MINISTRY OF HEALTH AND CHILD CARE · CHAI ZIMBABWE

Decentralizing Molecular TB Diagnosis in Zimbabwe

nPOC-NAAT (Pluslife) Pilot Implementation — Field Performance, Early Impact, and the Path to GC8 Scale-Up

Africa Regional Meeting – Addis Ababa | June 2026

EXECUTIVE SUMMARY

A validated, decentralized molecular platform that detects more TB, faster — and is ready to scale up within GC8

Field-validated

Pluslife showed substantial agreement with GeneXpert **(Cohen's κ = 0.829)** across **2,813** paired TB tests, with comparable positivity **11.3% (Plus life) vs 10.8% GeneXpert** and low unsuccessful-result rates.

Real case-finding gains

At **six** microscopy centres, nPOC found **35** confirmed TB cases in 2-3 months — more than half of all **63** cases notified at those same sites in the whole of 2025.

Coverage gap to close

93% of TB labs now have a molecular platform (Xpert/Truenat/Plus life), yet a **124**-site nPOC gap persists to reach 100% coverage of nPOC in the diagnostic network .

Ready to scale up in GC8

212 devices procured and **300+** health workers trained since April 2026; an eight-point way-forward plan embeds nPOC scale-up within the GC8 (2026-2028) cycle.

AGENDA

How this briefing builds the case: from burden and network gaps to pilot evidence and a costed scale-up

1. **TB Epidemiologic Profile**
   Zimbabwe's burden, detection gaps and DR-TB challenge
2. **TB Diagnostic Network**
   Platform coverage and the residual nPOC gap
3. **Rationale for nPOC**
   Why decentralized molecular testing, and why now
4. **Implementation Planning**
   Procurement, deployment tiers and training
5. **TB Testing & Validation**
   Field performance vs GeneXpert and at microscopy sites
6. **Lessons Learned**
   What early implementation has surfaced
7. **Way Forward**
   Eight priority actions for GC8 scale-up

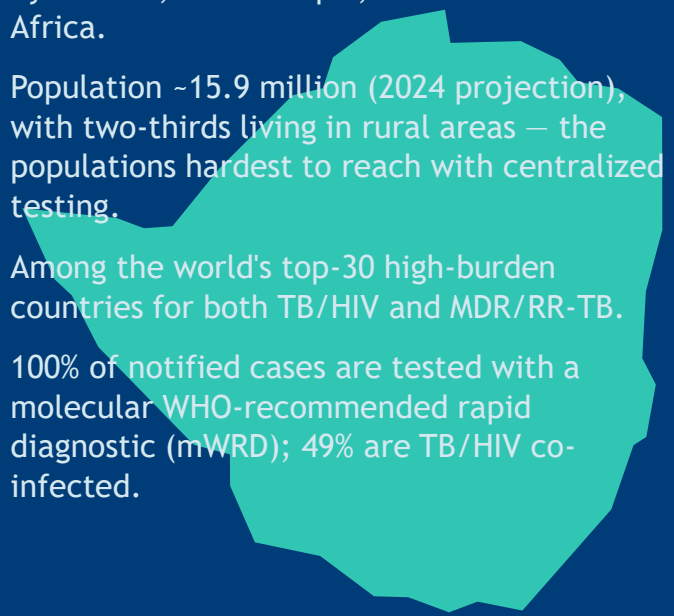
Country context

Landlocked Southern African nation bordered by Zambia, Mozambique, Botswana and South Africa.

Population ~15.9 million (2024 projection), with two-thirds living in rural areas — the populations hardest to reach with centralized testing.

Among the world's top-30 high-burden countries for both TB/HIV and MDR/RR-TB.

100% of notified cases are tested with a molecular WHO-recommended rapid diagnostic (mWRD); 49% are TB/HIV co-infected.



34,000
Estimated incident TB cases (2024)

20,300
Cases notified — ~60% treatment coverage

66%
Bacteriologically confirmed (new & relapse)

660
Estimated MDR/RR-TB cases (2024)

249
MDR/RR-TB cases lab-confirmed — 235 on 2nd-line

91% / 69%
Treatment success: DS-TB (2023) / MDR-RR (2022)

The drug-resistant TB confirmation gap is the headline risk. Only 38% of estimated MDR/RR-TB cases (249 of 660) were laboratory-confirmed in 2024, and DR-TB rates still rest on the last drug-resistance survey from 2015 — decentralized molecular testing is essential to close both gaps.

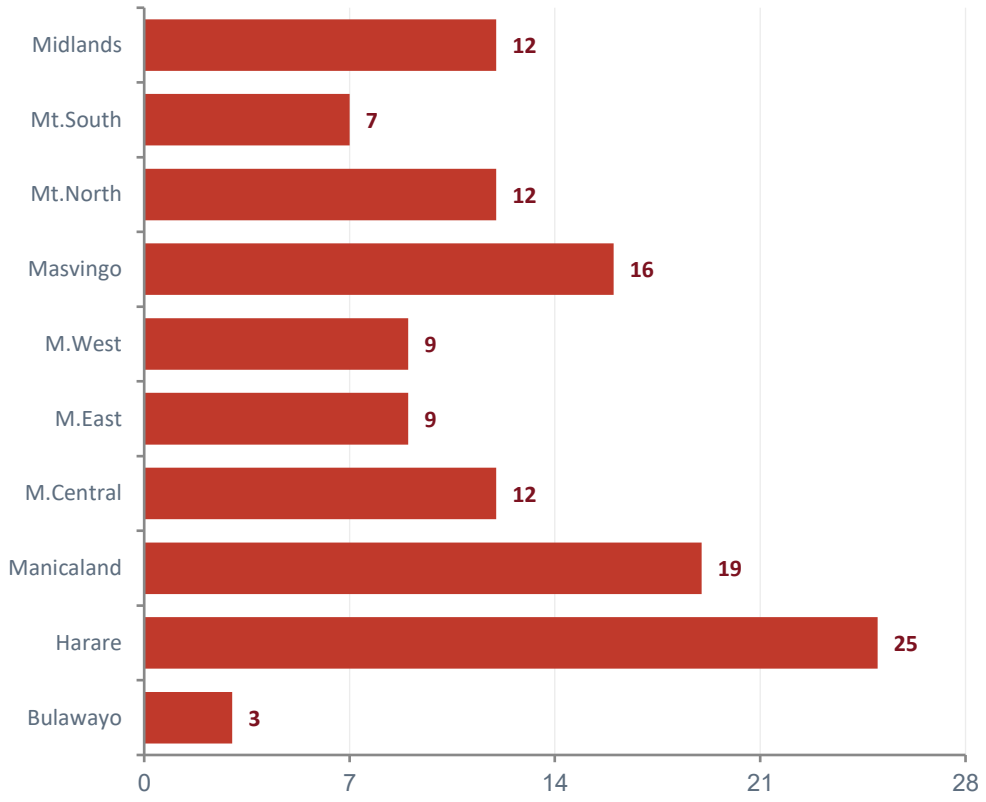
TB DIAGNOSTIC NETWORK

93% of TB labs now run a molecular platform, but a 124-site nPOC gap remains — concentrated in Harare, Masvingo and Manicaland

1,953 health facilities nationwide · **231** public facilities offer TB diagnostic services · **WRD site coverage 93%** (≥1 of Xpert / Truenat / nPOC)

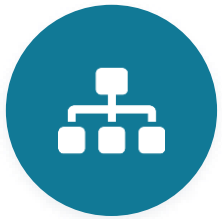
Province	TB Labs	With mWRDs	Plus Life	Gene Xpert	True nat	nPOC Gap
Bulawayo	7	7	4	6	0	3
Harare	30	25	5	24	0	25
Manicaland	31	28	12	17	4	19
Mash. Central	24	23	12	12	3	12
Mash. East	27	26	18	12	3	9
Mash. West	24	22	15	14	1	9
Masvingo	27	23	11	17	0	16
Mat. North	22	22	10	13	4	12
Mat. South	13	13	6	10	2	7
Midlands	26	25	14	17	3	12
Total	**231**	**214**	**107**	**142**	**20**	**124**

nPOC GAP BY PROVINCE (facilities still needing a near-POC analyser)



RATIONALE FOR NPOC

Three converging pressures make near-point-of-care molecular testing the right intervention — reach, versatility and cost



REACH

Decentralize access

Deploys molecular analysers to lower-tier facilities in hard-to-reach areas and rural centres, bringing same-visit TB diagnosis to the two-thirds of Zimbabweans who live rurally.

VERSATILITY

Multi-disease testing

A single near-POC footprint supports testing beyond TB — the pilot pairs TB cartridges with HPV testing, maximising the return on each deployed device at the primary-care level.

COST

Lower diagnostic cost

Cuts TB diagnostic cost for both patient and programme in a waning external-support environment — reducing sample transport, referral delays and out-of-pocket spend.

IMPLEMENTATION PLANNING

212 analysers procured and 300+ health workers trained since April 2026, deployed across every tier of the diagnostic network under a costed plan

212
Analysers procured by MoHCC

107
Target facilities for deployment

300+
Health workers trained on-site

29
Facilities trained since April 2026

DEPLOYMENT ACROSS THE NETWORK

Provincial & high-volume hospitals
Dock Pro 8 analysers deployed to 15 provincial-hospital TB labs and selected high-volume general hospitals.

District & mission hospitals
35 district / mission-hospital TB labs each received 4 × mini-dock analysers.

Rural health microscopy centres
57 rural-health microscopy centres each received one mini-dock — extending molecular testing to the last mile.

SUPPLIES SECURED & PLANNING IN PLACE

118,000
TB test cards procured

67,660
HPV test cards procured

- Costed implementation plan & budget
- Training and installation plan
- External quality assurance (EQA) plan
- Supportive supervision & mentorship plan

PILOT FOOTPRINT

The pilot deliberately spanned all three network tiers — so validation reflects real-world conditions from provincial labs to rural microscopy centres

Provincial & high-volume hospitals

Dock Pro 8 high-throughput analysers · 15 provincial-hospital TB labs

District & mission hospitals

4 × mini-dock per lab · 35 labs

Rural health microscopy centres

1 mini-dock per centre · 57 centres

A mix of facilities drawn from every tier of the TB diagnostic network

Why an all-tier pilot matters

- Performance is stress-tested where it counts: at the lowest tiers, where staffing, power and sample handling are most variable.
- Generates parallel validation data at hospital sites with an existing GeneXpert reference platform, while demonstrating feasibility at microscopy-only centres.
- Confirms that one near-POC footprint can serve markedly different facility volumes and workflows — the precondition for a credible national algorithm.
- Builds the operational evidence base (training, EQA, supervision) needed to budget and de-risk full scale-up under GC8.

TB TESTING · VALIDATION (GENEXPERT SITES)

Pluslife matched GeneXpert in the field — substantial agreement (κ = 0.829) and near-identical positivity across 2,813 paired tests

2,813
TB tests per platform (parallel)

0.829
Cohen's κ — substantial agreement

11.3% / 10.8%
Pooled positivity — Pluslife / Xpert

1.0% / 0.6%
Unsuccessful-result rate — Pluslife / Xpert

AGREEMENT MATRIX — 2,770 PAIRED VALID RESULTS

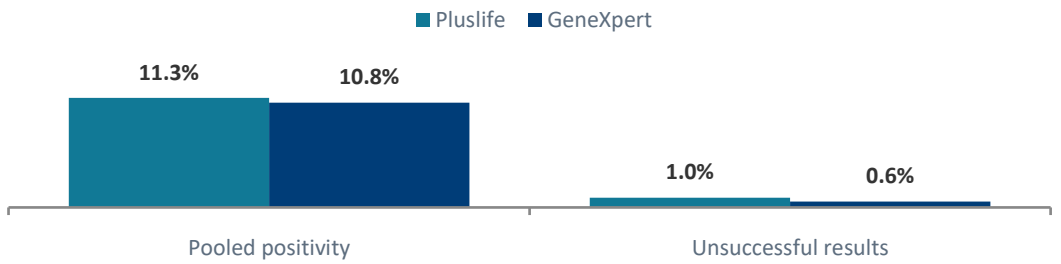
	Pluslife +	Pluslife –	Row total
Xpert Ultra +	260	40	300
Xpert Ultra –	53	2,417	2,470
Column total	313	2,457	2,770

TP 260 · TN 2,417 (concordant) FN 40 · FP 53 (discordant)

DERIVED PERFORMANCE vs GeneXpert (reference)

86.7%
Positive % agreement (260/300)

97.9%
Negative % agreement (2,417/2,470)



TB TESTING · IMPACT (MICROSCOPY SITES)

At six microscopy-only centres, nPOC found more than cases TB cases in three months than was notified in all of 2025 — a decisive case-finding gain

337

TB tests performed across 6 microscopy sites

35

Bacteriologically-confirmed TB cases (10.5% positivity)

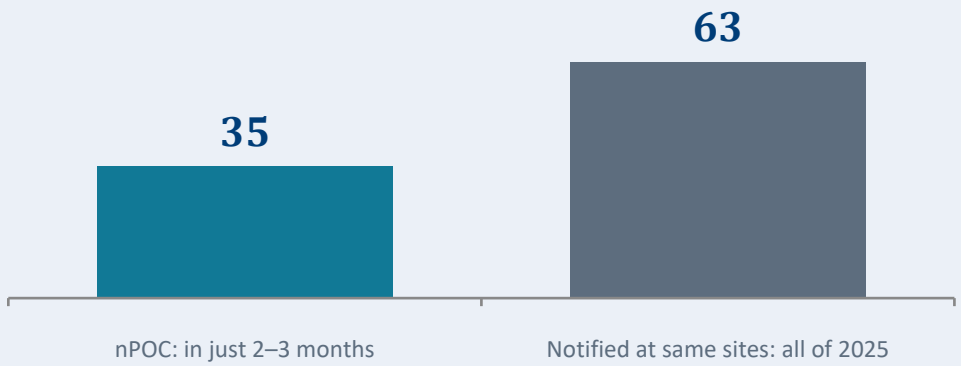
100%

Of the 35 confirmed cases promptly started on TB treatment

5

Invalid results (1.5%) — a low, manageable rate at primary level

THE DECENTRALIZATION DIVIDEND



In 2-3 months, nPOC delivered more than half of a full prior year's notifications at the same facilities.

So what? Molecular diagnosis at primary-care level ensures prompt treatment initiation and lifts effective TB treatment coverage — reaching patients who would otherwise be missed by centralized testing.

LESSONS LEARNED

Five early lessons — political commitment and a maintenance plan are decisive, and a known assay discordance must be managed

Political commitment accelerates uptake

High-level ownership is the single biggest lever for expediting nPOC rollout and removing operational bottlenecks.

A maintenance plan is essential

Sustained performance depends on a clear servicing and maintenance plan for analysers across all tiers.

Manage device-handling issues

Excess vibration of thermolysers has been reported at some sites — installation and siting guidance must address it.

Account for assay discordance

Pluslife-positive / Xpert-negative results may outweigh the reverse, which can modestly raise measured positivity — to be interpreted in algorithm design.

Primary-level testing speeds treatment

Molecular TB diagnosis at primary-healthcare level enables prompt treatment initiation and may raise treatment coverage.

WAY FORWARD

Eight priority actions to scale nPOC nationally and embed it within the GC8 (2026-2028) cycle

SCALE & SUSTAIN

1. Rapidly scale up training to remaining 60 sites

Then extend testing to the 124-site nPOC gap.(procurement of analyzers for those sites & training)

2. Plan & budget scale-up within GC8

Cost the national rollout in the 2026–2028 grant.

3. Mitigate test-card expiry

Act on TB & HPV cards expiring November 2026.

QUALITY & MENTORSHIP

4. Targeted post-training mentorship

Conduct supportive supervision visits.

5. Implement quality-assurance programs

Stand up EQA across all nPOC sites.

POLICY & SYSTEMS

6. Finalize the national TB diagnostic algorithm

Informed by pilot implementation evidence.

7. Discontinue parallel testing

Retire validation-phase dual testing.

8. Revise the M&E system for nPOC

Capture near-POC data in routine reporting.

Thank you

Decentralized molecular TB diagnosis is validated, finding more cases faster, and ready to scale within GC8.

Ministry of Health and Child Care · Clinton Health Access Initiative (CHAI) Zimbabwe

nPOC-NAAT (Pluslife) Pilot Implementation · with UNITAID funding · June 2026