this platform and used it in creative ways, from projecting the material during didactic classroom NIMDR-TB training, to small group mentoring in clinics, to facilitation of self-study in groups with an NTP facilitator on hand to answer questions in real time, to encouraging self-study at home. Most training providers said they preferred face to face, live training using this platform to facilitate online self-study in groups because face to face interaction allows real time engagement with and feedback from participants that allows facilitators to modify and deepen capacity development. However, it was noted that the online, self-study method fulfilled an important gap when there was a dearth of trainers and that many nurses started their successful NIMDR-TB journeys in this fashion.

Table 7: The use and CPD accreditation statistics for the NDoH course hosted on EM Guidance in 2012 to 2023

	Total number of views	Total number of clicks (engaged with course content)	Total number of individuals accredited with CPD points
Adult course	434 635 (83% in public sector)	180 583 (81% in public sector)	4 482
Paediatric course	231 316 (79% in public sector)	31 252 (79% in public sector)	2 044

NDoH Knowledge Hub

The development of the NDoH Knowledge Hub eplatform replaced the need for alternative commercial eplatform. NTP members noted that a disadvantage of Knowledge Hub eplatform in terms of monitoring was that this platform could not collect and disaggregate data by engagement, occupation and CPD accreditation (how many passed the post-test) in the same way. The NDoH Knowledge Hub played a key role in communicating the 2023 clinical reference guide to a wide range of health professionals in South Africa: “*Clinical Management of Rifampicin-Resistant Tuberculosis*” and subsequent topics related to the diagnosis of DR-TB and appropriate regimens for contacts of people with DR-TB. This material can be used in group settings and for self-study.

¹ The company in question provides free medicines and guideline resources for medical professionals in partnership with national departments of health, global and local pharmaceutical manufacturers, and medical societies.

NIMDR-TB Training by eLearning

This training has been offered by AquaH (Academy for Quality Healthcare) on the Clinical Care Platform since 2020. The course includes lectures, videos, exercises, tests and case studies and 16 CPD credits are awarded on successful achievement of a minimum set score. It was not possible to review the training content for harmony with the official NDoH NIMDR-TB content by the time this report was written nor was it possible to get data on the number of nurses who have received accreditation. However, anecdotal evidence from some of the informants that suggest that at least some NIMDR-TB nurses started their successful journey with a NIMDR-TB course on this eplatform.



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