# Scaling use of health data: A decentralised approach

# CASE STUDIES

## Context

High burden facility

High crime area

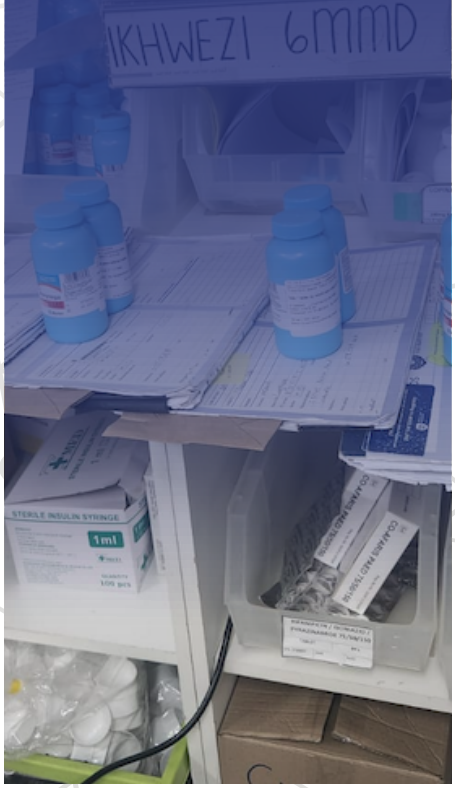
Infrastructure constraints

## Initiative

DMOC SOP 2024

Eligible clients in existing clubs

Added integrated clubs




## Implementation

New recruits received same day 6MMD

Pre-packaged meds

Dispensing from the rooms

Integrated clubs included

**01 March 2021 - 30 September 2026**

Western Cape Government FOR YOU

THE HEALTH FOUNDATION SOUTH AFRICA

CITY OF CAPE TOWN ISIXEKO SASEKAPA STAD KAAPSTAD

# Abbreviations

| | |
|---|---|
| **ART** | Antiretorival Treatment |
| **ARV** | Antiretroviral |
| **BI** | Business Intelligence |
| **CCT** | City of Cape Town |
| **CDC** | Community Day Centre |
| **CDU** | Chronic Dispensing Unit |
| **CGE** | Clinical Governance Evaluation |
| **CH** | City Health |
| **CHC** | Community Health Centre |
| **CHWs** | Community Health Care Workers |
| **CIR** | Case Identification Register |
| **COPC** | Community Oriented Primary Care |
| **CNP** | Clinical Nurse Practitioner |
| **CT** | Cape Town |
| **CtG** | Close the Gap Campaign |
| **ECSS** | Emergency and Clinical Services Support |
| **100 F** | 100 Facilities Initiative |
| **HAST** | HIV/AIDS, Sexually Transmitted Infections, and TB |
| **HI** | Health Intelligence |
| **HIV** | Human Immunodeficiency Virus |
| **HE²RO** | Health Economics and Epidemiology Research Office |
| **HTAL** | HIV Treatment Action List |
| **HTS** | HIV Testing Services |
| **IUD** | Intrauterine Device |
| **KESS** | Khayelitsha Eastern Sub structure |
| **KMPSS** | Klipfontein Mitchel's Plain Sub structure |
| **KTU** | Knowledge Translation Unit |
| **LHS** | Learning Health System |
| **LTFU** | Loss to Follow Up |
| **MECC** | Making Every Contact Count |
| **M & E** | Monitoring and Evaluation |
| **MHS** | Metro Health Services |
| **MMD** | Multi Month Dispensing |
| **MDT** | Multidisciplinary Team |
| **MVP** | Minimum Viable Product |
| **NAAT** | Nucleic-acid-amplification-testing |
| **NCD** | Non-Communicable Diseases |
| **NIH** | National Institute of Health |
| **NIMART** | Nurse-led Initiation and Management of ART |
| **NPO** | Non-profit Organisation |
| **NTSS** | Northern Tygerberg Sub structure |
| **PDR** | Plan-Do-Review |
| **PC** | Personal Computer |
| **PFI** | Patient Facing Interface |
| **PHC** | Primary Health Care |
| **PHCIS** | Primary Health Care Information System |
| **PHDC** | Provincial Health Data Centre |
| **PHP** | Public Health Professional |
| **PLHIV** | People Living with HIV |
| **PN** | Professional Nurse |
| **PREHMIS** | Patient Record and Health Management Information System |
| **PREP** | Pre-Exposure Prophylaxis |
| **PWTB** | People with TB |
| **QI** | Quality Improvement |
| **QIP** | Quality Improvement Plans |
| **RHS** | Rural Health Services |
| **RIC** | Remaining in care |
| **RTC** | Routine HIV Testing and Counseling |
| **SD** | Subdistrict |
| **SDG** | Scaling Data Grant |
| **SG** | Scaling Grant |
| **SOP** | Standard Operating Procedure |
| **SPC** | Service Priorities Coordination |
| **SPV** | Single Patient Viewer |
| **SS** | Substructure |
| **STI** | Sexually Transmitted Infection |
| **SWSS** | Southern Western Sub structure |
| **TB** | Tuberculosis |
| **TEXCO** | Top Executive Committee |
| **THF** | The Health Foundation |
| **Tier.net** | Three Interlinked Electronic Registers |
| **TPT** | Tuberculosis Preventive Treatment |
| **TROA** | Treatment Remaining on ART |
| **TTAL** | Tuberculosis Treatment Action List |
| **TUTT** | Targeted Universal TB Testing |
| **USAID** | U.S. Agency for International Development |
| **QI** | Quality Improvement |
| **QIP** | Quality Improvement Project |
| **WCGHW** | Western Cape Government Health and Wellness |
| **WC** | Western Cape |

# Case Study Index

# Why Case Studies?

The Scaling Data Use grant project funded by the Gates Foundation aimed to improve data utilization and access and was undertaken in partnership with The Health Foundation, Western Cape Government Health and Wellness (WCGHW), City Health Department, City of Cape Town (CCT), Metro Health Services, Rural Health Services (RHS), Emergency and Clinical Services Support (ECSS) and the Provincial Health Data Center (PHDC).

It is a project that spanned 5 years, for periods, 1 March 2021 - 30 September 2023 and 1 October 2023 - September 2026. Phase 1 developed and tested new tools and approaches for data-informed HIV and TB care. Early work in Phase II focused on refining and extending these tools, building data skills, digitising HIV Testing Services (HTS), and expanding the capacity of the Provincial Health Data Centre.

**Phase 1**

1 March 2021 - 30 September 2023

**Phase 2**

1 October 2023 - 1 March 2026

During the second phase approaches to a Learning Health System (LHS) were starting to catalyze. As part of this process regular reviews were built into grant implementation so that teams could pivot in response to challenges, learnings, and recommendations. In June 2024, the partners held focused discussions on how learning could occur across the initiative. A LHS presentation framed the discussion and surfaced a set of shared questions about how to build a health system that continuously learns from its data and adapts its practices. How do we validate what works, and then scale it? How do we keep grant staff and the areas they are embedded in working productively together, given the different contexts, systems and capacities across CCT and MHS? And finally, how can we review performance and deploy targeted interventions effectively, given current resources?

The discussion set a clear direction for learning. Much improvement work operates at single-loop level, solving problems within existing assumptions. Partners identified double-loop learning, where the assumptions themselves are examined, as the near-term ambition. Culture, structures, and the tension between doing and learning were recognised as factors that would shape progress. Within the grant case studies emerged as a means of sharing what worked and providing evidence that a particular approach was worth scaling.

Following this process, the partners adopted a phased approach to implementation, described as a targeted strategy within a system-wide approach. "Targeted" meant concentrating on high-burden facilities, selected interventions, or groups of interventions. "System-wide" meant designing that work to shift the wider system, through activities such as expanding Single Patient Viewer (SPV) access, improving the SPV interface, strengthening data literacy, and scaling proven interventions where feasible.

**Seven principles guided implementation:**

- **Sub-districts/substructures** (SD/SS) would be strengthened as the **unit of operation**, with grant staff embedded in management teams.
- Public health skills, **data use and quality improvement methods** would be strengthened.
- Broader **health system approaches** would be leveraged to support effective data use.
- Grant activities would be **embedded within existing structures**, processes and plans rather than run separately.
- Teams would take a **proactive, population-based approach** in line with Community Oriented Primary Care (COPC).
- The health system would be strengthened overall, with **TB** and **HIV** used as sentinel conditions.
- Monitoring and evaluation of health outcomes, and **MHS, CCT** and **RHS oversight**, would be strengthened.
- **Learning** would run through the whole system. **Case studies** would provide the window onto it for grant reporting.

Teams also agreed on how this would work in practice. Facilities performing well would be studied so their practices could be spread to others. In addition, a small number of high-burden, low-performing facilities would be supported intensively to demonstrate impact and generate learning. Findings would be drawn together into an integrated narrative, including case studies, that connects the strands of the grant and makes the learning available across partners and stakeholders.

**The partners agreed on four focus areas:**

6 Multi Month Dispensing (MMD) for People Living with HIV (PLHIV) on Anti-retroviral Treatment (ART)

Hospital – diagnosed TB

Primary Health Care (PHC)-diagnosed TB

TB Nucleic-acid-amplification-testing (NAAT) testing

**The case studies below were documented over the implementation period. They record what worked, where, and what it would take for similar interventions to succeed elsewhere.**

## Tools and Data use

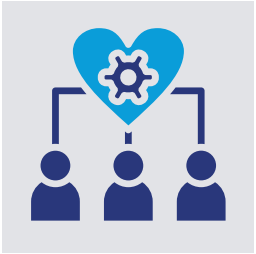
Over the grant period the teams supported the development and testing of new tools and approaches for **data-informed HIV** and **TB care**. Early work focused on refining and extending these tools, building data skills, digitising HIV Testing Services, and expanding the capacity of the PHDC. The partners then supported cultivating a data-use culture through training, mentorship, and governance forums.

This resulted in:

**SPV use grew** substantially, with almost 2 839 718 searches in 2026 — an almost 3-fold increase from the 989 081 searches conducted in 2024.

Uptake of **person-level data tools accelerated**: **HTAL** and **TTAL** adoption expanded across facilities.

**SPV training** was integrated into provincial training systems, significantly increasing participation across facility and management levels.



**Stronger governance** and **communication structures**, both across and within partners — including the SPV Co-creation/Co-learning Group, a formalised Reports Refinement Quarterly Working Group – helped to **increase SPV user trust** and support sustainable data use.

CASE STUDY 01

# 01 Benefits of SPV From Healthcare Workers' Perspective

One of the challenges identified in phase 1 of the grant was the disconnect between access to SPV and active use, particularly among nurses. On the other hand, even with minimal training, medical officers had a very high active usage rate. To **improve clinical usage of SPV** and inform guidelines, **qualitative assessments** were undertaken in 2023 to understand the perceived benefits and challenges of SPV use among both cadres.

**Semi-structured interviews** of 8 healthcare workers across 12 City Health facilities were conducted; the interviews explored SPV's utility, workflow integration, training needs, and barriers to use.

The key findings (and how they impacted grant activities) were as follows:

1. Health workers perceived SPV as highly useful for their clinical encounters. (Incorporation of case studies into SPV introduction training). According to one participant, SPV benefited patient care by consolidating patient information and allowing users to verify patients' histories:

   > "It makes me sort out my patients much faster. Because I can already see, you've been there, you've done this, you've had this medication."

2. How health workers use SPV varied widely, with differences in when they use it during clinical encounters and for which patients.

3. Lack of iterative training led to decreased comfort with using all aspects of the platform. (Shifted focus towards post-training mentorship).

4. While some health workers valued the graphical viewer function, others felt that it did not add to their clinical decision-making and noted that the function took too long to load. (Graphical viewer function added to SPV Intro training).

5. The paper-based application process, especially the step requiring manager permission, acted as a barrier to gaining SPV access. (Transition to online SPV application process).

6. Health workers oftentimes use between 3-8 EHIS for clinical care, making it challenging to rely on SPV. (Focus on Year 2 implementation plan on harmonising parallel tools in SPV and Patient Record and Health Management Information System (PREHMIS) – e.g. ePrescribing and patient-facing interface).

The qualitative assessments highlighted SPV's potential to improve clinical care and streamline workflows. Despite challenges such as limited training and access barriers, healthcare workers recognised SPV's value in consolidating patient information. One participant shared:

> "I love putting them together and just seeing the whole picture. And I think that's what SPV allows me to do, to see the whole picture. Yeah. So I appreciate that."

The findings have shaped ongoing interventions, focusing on practical improvements and additional training to ensure SPV's benefits are fully realised across all healthcare staff cadres.

CASE STUDY 02

# 02 Reducing Prescription Errors and Improving Efficiency through ePrescribing

In the Western Cape health system, clinicians have historically struggled to access complete patient histories during short consultations, as critical information was often buried in paper folders. Patients collecting medication faced long wait times as pharmacists had no advance notice of upcoming prescription refills. In some cases, illegible handwritten prescriptions caused delays and errors. Collectively, these challenges reflect a fundamental problem: critical clinical information is not efficiently accessible at the point of care, resulting in fragmented patient information access, clinical decision support deficits, and inefficient prescription workflows across the entire prescribing-dispensing continuum.

The **e-Prescribing system** was **co-developed** by **MHS**, **RHS**, and the **PHDC** and integrated into the **Single Patient Viewer (SPV)**. This solution enables clinicians to **prescribe medications electronically** while viewing a comprehensive digital health record. When opening a patient's file, clinicians immediately see key health indicators and alerts in coloured banners across the screen. The feature also supports real-time data capturing.

The e-Prescribing module transmits prescriptions to the pharmacy before the patient arrives. For renewal prescriptions, the system shows pharmacists which patients will arrive each day, enabling them to pre-package medications.

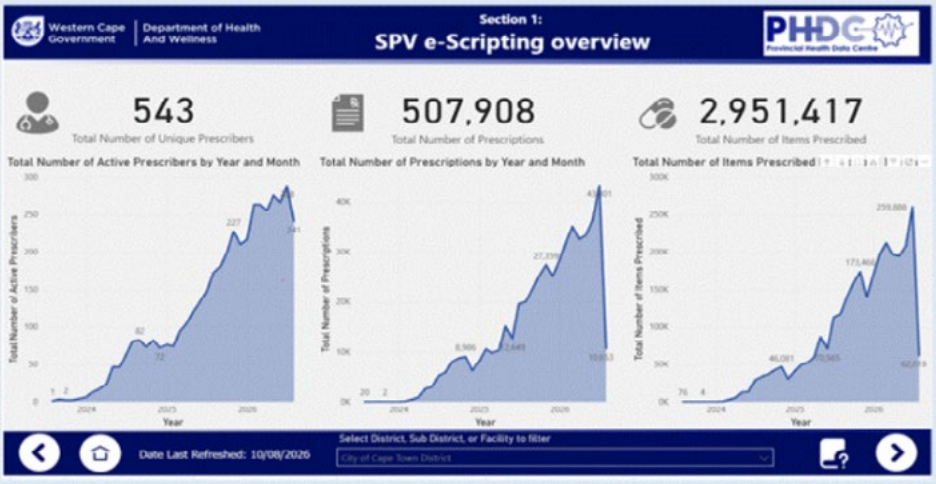
## Impact

The e-Prescribing module has delivered substantial benefits to the health system, reaching almost 3 million prescribed items by August 2026 with 543 active clinicians. The system is used predominantly by clinical nurse practitioners and medical officers.

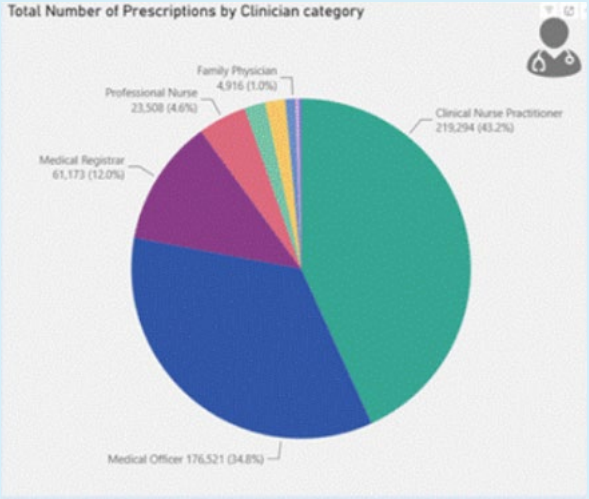
**543**
Number of Unique Prescribers

**507,908**
Total Number of Prescriptions

**2,951,417**
Total Number of Items Prescribed




Sample of ePrescribing module.




Total Number of Prescriptions by Clinician Category.

## Accuracy

## Efficiency

## Workflow

**E-prescribing** has **reduced prescribing errors**, **increased efficiency**, **improved prescription accuracy** and legibility, and helped save on healthcare costs. The immediate visibility of patient histories has enhanced clinical decision-making and significantly reduced the time spent searching through physical records. Clinicians can now spend less time on administrative tasks and more time consulting with patients. Additionally, cloud-based access enables off-site prescribing. For pharmacists, the ability to prepare prescriptions ahead of time has substantially reduced patient wait times. Some facilities process up to 27 pre-packaged medication renewals daily without requiring clinician visits, and reduced errors have minimised return of scripts to the pharmacy. Electronic prescriptions have reduced the likelihood of prescription misplacement or loss.

## Lessons and Future Implications

Tools that benefit multiple stakeholders naturally create incentives for use, and integration with existing platforms enhances overall digital literacy. The **PHDC** is now developing a **real-time monitoring** and **evaluation service** that leverages e-Prescribing data to **eliminate duplicate data entry**. This initiative is timely, given budget constraints, as it reduces the administrative burden while improving data quality.

CASE STUDY 03

# 03 Using Data Triangulation to Distinguish Programme Gaps from Data-quality Gaps During *Close the Gap* Implementation in Drakenstein

## The Challenge

The Close the Gap (CtG) campaign aimed to improve linkage to and retention in HIV by supporting facilities to identify and address programme gaps over a six-month period. In Drakenstein, routine data were first used to identify priority facilities and indicators requiring support. While investigating one such priority area, **declining Total Remaining on ART** (TROA) suggested that large numbers of clients were disengaging from HIV care, particularly at two of the biggest sites: Wellington CDC and Mbekweni CDC. However, frontline teams questioned whether the apparent decline reflected true programme performance or incomplete routine data, prompting a more detailed investigation.

Facilities were simultaneously **transitioning to Primary Health Care Information System (PHCIS)**, introducing **new workflows** and **creating historical data-capturing backlogs**. Multiple routine data sources were available, including Sinjani, SPV, PHCIS and HIV Clinical Governance Evaluation (CGE) reports, but they did not always tell the same story. Acting on a single data source risked directing scarce campaign resources towards the wrong problem.

## The Intervention

Rather than assuming the reported decline in TROA represented poor retention, the team adopted a **Learning Health System approach** to investigate the underlying cause before intervening.

Routine data from Sinjani, SPV, HIV CGE report, PHCIS, and facility records were systematically triangulated to validate findings and identify discrepancies, a practice that was not routinely used at sub-district or facility level. While Sinjani showed a marked decline in TROA, the SPV CGE report, which integrates multiple routine data sources including laboratory data, suggested that the number of patients on treatment had remained relatively stable.

The discrepancies between data sources became the starting point for investigation rather than being dismissed as routine reporting variation. Prompted by these findings, the team interrogated PHCIS beyond standard aggregate reports using patient-level filters, including unconfirmed loss to follow-up and HIV patient lists, to identify incorrectly captured outcomes such as erroneous transfers out. This confirmed that many clients had continued receiving ART despite not being reflected correctly in aggregate reporting. The investigation demonstrated that a substantial proportion of the apparent programme gap resulted from historical data-capturing irregularities rather than true disengagement from care.

Close the Gap data capturers therefore were directed to prioritise clearing historical HIV backlogs and correcting routine data, while clinical teams focused on recalling and re-engaging patients who were genuinely lost to follow-up. Rather than treating data quality and programme performance as separate activities, they were addressed together through a continuous cycle of:

**Detect** > **Validate** > **Investigate** > **Measure** > **Learn**

## Results and Impact

Following **targeted data-quality improvement** and **focused clinical interventions**, TROA recovered steadily over subsequent months (Figure 1). Comparison with other facilities in the sub-district confirms this was not normal variation alone. The twelve Drakenstein facilities without the capture failure were essentially flat across January–June 2025 before rising in the second half of the year, consistent with the seasonal pattern typically observed on SPV. Wellington CDC deviated from this by an order of magnitude, falling 1,429 to 1,041 before recovering to 1,445 by October. Wellington and Mbekweni together accounted for approximately 92% of the entire sub-district decline over this period, a concentration inconsistent with a district-wide seasonal effect. Information managers became active members of facility quality improvement teams, supporting routine validation across multiple data sources rather than relying on a single report.

**92%**

of the entire sub-district decline accounted for by Wellington and Mbekweni CDC

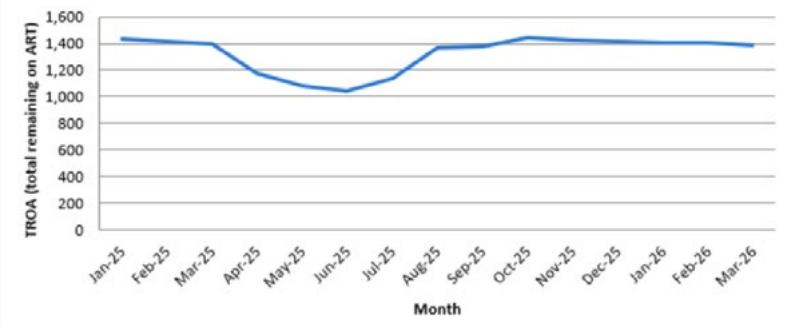
**WELLINGTON CD TREND (TROA)**

1,429 ↓ 1,041 ↑ 1,445

Total Number of Items Prescribed

### Wellington CDC - TROA,

Jan 2025 - Mar 2026




### Mbekweni CDC - TROA,

Jan 2025 - Mar 2026


### Other 12 Facilities - TROA,

Jan 2025 - Mar 2026

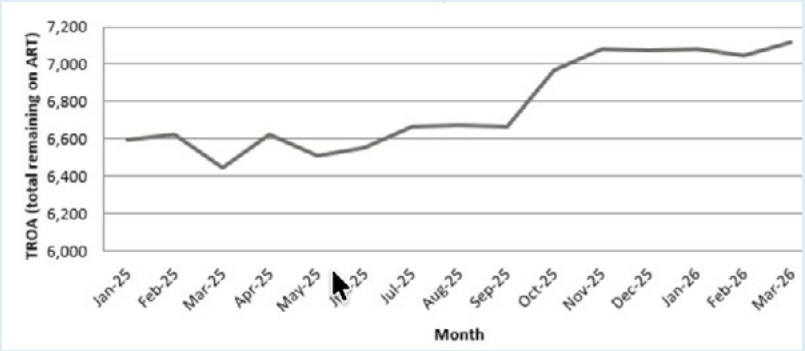


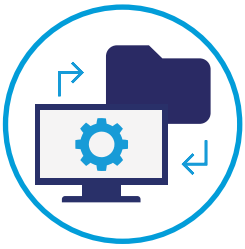

Figure 1: TROA for Wellington CDC. Mbekweni CDC, and the comparator 12-facility group without major capture failure, Drakenstein sub-district, January 2025 – March 2026. Data-quality intervention commenced between May and June 2025.
Source: Sinjani.

CASE STUDY 04

# 04 Beginning to Implement a Learning Health System in Drakenstein

In Drakenstein, a peri-urban sub-district in South Africa's Western Cape, the healthcare system struggled to translate routine TB and HIV data into meaningful action. A data-driven culture was lacking and facilities relied on paper tools, fragmented systems and had little confidence in available digital platforms for data visualisation and analysis. Monthly data reviews tended to focus on upward reporting rather than identifying operational gaps, testing solutions, and learning from trends over time. These challenges contributed to poor data quality, making it difficult to understand and respond to the true burden of disease.

To begin building a Learning Health System, the Drakenstein team adopted a structured but low-resource approach rooted in continuous reflection, collaboration, and practical action. During the early implementation phase in 2024, a **situational analysis**, supported by ongoing "detective work," helped identify systemic gaps, such as duplicated patient records, poor data capturing practices, and limited access to and use of SPV. Working with facility staff and the local Non-profit organisation (NPO), the team co-developed solutions across three core areas of a learning health system:



**Good Data Quality:** Manually removed duplicate TB patient records, assisted with the capturing backlog and launched several facility-level data **Quality Improvement Plans** (QIPs). Co-trained and mentored facilities to record TB episodes daily, and began a fast migration from TIER.net to **PHCIS** (Primary Health Care Information System) to consolidate TB/HIV records and reduce fragmented health information systems. This migration was completed within five weeks through strong operational coordination and Information Management leadership. The team also started advocating for TB Case Identification Register (CIR) digitisation.

**Data Analysis and Action:** Conducted in-person SPV training at a sub-district workshop and at facilities. Developed and distributed a practical data and Quality Improvement (QI) training guide to support facility teams in interpreting routine data and implementing quality improvement activities.

**Monitoring and Evaluation:** Upgraded the monthly data sign-off agenda to promote shared reflection and problem-solving. The team replaced general 'best practices' presentations with monthly, embedded facility QI presentations, allocated dynamically based on a real-time performance Monitoring and evaluation (M&E) tracker covering TB, HIV, and diabetes indicators.

## Results and Impact

Drakenstein's early implementation efforts are beginning to shift both practice and mindset. More than 100 staff are now trained on and routinely using SPV. Over 500 duplicate TB patient records have been eliminated. Multiple data quality QIPs have been initiated and adopted. All facilities have fully migrated to PHCIS, reducing fragmented data capture across TB and HIV services. Monthly data sign-off meetings have started evolving from compliance reporting to collaborative, operational learning—laying the groundwork for continuous improvement at scale.

| Indicator | Facilities | Jun-24 | Jul-24 | Aug-24 | Sep-24 | Oct-24 | Nov-24 | Dec-24 | Jan-25 | Feb-25 | Mar-25 | Apr-25 | May-25 | Jun-25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TB sputums done (TB-NAAT) | Dalvale Clinic | 78 | 82 | 106 | 134 | 209 | 131 | 98 | 119 | 120 | 133 | 137 | 144 | 174 |
| | Gouda Clinic | 26 | 20 | 50 | 42 | 58 | 41 | 38 | 35 | 49 | 45 | 32 | 36 | 31 |
| | Huis McCrone Clinic | 32 | 40 | 44 | 68 | 63 | 75 | 32 | 46 | 42 | 47 | 57 | 60 | 77 |
| | Klein Drakenstein Clinic | 21 | 35 | 28 | 36 | 57 | 40 | 30 | 29 | 29 | 36 | 45 | 82 | 48 |
| | Mbekweni CDC | 39 | 39 | 98 | 93 | 103 | 57 | 64 | 79 | 64 | 39 | 61 | 114 | 57 |
| | Nieuwedrift Clinic | 7 | 18 | 41 | 16 | 45 | 19 | 15 | 14 | 13 | 12 | 8 | 48 | 49 |
| | Paarl Hospital | 263 | 56 | 268 | 349 | 325 | 266 | 324 | 340 | 270 | 322 | 338 | 420 | 330 |
| | Patriot Plein Clinic | 19 | 7 | 17 | 19 | 45 | 13 | 16 | 12 | 11 | 14 | 18 | 31 | 17 |
| | Phola Park Clinic | 71 | 63 | 101 | 147 | 183 | 147 | 94 | 150 | 146 | 151 | 100 | 136 | 115 |
| | Saron Clinic | 71 | 35 | 73 | 124 | 154 | 91 | 145 | 158 | 96 | 91 | 75 | 132 | 116 |
| | Simondium Clinic | 40 | 35 | 53 | | 87 | 45 | 35 | 66 | 74 | 74 | 58 | 92 | 47 |
| | Soetendal Clinic | 26 | 9 | 26 | 26 | 30 | 25 | 14 | 18 | 24 | 34 | 33 | 50 | 28 |
| | TC Newman CDC | 115 | 143 | 196 | 237 | 339 | 337 | 200 | 287 | 230 | 224 | 230 | 254 | 317 |
| | Wellington CDC | 83 | 87 | 129 | 129 | 197 | 117 | 132 | 114 | 123 | 228 | 147 | 189 | 163 |
| | Windmeul Clinic | 9 | 13 | 58 | 35 | 35 | 30 | 11 | 37 | 35 | 33 | 22 | 32 | 29 |
| | Community (NorSA) | 69 | 128 | 184 | 196 | 223 | 186 | 118 | 155 | 92 | 146 | 153 | 148 | 274 |
| | **SUB DISTRICT** | 969 | 810 | 1472 | 1651 | 2153 | 1620 | 1366 | 1659 | 1418 | 1629 | 1514 | 1968 | 1872 |

BOD DM TB sputum testing TB cases TB linkage TROA

Example dashboard that Drakenstein SD and partners are using to drive discussion and action, populated from SPV data.

## Lessons and Future Implications

Drakenstein's experience highlights that building a Learning Health System is not a quick fix, but a long-term shift that combines technical solutions with culture change, peer mentorship, and inclusive engagement. Progress depended on moving beyond episodic facility support towards systematic accountability, ensuring facilities became active participants in their own improvement.

Critical success factors included committed early adopters among local leadership, peer-led training, and structures for regular data engagement. Future steps will focus on digitisation to eliminate the need for paper records and duplicated, laborious manual tasks, along with continued mentoring on data systems and scaling learnings across facilities. The key lesson: start small, combine bottom-up momentum with top-down support, and engage continuously with frontline teams.

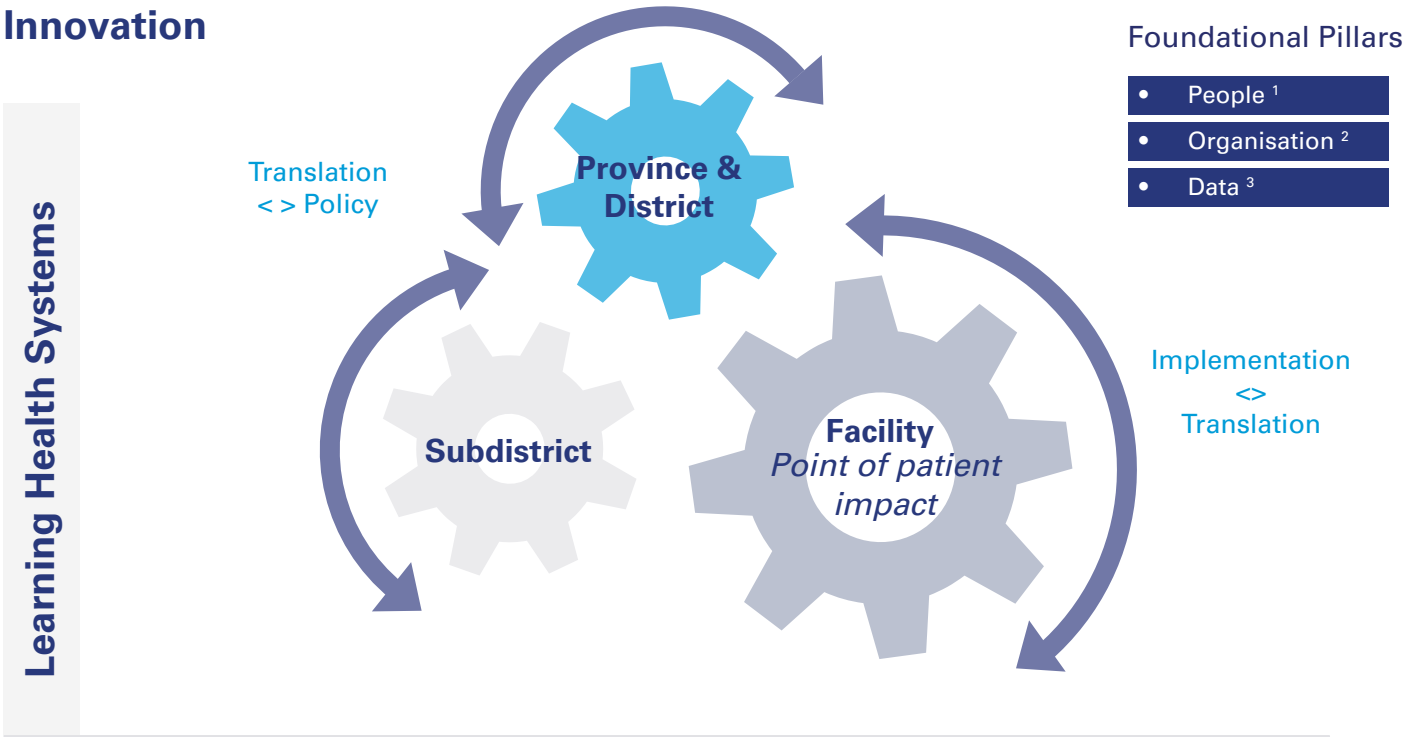
> "We need to work together as a team to lift up the standard of our data in the Drakenstein sub-district," said one local leader, Nola Carolissen. "Every job is a self-portrait of the person who did it. Autograph your work with excellence!"


Drakenstein Learning Health System data/ QI workshops hosted in Feb and August 2025 at Paarl Hospital with representatives of different cadres from every health facility in the sub-district.

CASE STUDY 05

# 05 A Learning Health System to Improve Data Quality and Patient Outcomes

Building on earlier implementation work, the sub-district, together with The Health Foundation seconded staff, fostered a Learning Health System (LHS) approach to **improve data quality**, **information use**, and **patient outcomes** for TB, HIV, and related programmes. The approach centred on a small grant-supported team embedded within government structures to strengthen existing systems, improve operational learning, and support data-informed decision-making. This was guided by three interdependent pillars (Figure).




1. People with curiosity, purpose, and skills.
2. Organisational structures and culture that support continuous data use for improvement and learning.
3. Data systems infrastructure, tools, quality, and access.

**People:** Stakeholder engagement and relationship-building were prioritised to foster trust, strengthen partnerships, and identify early adopters who could champion data use and innovation within their facilities and at sub-district level.

**Organisation:** The initiative focused on strengthening existing platforms to incorporate data analysis, quality improvement (QI), and structured discussions for learning. Facility teams were supported to apply QI methodology by using their data to identify problems, develop clear aim statements, generate change ideas, and test the most feasible ones in practice. Teams monitored data to assess impact and course-corrected where needed. The data sign-off process—a transversal platform between sub-district and facility levels—evolved to support this shift, which was reinforced through continual awareness and engagement. These efforts helped embed operational reflection, data review, and quality improvement into routine management processes.

**Data:** Work focused on strengthening the entire information chain (Figure 2) by expanding access to the SPV (the province's advanced health information system), reducing fragmented source systems through migration, and improving data quality by cleaning historical backlogs and ensuring accurate capture across services. These improvements strengthened the operational usefulness of routine programme data.

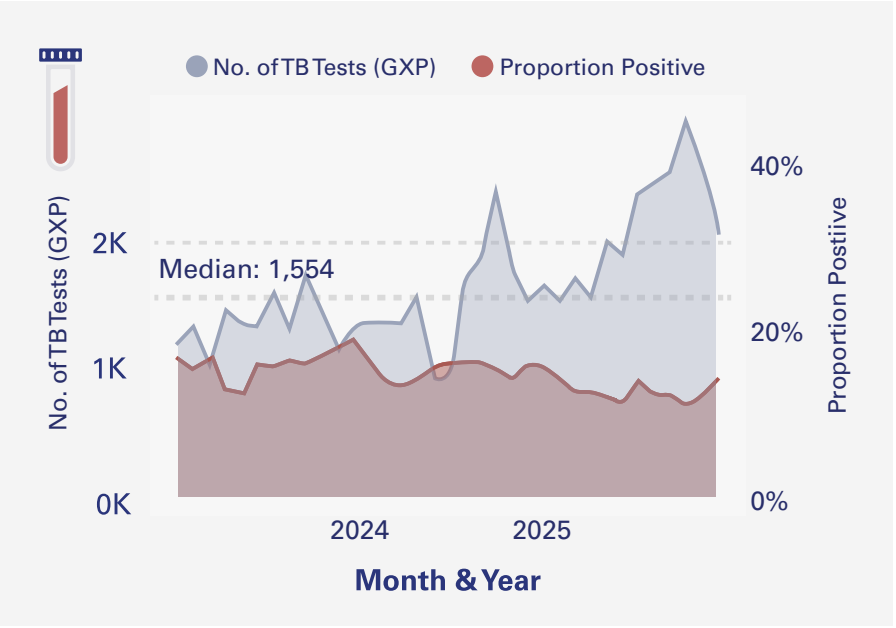
# Systems and Process Improvements

### Access and Training:

- Since mid-2024, all Drakenstein facilities actively use SPV (3,000 - 5,000 monthly patient searches) and routinely draw TB Treatment Action Lists.
- Over 140 staff across clinical and clerical cadres have been trained in data-driven decision-making using quality improvement methodology.

### Source Systems

- All facilities migrated from TIER.net to PHCIS within five weeks, reducing duplicated data capture across HIV and TB programmes and enabling timely automated data flows to the Provincial Health Data Centre.




Drakenstein subdistrict: Increasing TB testing (grey) and declining positivity (red).
Source: WCG TB Dashboard

### Projects and Platforms

- All facilities have implemented quality improvement projects, with data analysis and QI discussions embedded into routine management platforms.

### Populations Outcomes

- TB testing volumes increased from ~700 per month in 2023 to > 2,000 per month in 2025, while TB-NAAT positivity decreased from 18% to 11%.
- TB linkage to care improved (PHC-diagnosed: 86% to 92%; hospital-diagnosed: 71% to 83%), with 50% of facilities achieving > 80% linkage in 7 days.

## Lessons and Future Implications

Fostering a Learning Health System is not a quick fix but a long-term process that requires patience, persistence, and cultural change. Embedding learning in routine practice within routine operational practice, rather than treating it as a parallel strategic activity, proved essential for sustaining engagement. Critical success factors included committed local leadership, peer-led training, co-design to ensure relevance, and simple data visuals that encouraged frontline use. Progress relied on moving beyond episodic support towards embedded QI with routine data engagement, and continuous operational learning. Sustained success will depend on continued mentorship, investment in technological infrastructure, and further integration of data systems to enable learning at scale.

### Challenges:

- Data cleaning is laborious and data-driven decision making may not come naturally to many.
- There can be resistance to change, technology, and taking ownership.
- Infrastructure (enough fast computers with connectivity).
- Facility staff have limited capacity beyond direct patient care.

### Opportunities

- Clean data reflects the true burden and ability to analyse and act on this important policy, operational, and resources allocation implications.
- There are always innovators and early adopters that can carry implementation forward.
- Engagements, collaboration, and mentoring can invigorate relationships that sustain implementation.

CASE STUDY 06

# 06 Quality Improvement in the TB Programme at Delft Clinic

Between 2023 and 2024, the **Metro Health Services (MHS)** team supported the **Delft data capturing team** in **digitising** and **validating** a backlog of **TB data**. In April 2024, the clinic transitioned from paper-based TB registers to capturing data exclusively on PHCIS. Audits were carried out to assess the quality of data capture onto PHCIS, revealing shortfalls in both patient care and data accuracy.

This prompted a baseline clinical folder audit in July and a follow-up audit in August.

At baseline, only 25% of patients had received the three required counselling sessions within the first two weeks of treatment, as recorded in July 2024. Additionally, several TB patient folders lacked proper documentation of key treatment information, such as prescriptions and smear test results. The team responded with a series of quality improvement measures, including revising counselling protocols, improving staff training on legal requirements for prescriptions, and a drive to update client contact details. In addition, clinicians and operational managers were supported to access SPV for better monitoring of clients and programme outcomes.

By October 2024, a follow-up audit demonstrated measurable improvements. Counselling sessions at treatment initiation were now documented for 85% of patients, and prescription records showed a significant increase in compliance (see table below).

## October 2024 TB Audit Findings

| | Baseline | | Audit | Target |
|---|---|---|---|---|
| | July | August | October | Target reached |
| Is a DS-TB registration number recorded on the folder? | 0% | 40% | 100% | |
| Is the patients' address and telephone number updated and recorded? | 100% | 60% | 100% | |
| Is the patients' ID number recorded? | 63% | 80% | 70% | |
| Is fertility planning assessed? Female: FP method recorded. Male: is partner family planning method recorded. | 14% | 100% | 61% | |
| Is the patients' baseline observations recorded? | 88% | 20% | 95% | |
| Is the patients' BMI/MUAC recorded? | 38% | 20% | 70% | |
| Are nutritional supplementation provided and is it documented in the NTP register. | N/A | 0% | 17% | |
| Was an Hgt done at baseline to screen for Diabetes? | 63% | 20% | 80% | |
| Is the patient monthly evaluated on TB signs and symptoms? | 100% | 40% | 100% | |
| Are 3 counselling sessions recorded within first 2 weeks of treatment initiation? | 25% | 75% | 85% | |
| Are a counselling session recorded when patient treatment was switched to continuation phase? | N/A | 40% | 40% | |
| Is the treatment correct based on the patients' weight? | 100% | 100% | 90% | |
| Are treatment recorded on a valid script and up to date? | 88% | 40% | 85% | |
| Does the script contain the SANC/HPCSA number of the person prescribing treatment? | 25% | 40% | 90% | |
| Are the patients' contacts recorded in the patients' folder? | 25% | 80% | 70% | |

## Lessons Learnt

- Leadership buy-in for quality improvement is important. At Delft CHC, the Operational Manager (OPM) understood the value of QI and galvanised her team to aspire to better outcomes for their clients.

- QI is for the team/clients, not the management. QI is not about compliance it is about better outcomes.

- A cohesive team with clear goals and vision creates a drive for quality improvement.

- Different QI projects were assigned to different team members by the OPM, according to their areas of interest. Each team member was required to track their QIP and report back at team meetings.

- Clinical audits provided a starting point to identify gaps for QI projects.

- QI focussed meetings were held to provide feedback on progress and were used to highlight improvements and problem solving.The team appreciated acknowledgement of their work and efforts.

- QI project results were displayed to showcase good results.

- QI was embedded in staff performance – it was seen as an important part of the job.

- Staff participation was actively encouraged, so that QI becomes everybody's business.

CASE STUDY 07

# 07 Supporting Clinical Governance in the Western Cape: HIV and TB Sentinel Indicator Reports

The Western Cape's Clinical Governance (CG) audit tool project was conceived to transform facility audits from resource-intensive folder reviews to **data-driven assessments** in priority programmes of HIV and TB; NCDs; Maternal Health; Child Health; and Mental Health.

Traditional clinical audits required facilities to manually review 10-20 patient folders per audit. This approach was slow and resource-intensive and provided limited insights into performance. The province needed a more efficient, comprehensive approach that could leverage the growing capabilities of linked digital data within the Provincial Health Data Centre (PHDC).

## Innovation

The innovation centred on developing "push-of-the-button" sentinel indicator reports that consolidate multiple existing PHDC reports and available backend data into single-page, easy-access reports. Unlike current reports that require parameter configuration and significant training and mentoring for optimal use, these reports are pre-configured to deliver the most relevant clinical governance information at the facility level in a format that is easy to digest. The reports are being designed to directly inform quality improvement initiatives.

## Results and Impact

The TB sentinel indicator report (Figure 1) has already demonstrated its value in draft format. **Metro Health Services (MHS)** spearheaded the development of the report and has already incorporated an **Excel-supported version** into their TB forum meetings. Facility staff have responded positively to this initiative, noting its ease of use and provision of valuable insights into key aspects of programme performance. The visual presentation allows facility managers and sub-district support teams to quickly identify trends across their entire patient population rather than relying on folder audits.

The HIV sentinel indicator report (Figure 2) is in development with a section being prioritised and already available to monitor monthly performance for the Close the Gap Campaign.

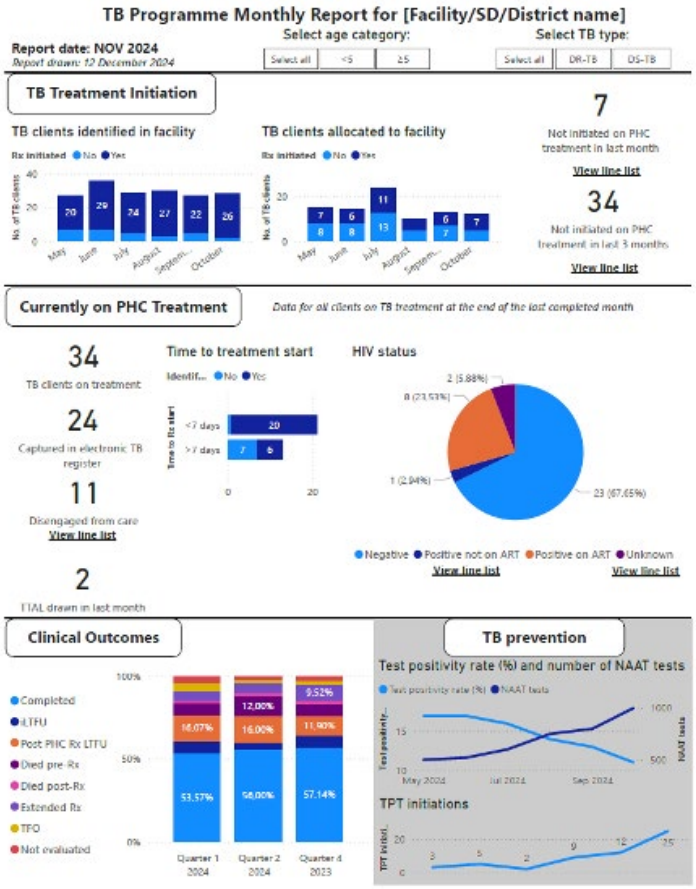



Figure 1: Snapshot of the Draft TB Sentinel Indicator Report.

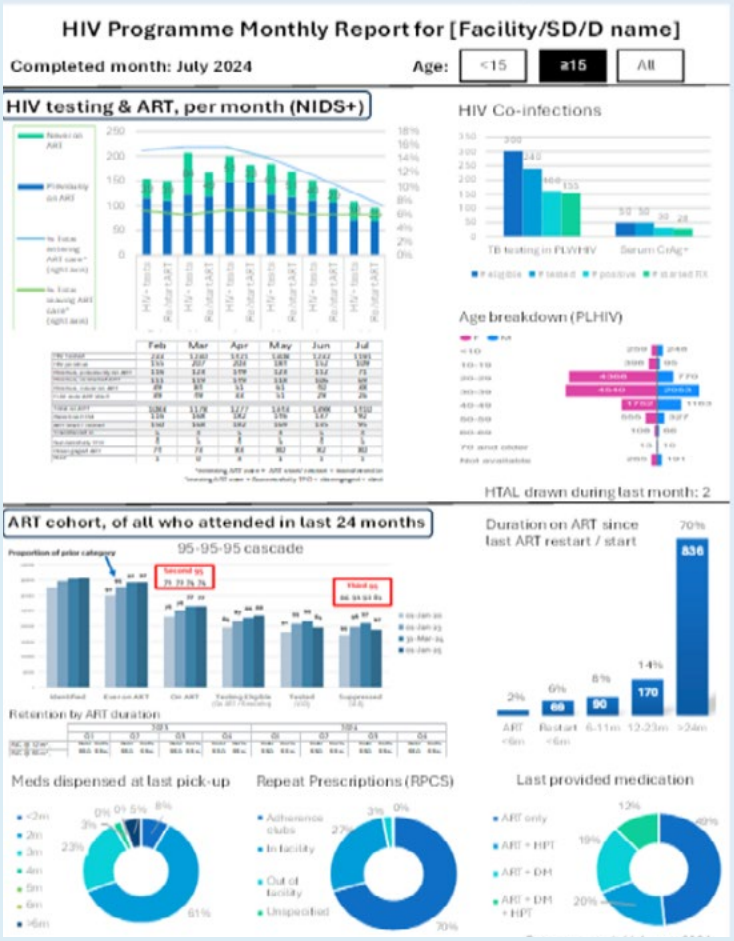



Figure 2: Snapshot of the Draft HIV Sentinel Indicator Report.
(Note: The Draft is fictitious, for illustrative purposes)

## Lessons and Future Implications

CG activities support the development of a learning health system. By providing relevant and accessible data to identify and address problems, the reports support feedback loops that strengthen the health teams' ability to use data effectively. The collaboration across partners (MHS, RHS, CCT, Information Management and Governance, SPC and PHDC), the use of existing and expanding PHDC infrastructure, the involvement of facility users in the design process, and monthly engagement with ground level staff and management to familiarise and support interpretation of the draft TB report.

As facilities begin integrating these tools into routine clinical governance and quality improvement, ongoing support will be critical to sustaining and deepening their impact.

CASE STUDY 08

# 08 HIV Testing Services (HTS) Digitisation for Improved Patient Care

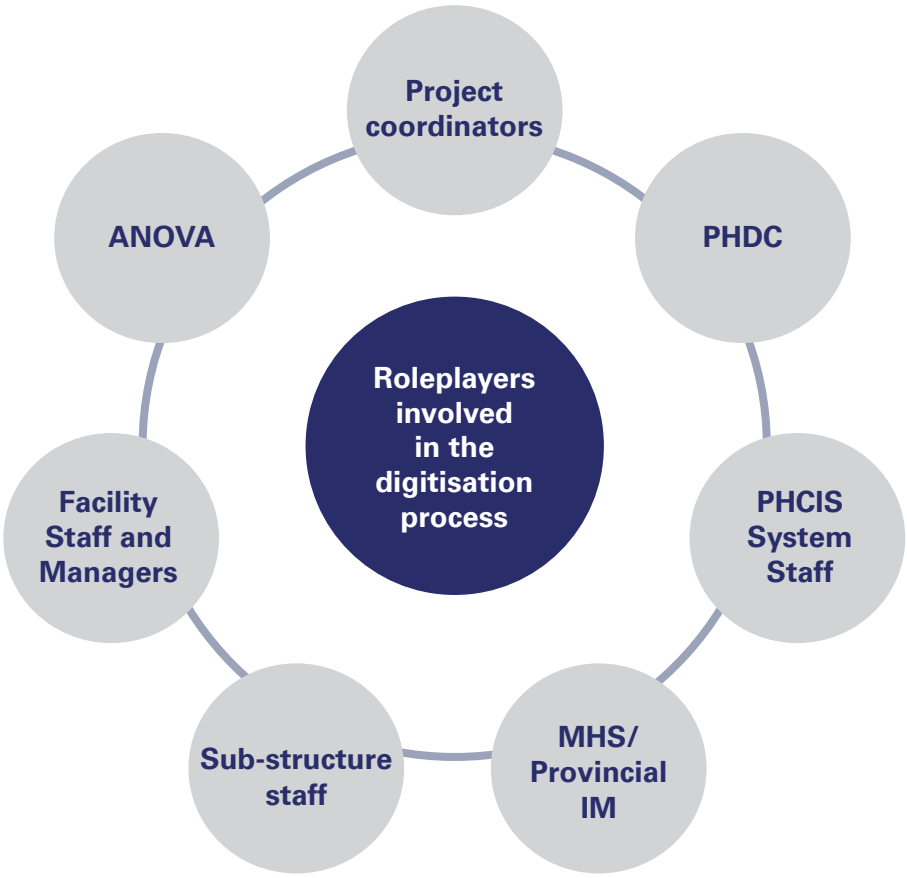
## Background

In MHS, until December 2023, the recording of clients who test positive for HIV was done in a manual register, while antiretroviral treatment (ART) initiation is recorded electronically in Tier or Prehmis (City of CT sites). The manual process is time consuming and results in a potential gap between testing positive and ART initiation.

## Why HTS Digitisation is Needed

- To **track HIV positive patients** to treatment start and thus close the gap between testing positive and starting on treatment.
- To improve efficiency, patient care and cost effectiveness as a digital record will show if we are repeating tests on the same clients. The client record will also be updated in SPV.
- Electronic Registers reduce workload for frontline staff. Transcribing into a manual register is eliminated by scanning HTS elements into PHCIS (Primary Health Care Information System) and generating an electronic register for programme management.
- Improved data accuracy as importing data from PHCIS to Sinjani will remove the manual transcription process.
- To improve data quality and audit outcomes.
- PHCIS and PHDC will be able to generate aggregated reports or line lists as operationally required.

## Role Players:

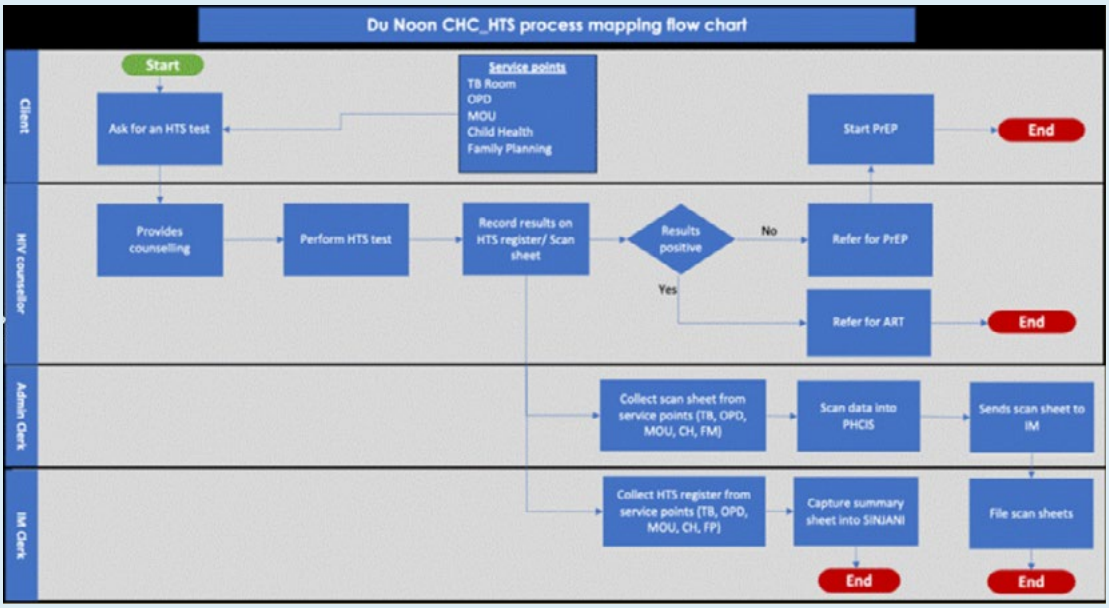


## Process Undertaken to Digitise the HTS Register

1. PHCIS change requirement: add barcode elements in PHCIS
2. District/ substructure engagement – with Anova and PHCIS system controllers

    - Identify hardware requirements (PC's, scanners).
    - Identify access requirements to PHCIS and PHDC.
    - Identify training requirements.
    - Identify the operational process of documenting in the register and scanning into PHCIS – who, what, where, when, and how.

This diagram shows the mapped operational process flow for Du Noon CHC where the HTS digitisation pilot started.




Screenshot of Du Noon CHS_HTS Process mapping flow chart.

3. Development of associated patient lists in PHCIS.
4. PHCIS/PHDC requirement: Transfer of data and line listings to PHDC and then to PowerBI.
5. PHDC requirement: Publish data sign off report, line listings and importing of aggregated data to Sinjani.
6. Facilitate access to PHCIS and PHDC.
7. Train the trainer sessions.
8. Monitor implementation and data quality (parallel capturing was done during the pilot) from the register to PHCIS to PHDC to Sinjani.
9. Develop feedback reports on performance for managers and staff at services level.

## Progress of Digitisation

Following the initial pilot at Du Noon CHC, digitisation was systematically rolled out across the Metro. Digitisation was completed in all sites by mid-2026.

### Challenges

- Capturing outreach data of HTS negative patients at facilities. Outreach clients do not necessarily have a folder at the facility where the result can be linked. HIV negative test data is thus captured as an aggregate on PHCIS.
- Tally-sheet filing – systems needed to be set up at facilities to ensure that tally-sheets were kept and filed systematically.
- Staff constraints.
- Connectivity at facilities.

### Advantages

- Improved linkage to care.
- Improved quality of patient information.
- Streamlined clinical workflows. Digitisation reduces manual labour and improves efficiency, thus reducing workload for busy frontline staff.
- Improved quality control. Digitisation ensures accurate and reliable sequencing of results and reduces errors.
- Data-driven decision-making. Digitised sequencing data informs healthcare policy and decision-making, improving patient outcomes.

## Conclusion

By adopting HTS digitisation, health facilities can enhance patient care, improve operational efficiency, and support data-driven decision-making.

## HIV

Alongside strengthening cross-cutting HIV systems, the partners focused on rolling out six-month multi-month dispensing (6MMD), shown to be one of the most effective levers for long-term improvements in retention in care. Implementation was accelerated by the Close the Gap (CtG) campaign and, by June 2026, over 55 000 ART patients across MHS, CCT, and Drakenstein were receiving 6MMD.

6MMD was rolled out across an expanded number of facilities, supported by provincial SOPs, training materials, and multiple implementation models, including e-prescribing. Data-driven prioritisation led partners to exceed nationally allocated facility numbers. Existing SPV reports, together with newly developed ones, were used to support 6MMD and CtG monitoring and programme reporting.

CASE STUDY 09

# 09 Using the HIV Treatment Action List (HTAL) to Strengthen HIV Care in Drakenstein Sub-district

## The Challenge

People move: someone starts treatment at one clinic, takes work in another town, and collects medication wherever is nearest. Their treatment never stops. What they rarely do is tell the first facility, which could then arrange a transfer out. So, at that first facility, they seem to simply stop arriving. A missed appointment becomes apparent disengagement; apparent disengagement becomes lost to follow-up. Tracing teams spend their days looking for people who are taking their pills several towns away, while the people who have genuinely disengaged are buried among them. There is also another blind spot: people diagnosed at hospital need routine care at a primary health care facility that does not always have a way of knowing they exist.

No facility-bound system can solve this, because the information needed sits outside the facility.

## The Intervention

The HIV Treatment Action List (HTAL) is generated from the Single Patient Viewer (SPV), which draws on data from across the platform rather than one facility's records only. It works out a missed appointment from the last visit date and the quantity of medication dispensed—wherever that happened in the province—and shows a facility every person living with HIV who belongs to it, including those diagnosed, started, or dispensed elsewhere. It is a continuity-of-care report, not a missed appointment list.

Handing facilities the report was never going to be enough, because HTAL is only as good as the data flowing into SPV. Implementation had to be sequenced:

No facility-bound system can solve this, because the information needed sits outside the facility.

1. Converge the source systems. TIER.Net was never networked — aggregate data was extracted at each facility and physically transferred. Converting the sub-district to PHCIS, already in use for TB, put HIV data onto a networked system reaching the data centre far more timeously.
2. Build staff competency, because what HTAL shows depends entirely on what PHCIS captures.
3. Introduce the tool, once data was reaching SPV quickly and completely enough to be trusted.

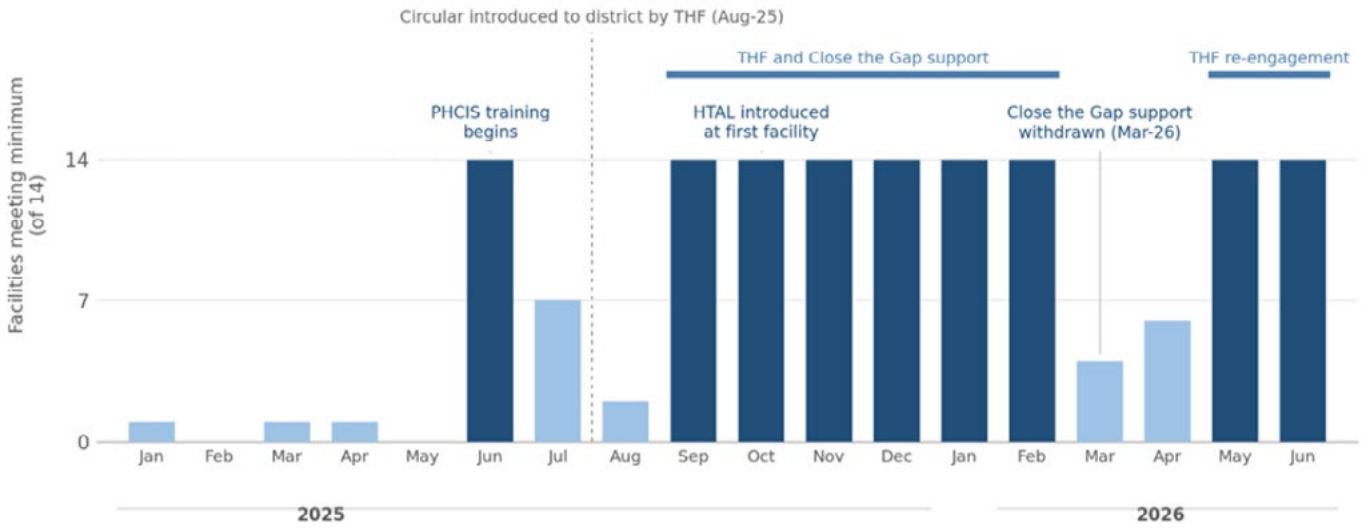
## Implementation

Implementation was led by THF, with Close the Gap campaign staff and sub-district Information Management supporting. THF continued facility support after Close the Gap withdrew in March 2026.

Circular H90/2025, on adopting the TB and HIV Treatment Action Lists, was introduced to Cape Winelands District by THF in August 2025. Facilities transitioned to PHCIS in May 2025, PHCIS training ran from June, Close the Gap joined the data cleaning work in September, and HTAL went live at the first facility, TC Newman CDC, in October 2025.

**HTAL utilisation: Facilities generating at least two reports per month**

Drakenstein sub-district, January 2025 - June 2026




Source: SPV report usage log.

Against a minimum of two HTAL reports per facility per month, all fourteen facilities met the standard every month from September 2025 to February 2026. In March 2026, when Close the Gap support was withdrawn, that fell to four; renewed THF visits restored it in May and June. The log has limits, though: SPV records that a report was generated, not by whom or whether anything followed. It measures activity, not ownership. On the implementer's assessment, drawn from facility visits rather than the report log, all 14 primary healthcare facilities in Drakenstein were trained and supported, and by the end of June 2026 six sustained routine use, six adopted HTAL but subsequently stopped, and two had never started following training.

| Outcome | Facilities | What happened? |
|---|---|---|
| Sustained (6) | Nieuwedrift, Dalvale, Windmeul, Gouda, Simondium, TC Newman | Early adopters, except Simondium and TC Newman, which started slowly owing to report access and staffing. |
| Adopted, not sustained (6) | Klein Drakenstein, Wellington CDC, Mbekweni, Phola Park, Saron, Huis McCrone | Two lost genuine use after support was withdrawn; four never drew the report independently. |
| Never started (2) | Soetendal, Patriot Plein | Persistent SPV access problems; at Patriot Plein, also staff constraints. |

Adoption varied less by the technical functionality of HTAL than by whether facilities had the capacity and ownership to use it routinely. Smaller facilities and those with staff already confident in the PHCIS ART module generally adopted it more readily. Facilities with very large, unconfirmed follow-up backlogs were more reluctant even to generate the report, because the volume made the task appear unmanageable.

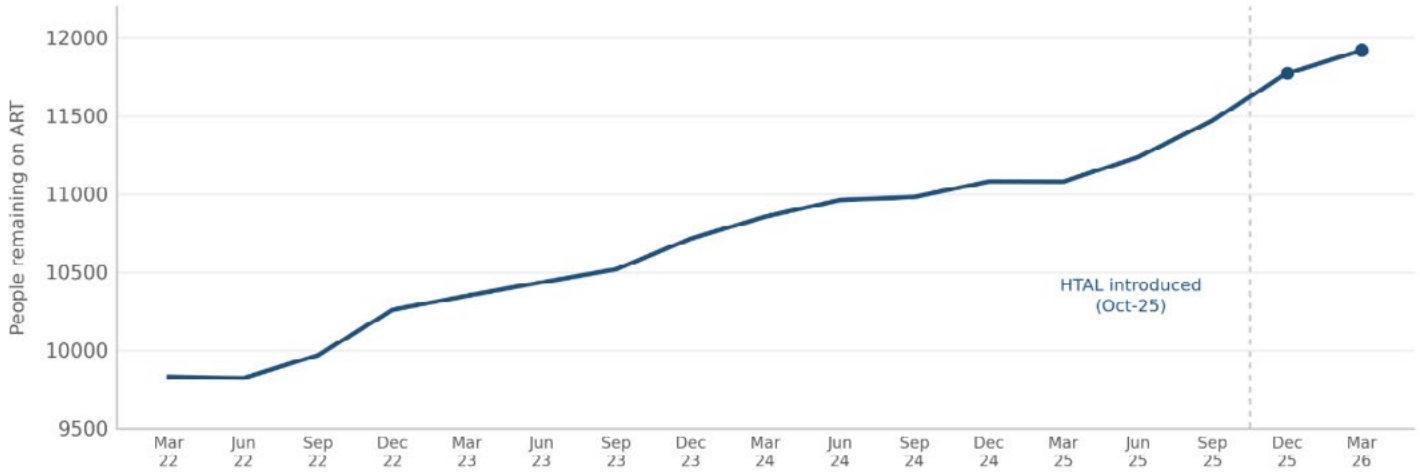
External support could also create the appearance of adoption. At Mbekweni, Phola Park, Saron and Huis McCrone, Close the Gap campaign staff generated HTAL during visits using the Information Management Officer's access. Once the campaign ended, facility staff did not continue using it independently. At Wellington CDC, use declined after supporting staff left and remaining staff were repeatedly redeployed to cover vacancies and illness.

TC Newman illustrates the importance of organisational ownership particularly well. The pilot site initially stopped using HTAL despite repeated follow-up. Much later, after staffing changes and the appointment of a clerk dedicated to ART data capture, the facility was found to be using the report routinely. The intervention had not changed; the conditions for ownership had.

## Outcomes

**Total Remaining on ART, Drakenstein Sub-district, Quarterly**

Single Patient Viewer, March 2022 - March 2026




Data accessed on the Single Patient Viewer, Scaling Use of Health Data dashboard; updated to March 2026 only.

The intended pathway is that better identification of people who have moved or missed treatment leads to more effective recall and a larger population remaining on treatment. Total remaining on ART reached 11,920 by March 2026 (Figure 2), continuing a rise underway since 2022. Only two quarters follow the introduction of HTAL, and the Close the Gap campaign ran concurrently. Treatment numbers are influenced by multiple factors beyond appointment recall and should be interpreted descriptively rather than as an attributable impact of HTAL.

## Lessons and Future Implications

- **SPV access is a prerequisite, not a detail**. Every facility that failed to implement had an access problem at its root.
- **Show, don't tell**. Demonstrating HTAL against PHCIS using a facility's own data and framing it as a recall prompt rather than a performance list, built confidence far faster than explanation alone.
- **Use HTAL to close the data-quality loop**. HTAL depends on good quality PHCIS data, but discrepancies between PHCIS and SPV can identify records requiring correction. Follow-up and data quality should therefore be treated as linked processes rather than separate activities.
- **A large capturing backlog deters the first step, not just the last**. Facilities carrying large, unconfirmed follow-up lists may avoid generating the report at all. Data cleaning and backlog reduction therefore need to be sequenced before routine implementation, rather than undertaken alongside it. The planned extension to Stellenbosch sub-district was not attempted because the data cleaning required before SPV reports could be used exceeded the time available.

- **Campaign support can look exactly like adoption**. Where campaign staff drew the report on a facility's behalf, uptake appeared high but independent use was never established. Measure adoption by whether facility staff draw and act on the report themselves.

- **Institutionalise, or lose it**. Where HTAL depended on external support or a single individual, use was vulnerable to staff changes. Where responsibility was embedded in a dedicated data-capturing role, use could be sustained or re-established.

## Sustainability

Sustaining HTAL now rests with facilities, supported by sub-district Information Management teams monitoring utilisation. Facilities should:

- Generate and act on HTAL weekly, and at minimum twice a month, as part of routine tracing and retention.

- Assign clear responsibility for HTAL, with data clerks, operational managers, and tracing teams working together.

- Orientate new staff as part of induction and ensure continuity when staff or external support changes.

- Use HTAL findings to correct PHCIS and improve the quality of subsequent reports.

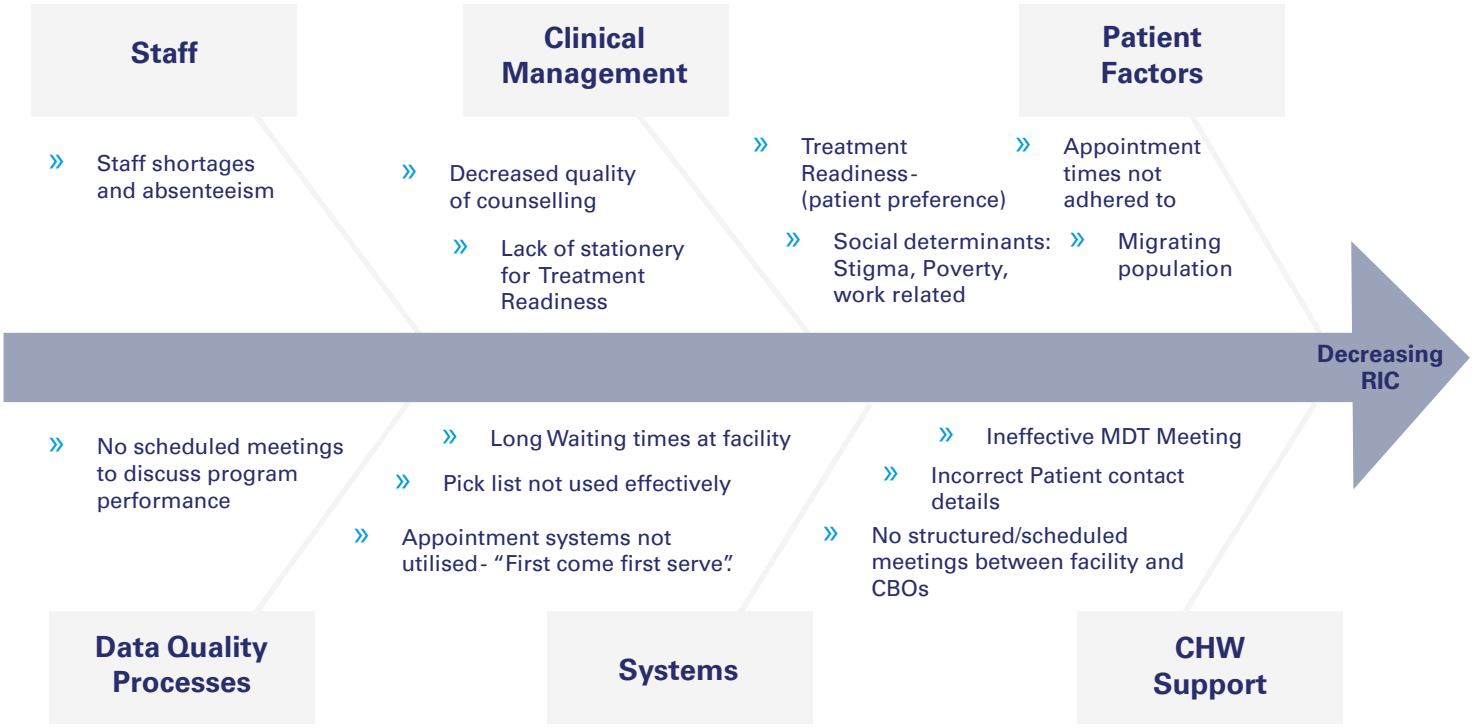
- Monitor utilisation and tracing outcomes, with sub-district Information Management teams supporting facilities where access, data-quality, or implementation problems arise.

Future scale-up should therefore begin with facility readiness: establish SPV access, assess data quality and existing backlogs and address the most important gaps, demonstrate the tool using local data, and assign clear responsibility for routine use. HTAL should ultimately be embedded within routine HIV programme management, rather than maintained as a standalone project.

CASE STUDY 10

# 10 100 Facilities Initiative to Improve ART Retention in Care

As a 100F participant, Delft South clinic in CCT identified ART Remaining in Care (RIC) as their focus. They undertook the stepwise approach QI adopted by CCT and identified a variety of contributing factors in their root cause analysis, as outlined in the fishbone diagram below.

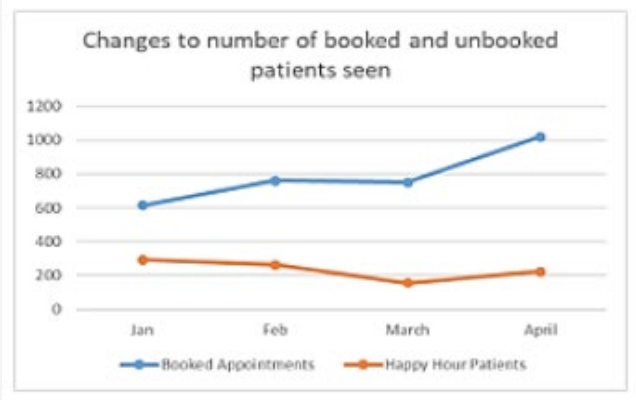



From this, they prioritised 7 change ideas. The first three implemented were to:

1. **Send SMS to patients booked for a follow-up appointment** while the patient was still in the consulting room; to confirm the SMS was received and the correct contact details were on file.
2. **Allocate a nurse** to fast-track and welcome back disengaged patients
3. Implement a **3-hour "happy hour"** for unbooked patients, and to otherwise strictly adhere to booked appointment times for patients, aiming to see 1100 booked patients and 50 unbooked patients per month.

The first two change ideas were implemented from October 2023, and the data demonstrate a clear increase in ART RIC.

**Changes to Number of Booked and Unbooked Patients Seen**



CASE STUDY 11

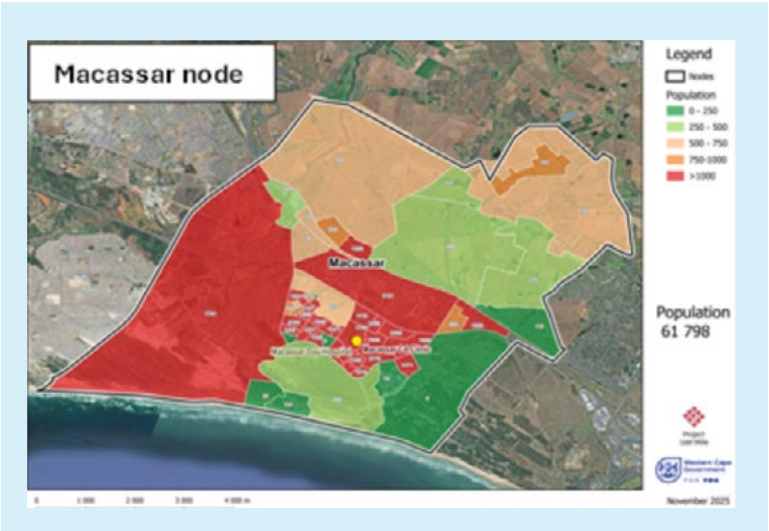
# 11 Wellness Hubs in the Metro District

The Wellness Hubs in the Cape Town Metro are an example of a best practice in the implementation of differentiated models of care. The hubs bring healthcare services to communities, improving accessibility, and reducing the burden on high-volume facilities. By the end of 2024, 66 Wellness Hubs operated across the Cape Town Metro area, offering services including HIV testing, counselling, and medication collection for stable patients. By July 2026, this number had risen to 91.

A minimum package of care for Wellness Hubs was released in August 2024, outlining the services that can be offered according to the categories of staff available. This package ensures consistency across all Wellness Hubs while allowing for flexibility based on local needs and available resources. Wellness hub services include HIV counselling and adherence support; screening for hypertension, diabetes, Sexually transmitted infection (STIs) and TB; HIV testing and TB sputum collection; provision of family planning; basic child health services; and collection of medication for chronic diseases, including ART. Additional services may be offered if the staff qualifications and consultation space allow, such as childhood immunisation, contraceptive implants and Intrauterine devices (IUDs), Pre-Exposure Prophylaxis (PrEP), cervical cancer screening, dentistry, and allied health services.

The following example highlights the collaboration between a PHC facility and NPO in the Macassar node, including Wellness Hub services.

In Macassar, the community-based team of 2 PNs and 39 Community Health Workers (CHWs), works alongside Macassar CDC. Services are provided through home visits as well as daily at the Wellness hub. During FY2025/26 Macassar CDC had a headcount of 115 600 clients. Over the same period, CHWs conducted 91 000 home-based client visits, and the Wellness Hub provided services to 6350 clients. Through pregnancy testing at the Wellness Hub, 200 pregnant women were identified and linked to care. This represents 31% of the first antenatal booking visits at the facility and may be a factor influencing Macassar CDC's 81% early booking rate (i.e. before 20 weeks). The Wellness Hub also contributed significantly to the contraceptive services in the node, providing 2800 injections or oral medication packs compared to the facility's 4700 over the same period. Provision of Vitamin A and deworming to children under 5 years also contributes to the services for the community.




**Future plans include expanding medication collection services and improving data integration with central health information systems**. Monitoring systems are in place, but data integration is hampered by the requirement for registration of the sites on a national facility list. In the interim, data is submitted manually to the substructures so that the Wellness Hubs can be monitored and evaluated.

The team found that community engagement was critical to the hubs' success. Through the implementation of the Wellness Hubs, facilities, NPOs and communities worked together, putting community-oriented primary care into action. The initiative also aimed to bridge the gap between policy and practice, and between data collection and decision-making, with the goal of improving patient outcomes across the Western Cape.

CASE STUDY 12

# 12 Comparing Pharmacy Workloads: 6-Month ART Dispensing vs. 2-Month CDU Processing

Within the Western Cape, ART adherence clubs are scripted for 6 months of medication at a time. Currently, medication is packed and dispensed in 2-month intervals (2MMD) by a Central Dispensing Unit (CDU) and delivered to the clinic for distribution to the patients. Because CDU does not offer 6-month dispensing services, clinic pharmacists and post-basic pharmacy assistants have been packing and dispensing 6MMD on site. Concerns have been raised about the additional burden this may place on the clinic pharmacies. A time-motion study was conducted at one site implementing 6MMD and another implementing 2MMD via CDU, to compare the time required to dispense 6MMD with the time spent on all administrative activities associated with 2MMD.

An assessor visited each site, met with the pharmacy team, agreed on steps to be measured, and discussed the relevant processes within. Thereafter, participants were instructed not to interact with the assessor during the timing of activities and to work at their normal pace. Timing was paused for interruptions unrelated to the process (e.g. a patient appearing at the window), but not for process-related delays (e.g. waiting for PREHMIS to load while printing stickers). The sample size was determined by the workload on the days assessed and does not reflect any purposive sampling to infer statistical significance.

## Results and Impact

The processes measured and the time taken per process are detailed in the appendix. The analysis suggests that 6MMD packing and dispensing by a pharmacy takes less time than 2MMD CDU dispensing. **The time taken to manage one club's CDU administrative activities over a period of 6 months on 2MMD CDU was 59 minutes, 50 seconds** [13:39+08:48+(7:15x3)+(5:51x2)+(1:18x3)], **whereas the time taken for one club over a period of 6 months on 6MMD was 47 minutes, 8 seconds** [11:26+02:02+29:43+3:57].

Even accounting for variable factors, such as packing for 2MMD patients without CDU scripts, the CDU admin alone takes more time than the 6MMD packing. However, this may depend on the approach taken at different facilities (e.g. in the sites observed, the PBPA staples together CDU packages for the same client, which may not be standard practice). The small sample size is another limitation. Given these constraints, a cautious conclusion is that 6MMD is unlikely to be more time-consuming than current 2MMD practices and may or may not save time. Importantly, this assessment reflects only the time spent in the pharmacy and does not capture potential time savings for other staff in other parts of the clinic, which will be measured as part of the HE²RO study.

Key Notes

- **PBPA**: Pharmacy-Based Prescribing Assistant.
- **First implementation**: The 6MMD timing represents the initial implementation with inexperienced staff.
- **Workload distribution**: 6MMD creates acute time pressure vs. 2MMD workload spread over time.

## Lessons and Future Implications

The results of this exercise supported the adoption and scale-up of the 6MMD approach. It also helped secure buy-in from facility pharmacy staff – key stakeholders in successful 6MMD implementation – as it allayed their concerns around increased workload. Future efforts should consider a larger sample size to determine more confidently whether 6MMD is a time-saving intervention for pharmacy staff.

CASE STUDY 13

# 13 Heideveld CDC: Patient-Centered Care through 6-month Dispensing of ART

Retention in care is a significant challenge in the Cape Town Metro District, with 25% of people living with HIV (PLHIV) not in care (March 2024, HIV Cascade, SPV). Multi-month dispensing lightens the burden on healthcare systems, reduces time and costs for clients, and has the potential to improve retention in care. However, until early 2025, 6-month multi-month dispensing (6MMD) was not formally approved due to concerns regarding stock control and client factors related to the storage and safekeeping of medication.

In 2024, Primary Health Care facilities faced austerity measures and a need to reduce Chronic Dispensing Unit (CDU) spending, particularly for one-line items such as first-line antiretroviral treatment (ART). Around this time, ART also became available in pack sizes of 84 tablets (3-month supply), which facilitated the implementation of multi-month dispensing.

To reduce CDU costs, Heideveld Community Day Clinic opted to pre-package medication at the facility pharmacy. The clinic recognised 6MMD as an excellent form of patient-centered care, benefiting both patients and providers by reducing facility visits from 5–6 times a year to just three.

## The Intervention

Eligible clients were identified for 6MMD. These are clients who are stable on ART (virally suppressed) and already in the adherence club system, not pregnant, not on TB treatment, and on a single line item (i.e. no co-morbidities). Clients were given the choice to opt in or out.

Clinicians realised that 6MMD could be introduced with minimal disruption to the adherence club model by keeping clients in their existing groups and selecting only those eligible for the switch. E-scripting, done via an online tool, made this process easier for clinicians. The 2-monthly medication pick-up dates were dropped, while the blood and clinical visits remained in place. This approach meant that clients would continue to receive peer support from familiar group members.

The facility's process flow had to be adapted, with changes to scripting cycles and in-pharmacy medication packaging. The new packaging method wraps and covers the medication, which clients greatly appreciate, as it protects their privacy and helps reduce HIV-related stigma.

Clients sign a manifesto when they collect their medication, which also helps with missed collections. They have a 14-day grace period to collect their medication. If a subsequent attempt to contact them is unsuccessful, the medication is returned to the pharmacy. Clients lost to follow-up will revert to the standard of care on their return.

## The Impact

Clients benefited from fewer facility visits, which saved time and money and reduced time away from work. They also felt trusted with their medication. The facility benefited from a reduced number of clients at any one time, as evidenced by the noticeably shorter pharmacy queues. Clinicians report high client satisfaction with 6MMD and very low non-collection rates. By July 2025, 11% of clients on ART were receiving 6MMD, and this has increased to 15% by July 2026 (MMD report, SPV). The number of clients remaining in care has improved from 75% in March 2024 to 83% in June 2026 (HIV Cascade, SPV).

An unexpected benefit was that some clients chose to stop non-essential medications to qualify for the one-line-item rule and gain access to 6MMD. This resulted in additional cost savings for the health system.

Fewer facility visits saved time and money and reduced time away from work.

Client felt trusted with their medication.

The facility benefited from a reduced number of clients at any one time, as evidence by the noticeably shorter pharmacy queues.

## Lessons and Future Implications

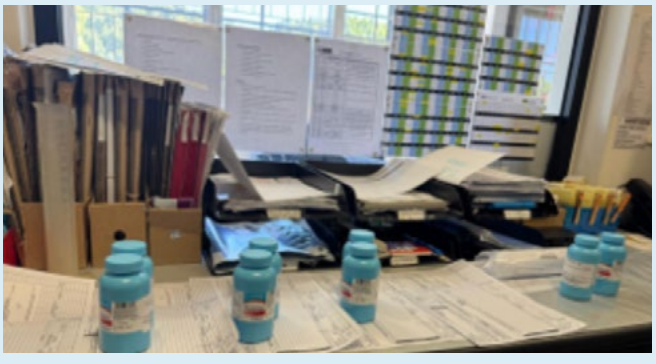
Critical success factors:

Good teamwork: Implementing this system required close collaboration between clients, doctors, and PNs in the ART clinic, as well as pharmacy managers, pharmacy assistants, and community health workers.

Efficient stock management, a packaging system in the pharmacy, and a clear process for handling non-collections.

Visit and scripting calendars to ensure smooth scheduling and continuous care.

This system has a high potential for scale-up, as it is integrated into the facility's current club system. Over time, it offers operational efficiencies for facilities and meaningful benefits for clients.



Scripts and medication ready for packaging.

Two containers of ART medication packaged into a discrete parcel for collection.

CASE STUDY 14

# 14 Inzame Zabantu CDC: Clinician-led 6-month dispensing of ART

## The Challenge

Retention in care is a significant challenge in the Cape Town Metro District, with 24% of people living with HIV (PLHIV) not in care (March 2026, HIV Cascade, SPV). Multi-month dispensing has been shown to be an effective intervention to reduce burden on health systems and to reduce time and cost for clients and has the potential to improve retention in care.

Inzame Zabantu CDC is situated in the Mitchells Plain subdistrict within a community facing a high burden of HIV and tuberculosis, as well as high levels of poverty and crime. Staff members are escorted by the police to the facility every day, and it is often difficult for clients to reach the facility due to gang activity and violence in the area. Inzame Zabantu CDC has limited infrastructural space and only one Clinical nurse practitioner (CNP) providing HIV services for 6957 clients (as of January 2026) on ART. Implementing 6MMD reduces the number of visits to the facility for clients, reduces facility congestion, and streamlines care and services.

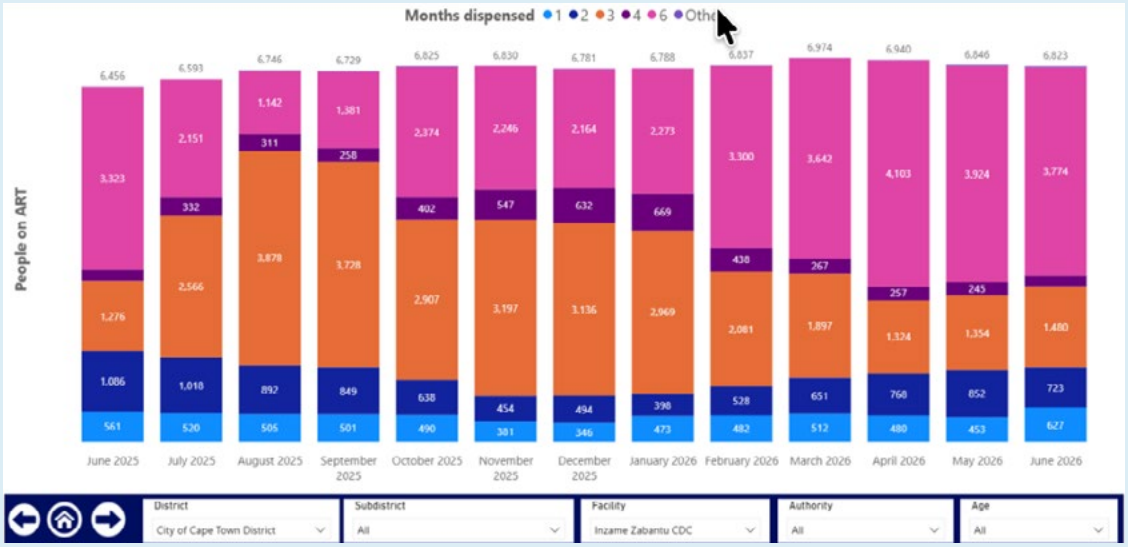
## The Intervention


Eligible clients are identified for 6MMD. These are clients who are stable on ART (virally suppressed), not pregnant, not on TB treatment, and on TLD. Some clients with well-controlled hypertension were also included. Eligible clients in adherence clubs were given the choice to opt in or out. Scheduling was adapted for 6-month medication pick-up, and blood and clinical visits remained in place. E-Scripting is done by the clinician. The pharmacy dispenses bottles containing 84 ARV tablets (a 3-month supply) to the clinicians' consulting rooms, and the clinicians issue a 6-month supply of medication at the time of the consultation.

Follow-up of club clients continues as usual, allowing for the tracing of clients who disengage from care. Clients lost to follow-up will then revert to the standard of care on their return.

## The Results

Inzame Zabantu showed a large uptake of 6MMD during 2024 following National endorsement of 6MMD. By June 2025, 3 323 clients were receiving 6MMD supply of ART. A reduction of 6MMD and a large increase in 3MMD (orange) occurred between July 2026 and January 2026 due to availability of 3MMD through the CDU packaging system. From February 2026, clinician-led issuing of 6MMD was resumed and by June 2026, 55% of clients on ART were receiving 6MMD.




Data source: SPV MMD report, HIV cascade. Accessed 07/08/2026

## The Impact

Clients benefit from fewer facility visits, which save time and money, reduce time off work, and lessen the need to navigate difficult access to the facility. The facility benefits from fewer clients visiting at any one time. This is a big advantage for the CNP providing HIV services and has significantly reduced the burden on these services. The reduction in the number of clients waiting at the pharmacy has also improved the efficiency of pharmacy services. Clinicians report high client satisfaction with 6MMD.

## Lessons and future implications

Critical success factors:

> Good teamwork: It requires work and collaboration to set up this system. Team members include the clients, the facility manager, the CNP providing HIV services, pharmacy staff, and the subdistrict HAST team.

> Collaboration between the clinicians and pharmacy staff to manage the stock and dispensing.

> E-prescribing supports streamlining scripting for eligible clients, improving prescribing consistency and decreasing the related administrative burden.

> Visit and scripting calendars enable an efficient system.

This system has high potential for scale-up, as it can be easily implemented in high-burden settings and requires no additional resources. It delivers efficiencies for the facility and benefits for the client.

CASE STUDY 15

# 15 6MMD Implementation in Drakenstein

During early 2025, The Health Foundation-supported team began reviewing HIV service delivery and differentiated care opportunities within Drakenstein sub-district following release of the Western Cape circular H19/2025. Early pharmacy data analysis (via SPV) suggested that a substantial number of stable PLHIV clients were potentially eligible for enrolment onto 6-month multi-month dispensing (6MMD), with eligibility estimates exceeding 2,000 clients across the sub-district at the time of analysis in early 2025.

In response, the sub-district initiated a phased, data-informed operational approach to support 6MMD implementation across high-burden facilities. Initial work following eligibility analysis included focus groups to assess readiness and generate awareness with different facility staff cadres, including clinicians, pharmacy staff, operational managers, and clerical staff. These discussions aimed to strengthen understanding of 6MMD eligibility criteria, prescribing requirements, workflow implications, patient education, and operational concerns related to implementation.

An individualised implementation model was promoted as there is no club system in Drakenstein. Routine awareness raising and implementation support continued through facility engagements, governance forums, and operational discussions. Monitoring processes were gradually embedded into routine clinical governance and review structures using SPV MMD dashboards to support operational visibility of dispensing patterns and viral suppression.

Local patient education materials for 6MMD were also developed collaboratively by the team together with district communication staff to support implementation and patient understanding of the programme. These materials were subsequently escalated to provincial level for review and may potentially support wider implementation beyond the sub-district.

Over time, several facilities demonstrated increasing 6MMD uptake, particularly within larger CDC sites on JAC. By 2026, routine operational monitoring suggested that the sub-district had likely achieved or approached many of the original 6MMD onboarding targets estimated during the early 2025 eligibility analysis. However, the team recognised that eligibility is dynamic, as additional clients become eligible over time following ART initiation and ongoing viral suppression.

**Progress Toward 6MMD Uptake Across CDC Facilities: Drakenstein**

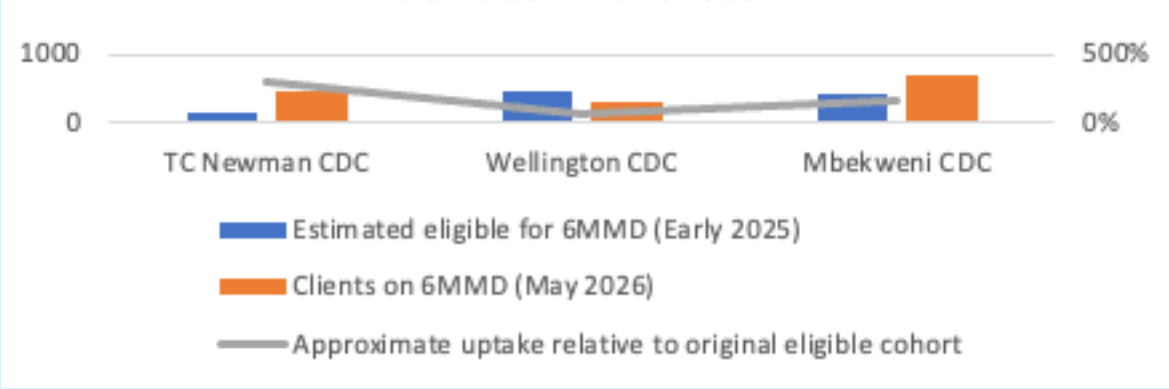



Figure 2: 6MMD uptake across CDC facilities by May 2026 compared with eligibility estimates generated during early 2025.

The initiative also highlighted important limitations within existing monitoring systems. While digitised pharmacy systems such as JAC allowed more precise monitoring of 6MMD uptake in some facilities, non-digitised dispensing environments limited complete visibility of implementation across the sub-district. As a result, true 6MMD uptake may be underestimated in some facilities. Updated operational data requests were subsequently submitted to support refreshed eligibility analysis, reassessment of current uptake, and identification of clients requiring clinical review after prolonged periods on 6MMD.

The initiative demonstrated that implementation of differentiated HIV care models such as 6MMD requires more than policy availability alone. Successful implementation depended on operational readiness, routine monitoring, repeated awareness engagement, clinician confidence, workflow adaptation, pharmacy collaboration, and ongoing governance support. It also reinforced the value of using routine integrated data systems operationally to guide implementation planning, monitor progress, and support local quality improvement processes.

## Patient Education


Figure 3: Multi-lingual 6MMD patient education materials.

CASE STUDY 16

# 16 Understanding Early Missed Appointments of clients on ART at Delft CHC

An analysis was conducted of ART clients with early missed appointments during the period August to October 2024 at Delft CHC. In total 1731 calls were made to clients by the clinical team in the Infectious Disease Unit at Delft CHC. The sister in charge and her team have fostered good relationships with their clients and were able to have more in-depth conversations to try and understand their reasons for missing appointments.

Of all the clients on the early missed appointment line list, 54% of clients could not be reached telephonically, 27% of clients were retained in care, and 19% confirmed missing their appointment.

Of the 941 clients that were unable to be reached, the majority of calls went to voicemail, with a few clients returning the call later. Other reasons for unanswered calls were wrong numbers, the subscriber being unavailable or a number that no longer exists.

468 (27%) of clients appearing on the early missed appointment line list confirmed that they were in care. Figure 1. shows the categories of clients who were found to be in care.

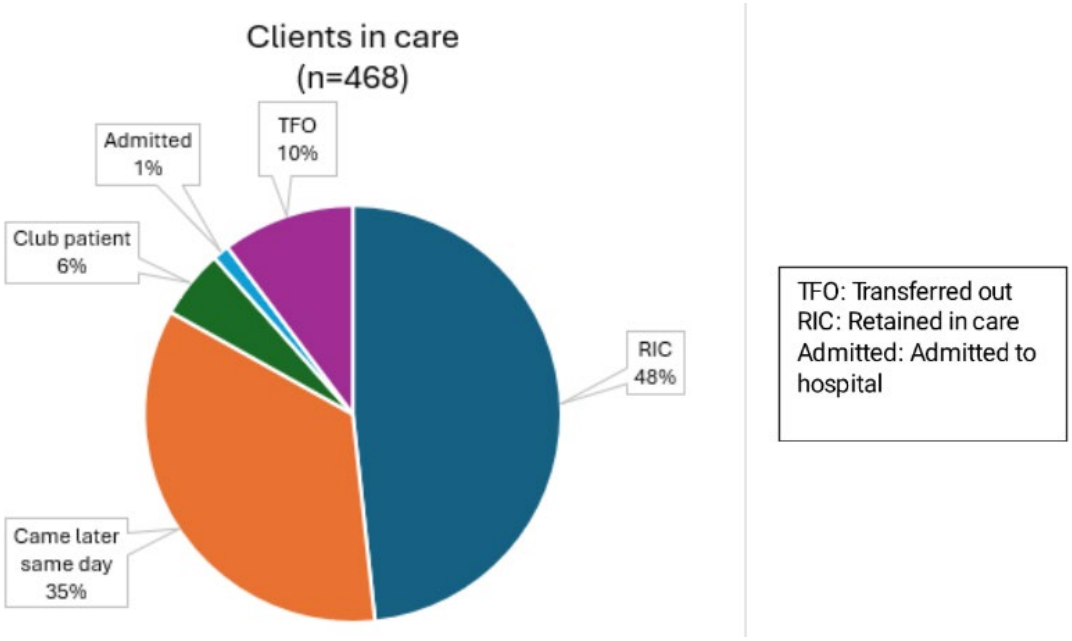



Figure 1. Categories of clients found to be in care.

Of the clients reached telephonically, 322 (41%) clients had missed their appointment. A deep dive into the reasons for missing appointments was done for the 189 clients called in October.

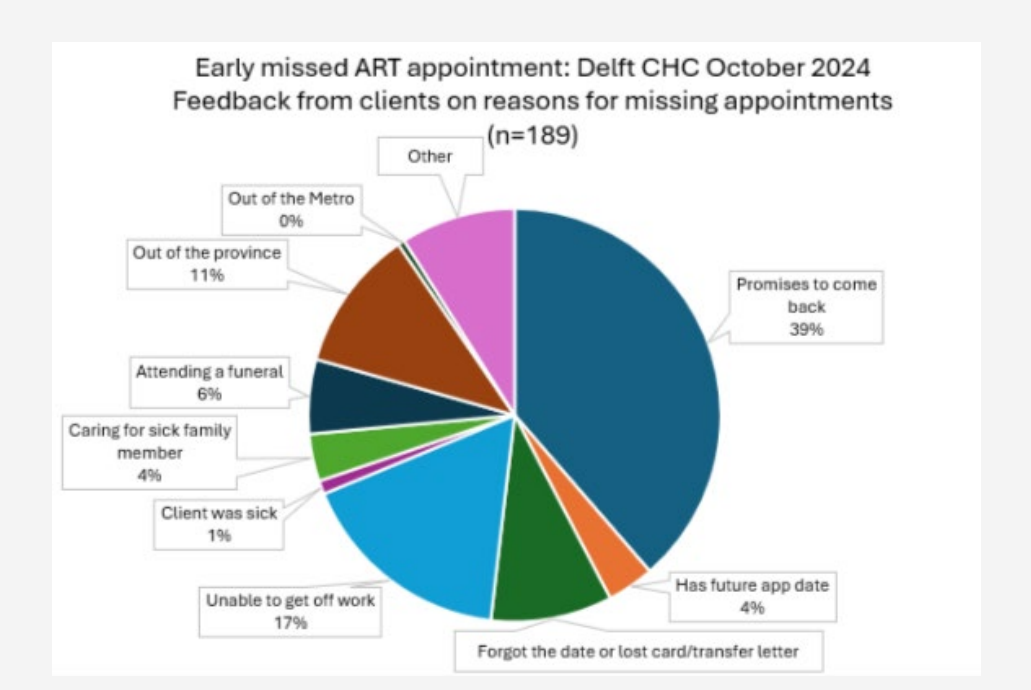



Figure 2. Feedback from clients on the reasons for missing their appointment.

## Discussions

46% of client calls for this three-month period were successful. In comparison to calls made through the WC telehealth project where 25-30% of calls are answered, this is a much higher rate of success and perhaps reflects the personal relationship that the primary health facility staff have with their clients. A surprisingly high number of clients (27%) on the early missed appointment line list were found to be in care. One reason for this could be due to clients having duplicate folders with unmerged records and highlights the challenge with folder hygiene in high burden facilities.

Of the 189 clients who were able to provide reasons for missing appointments, several common themes emerged. Client-related factors accounted for a third of the reasons. These included having forgotten their appointment or lost their card (9%); travelling outside of the Western Cape (11%); having to attend a funeral (6%); having to care for sick family members or too sick to come (5%). Being unable to take time off work (17%) was a significant external factor that was a barrier to remaining in care. 39% of clients did not give a specific reason but promised to return to the clinic for their treatment, and 4% said that they had a future appointment date.

It is apparent from these results that clients have legitimate reasons and constraints that affect their ability to access their treatment. The planned introduction of 6-month multi-month dispensing may be an enabler of treatment success for these clients.

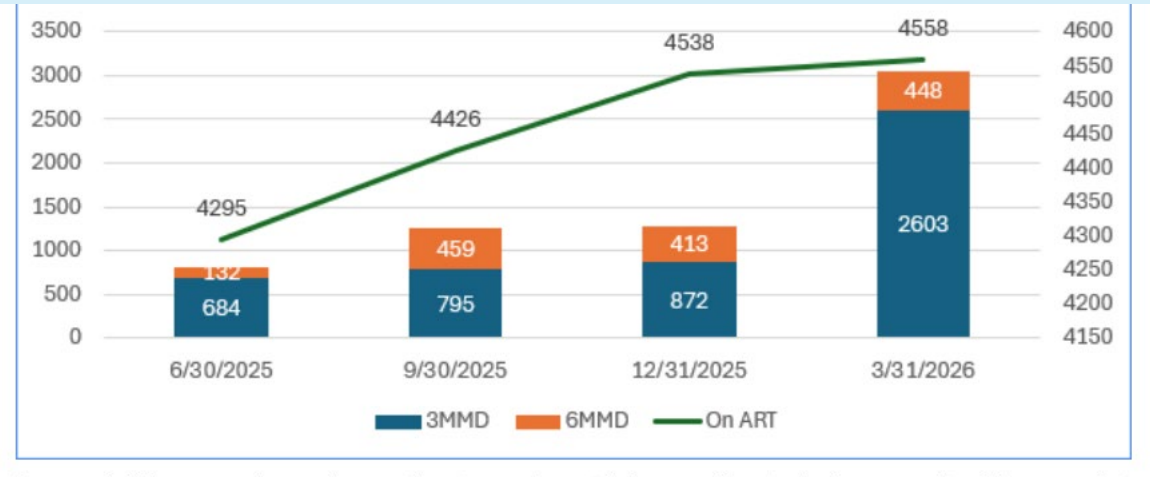
CASE STUDY 17

# 17 Nomzamo CDC: An Exemplary Performance Model for Improving TROA

## Background

Nomzamo CDC was identified for a facility-level learning visit following a sustained period of strong performance in the proportion of clients remaining on ART (TROA).

**Nomzamo TROA and MMD Trends**




As many facilities across the province continue to experience challenges with retention in care, a site visit was conducted to better understand the practices that may be contributing to this performance.The objective was not to identify a single intervention responsible for success, but rather to explore the organisational, clinical and community-level factors associated with sustained performance.

The assessment found that strong retention at Nomzamo CDC appears to be driven by a coherent system of leadership, service delivery, workforce engagement and community integration.

## Context and Challenge

Nomzamo CDC serves a community with a high HIV burden, characterised by large informal settlements, population mobility, unemployment, food insecurity and migratory population which potentially negatively impact continuity of care.

Nomzamo provides service to a large population with a primary head count of 6632 (Sinjani) in March 2026. Despite these challenges, the facility has sustained strong retention outcomes and successfully transitioned a large proportion of eligible clients onto extended dispensing intervals with a preference to 3 multi-month dispensing due to the dual burden of HIV and comorbid disease.

## The Intervention

Key defining features of success include:

- **Leadership and Governance.**
- **Service Delivery Design.**
- **Workforce Engagement and Organisational Culture.**
- **Community-Facility Integration**

**Leadership and Governance: Data-Driven Accountability and Ownership**

The majority of observed practice is anchored at facility level, driven primarily by the facility management team. Management demonstrates detailed familiarity with programme performance and uses routine data to guide operational decision-making.

Programme-specific portfolio teams have been established, with clear accountability structures across service areas including HIV and TB.

Routine Data sources are used consistently for patient management and programme monitoring. Data review is embedded into routine management processes, including:

- Weekly staff huddles.
- Programme team meetings.
- Multidisciplinary team discussions.
- Quarterly clinical audits.

Performance data is treated as a management tool rather than a reporting requirement. Communication of data is conducted on effective engagement platforms with a focus on identifying gaps, understanding trends and agreeing on corrective actions with data-guided by relevant evidence-based practice reinforced through circulars, standard operating procedures and policies.

This consistent visibility of performance data has fostered a culture of collective ownership and accountability, with staff demonstrating pride in facility performance and benchmarking their results against other facilities with exceptional performance.

**Service Delivery Design: Reliable and Integrated Client Care**

The facility has designed workflows around client needs rather than administrative processes. Roles and responsibilities are clearly defined across all service points, ensuring that routine processes are completed efficiently and consistently.

All professional nurses are Nurse-led Initiation and Management of ART (NIMART) trained, enabling integrated HIV care throughout the facility and reducing unnecessary referrals between service points.

Where possible, investigations and routine assessments are completed before clients reach the clinician including screening processes, routine investigation and assessment of eligibility for differentiated service delivery. This reduces the number of steps required for clients to access care and supports efficient identification of clients eligible for MMD.

Clinical protocols and treatment algorithms are widely understood and consistently applied. Standard operating procedures are reviewed regularly and adapted in response to policy changes, operational challenges and evolving patient flow requirements.

Importantly, although scale-up of MMD is acknowledged as key as a retention in care mechanism, implementation was not observed as a separate programme but rather embedded as a practice within routine clinical workflows.

## Workforce Engagement and Organisational Culture

The facility management has been deliberate in the cultivation of a positive organisational culture.

Leadership places strong emphasis on creating a respectful, supportive and accountable working environment. Management described their leadership approach as "staff match my tempo", reflecting an expectation that leaders model the standards, "energy" and behaviors they wish to see throughout the facility.

Several mechanisms support workforce engagement:

- Internally organised staff social club where they connect socially as a team through quarterly staff recognition and wellness events.
- Visible leadership involvement in operational challenges.
- Open communication channels for staff and clients.

While seemingly unrelated to specific HIV programme outcomes, these activities appear to contribute to staff cohesion, morale and ownership of performance.

This culture extends directly into client interactions. Staff are encouraged to engage clients respectfully and, where possible, in their home language (Xhosa, French etc). Counselling extends beyond clinical instructions and seeks to understand the broader social context influencing treatment adherence, including family responsibilities, employment and living circumstances.

Clients returning after interruptions in care are welcomed without judgement, contributing to a "welcome-back" culture that decreases barriers to re-engagement.

## Community- Facility Integration

Community engagement is structured as an extension of facility operations rather than a parallel activity. Non-profit organisations (NPOs) are integrated into facility workflows through deliberate alignment processes.

### Partner Alignment and Capacity Building

Facility teams provide tailored training and orientation to community partners, ensuring a shared understanding of:

- Programme priorities.
- Terminology.
- Referral pathways.
- Roles and responsibilities.
- Client management and communication approaches.

This creates consistency between facility and community-based messaging and support.

### Weekly Multidisciplinary Team Platform

A weekly multidisciplinary team (MDT) meeting serves as the primary platform for coordination. The MDT reviews programme performance and client management issues across service areas. A weekly missed-appointment list is generated and reviewed, enabling structured follow-up through recalls, tracing and community-based referrals. This creates a direct link between facility data systems and community-based action.

### Integrated Recall Systems

Client recall mechanisms extend beyond HIV and TB services and are applied across chronic care programmes. The approach reflects a broader philosophy that continuity of care should be actively supported rather than relying on clients to re-present to the facility independently.

**Community-Oriented, Person-Centred Care (COPC)**

COPC principles are reflected within clinical consultations themselves. Staff seek to understand the social realities influencing treatment adherence and continuity of care and incorporate these considerations into counselling and care planning.

## Impact

The facility total remaining on ART increased by 6% from 4295 to 4558 during June 2025 to March 2026 period. Multi-month dispensing has steadily increased overtime with 67% of all clients remaining in care either receiving either 3 or 6 multi-month dispensed medication. The most significant increase in MMD being clients receiving 3MMD which improved from 684 to 2603 between June 2025 to March 2026.

## Lessons Learnt

1. **Retention Is Produced by Systems, Not Projects**
   No single intervention was identified as the primary driver of retention performance. Rather, outcomes appear to emerge from multiple reinforcing organisational practices operating together.

2. **Leadership Behaviour Shapes Performance**
   Visible, data-literate leadership appears to influence accountability, staff engagement, service delivery reliability and programme performance.

3. **Workforce Experience Influences Client Experience**
   Investments in staff wellbeing, recognition and organisational culture may be important upstream determinants of person-centred care and client retention.

4. **Community Integration Requires Operational Alignment**
   Effective community-facility integration depends not only on partner participation but also on shared language, shared workflows, shared expectations and routine communication.

5. **MMD Scale-Up Appears to Be a Systems Outcome**
   MMD success was not linked to a dedicated MMD project. Instead, it appears to have emerged naturally, after circular updates received, as the practice is now integrated into routine clinical care and scale up supported by data monitoring, NIMART coverage and continuity-of-care systems which support effective service functioning.

## TB

The grant partners successfully supported the implementation of TUTT across facilities. Other key interventions and activities included:

- Focused testing of priority groups - informed by updated policies, SOPs, and data, and strengthened by facility-based QIPs - increased TB testing in target groups and TB case yield, despite declining TB incidence.
- Clear facility-level targets and accessible data strengthened accountability and performance in TB testing.
- Use of TB contact cards strengthened TB contact tracing and TPT initiation.
- Data clean-up QIPs improved data quality and completeness for TB outcomes.
- Improved sputum testing practices through stakeholder engagement substantially reduced rejection rates across the province; one of the interventions was that WC NHLS agreed to accept previously rejected saliva samples.
- Sputum collection by community health workers contributed significantly to TUTT implementation.

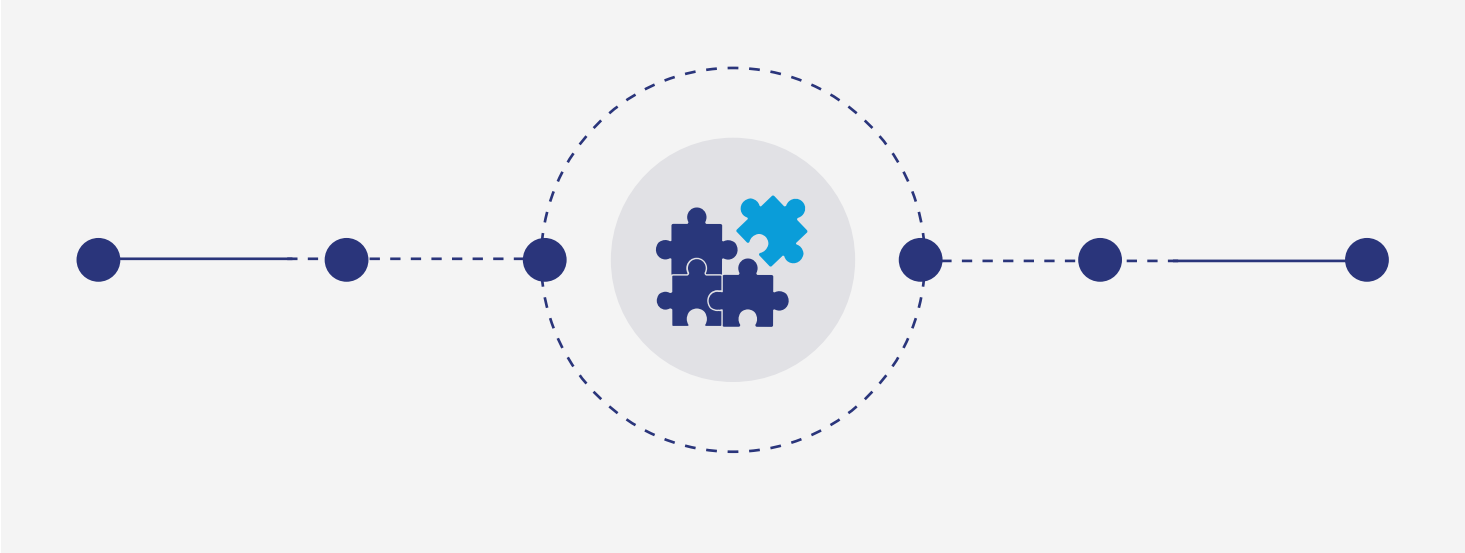
CASE STUDY 18

# 18 Implementing the TUTT Policy in Drakenstein

When The Health Foundation-supported team arrived in Drakenstein at the end of 2023, the provincial TUTT (Targeted Universal TB Testing) policy had already been approved by Top Executive Committee (TEXCO) for approximately nine months. However, an early situational analysis conducted by the team found that most facilities were not routinely implementing the policy criteria, particularly testing eligible groups who may not present with TB symptoms. This included groups such as newly diagnosed HIV clients, annual HIV review clients, and HIV positive pregnant clients, along with all contacts.

## Contributing Factors Identified

Several contributing factors were identified, including limited awareness of the policy, outdated screening tools, staff not adequately capacitated on TUTT implementation, facility workflows that did not support routine testing of eligible groups, and insufficient community-based contact testing.



## The Intervention

In response, a multi-component operational intervention was implemented to strengthen TUTT implementation across facilities and communities. The approach included repeated policy communication across multiple forums, stakeholder engagement with NGO partners, facility teams and laboratory staff, strengthening communication pathways and data flows, supporting sputum collection training initiatives for Community Health Care Workers (CHWs). Embedding TUTT monitoring into monthly data and management forums, initiating quality improvement (QI) projects across facilities and community structures, conducting approximate hotspot mapping using SPV-derived geographic information to guide targeted outreach and community testing discussions, and communicating testing targets.

## Embedding the Intervention

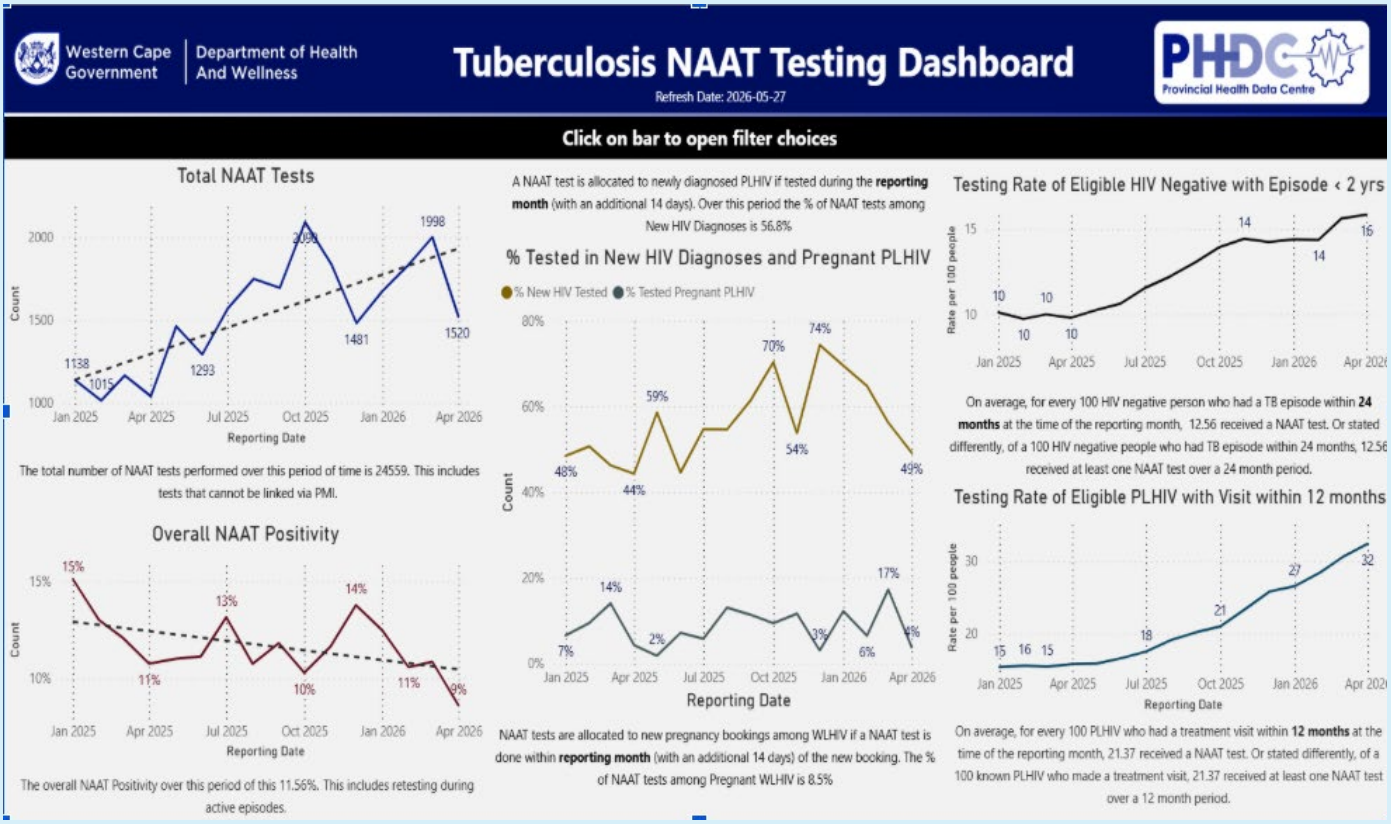
Over time, TUTT implementation became more embedded within routine sub-district monitoring and evaluation structures. Monthly TB testing review increasingly drove operational discussion and accountability. Facilities with lower testing performance were identified through this review and supported with targeted QI interventions. Additional momentum was created through collaboration with the provincial "Close the Gap" team, which helped expand household- and community-level sputum collection and testing activities.

## Results

Between 2023 and mid-2025, Drakenstein demonstrated a substantial increase in TB GeneXpert/TB-NAAT testing volumes. At some points in 2023, the sub-district conducted approximately less than 700 tests per month. By the end of 2025, testing volumes had increased to more than 2000 tests per month, while positivity declined over the same period.

## Impact

These increases were associated with a combination of facility-based QI processes, strengthened routine implementation of TUTT criteria, and expanded community sputum collection and testing activities.




The initiative highlighted the importance of combining policy communication, operational accountability, stakeholder engagement, community-based testing, and routine data review to strengthen implementation of TB case-finding policy within a resource-constrained setting.

CASE STUDY 19

# 19 TB Testing at High-burden Facilities in Drakenstein Sub-district

The team worked across all 15 primary healthcare facilities in Drakenstein, then narrowed to intensive, facility-specific support at the five highest-burden facilities by patient headcount and daily patient flow—Dalvale Clinic, TC Newman CDC, Wellington CDC, Mbekweni CDC and Phola Park Clinic—scaling learnings to one high-burden facility in Stellenbosch in 2026. These facilities serve peri-urban and rural communities where informal housing, limited water and sanitation access, and constrained transport shape both TB risk and service delivery.

Figure 1. Scenes from Phola Park, Drakenstein Sub-district

A consistent intervention model was applied across the five:

- TUTT-eligibility wall-hung tools in every consultation room to flag that asymptomatic clients also require testing.
- Sputum collection materials at point of care, with staff trained on leak-free specimen handling.
- Testing embedded into high-yield patient flow points, such as the annual PLHIV bloods visit.
- TB room staff worked closely with community health workers, who supported administrative tasks within the TB room alongside their own community-based testing, and who traced and index-tested clients (hospital and PHC diagnosed).
- Monitoring that moved from weekly to monthly facility-level review.
- Facilities with active QI projects would present them in the sub-district data sign-off for sharing learning.

Two facilities hit staffing-driven disruption which affected application of the model. Phola Park went without a dedicated TB professional nurse for an extended period in 2025, recovering once a TB Professional Nurse (PN) was appointed at the end of the year. Mbekweni has faced a similar gap from April 2026, requiring staff usually allocated elsewhere in the clinic to split their time.

Despite these challenges, combined across the five focus sites, TB-NAAT testing rose 1.8-fold—from ~600 to ~1,080 tests/month between the October–December 2023 baseline and January–March 2026—with the sharpest rise following intervention introduction by mid-2024. NAAT positivity fell from 15.2% to 10.2%; TB episodes identified rose modestly, from 98 to 105/month, against a backdrop of declining background incidence.

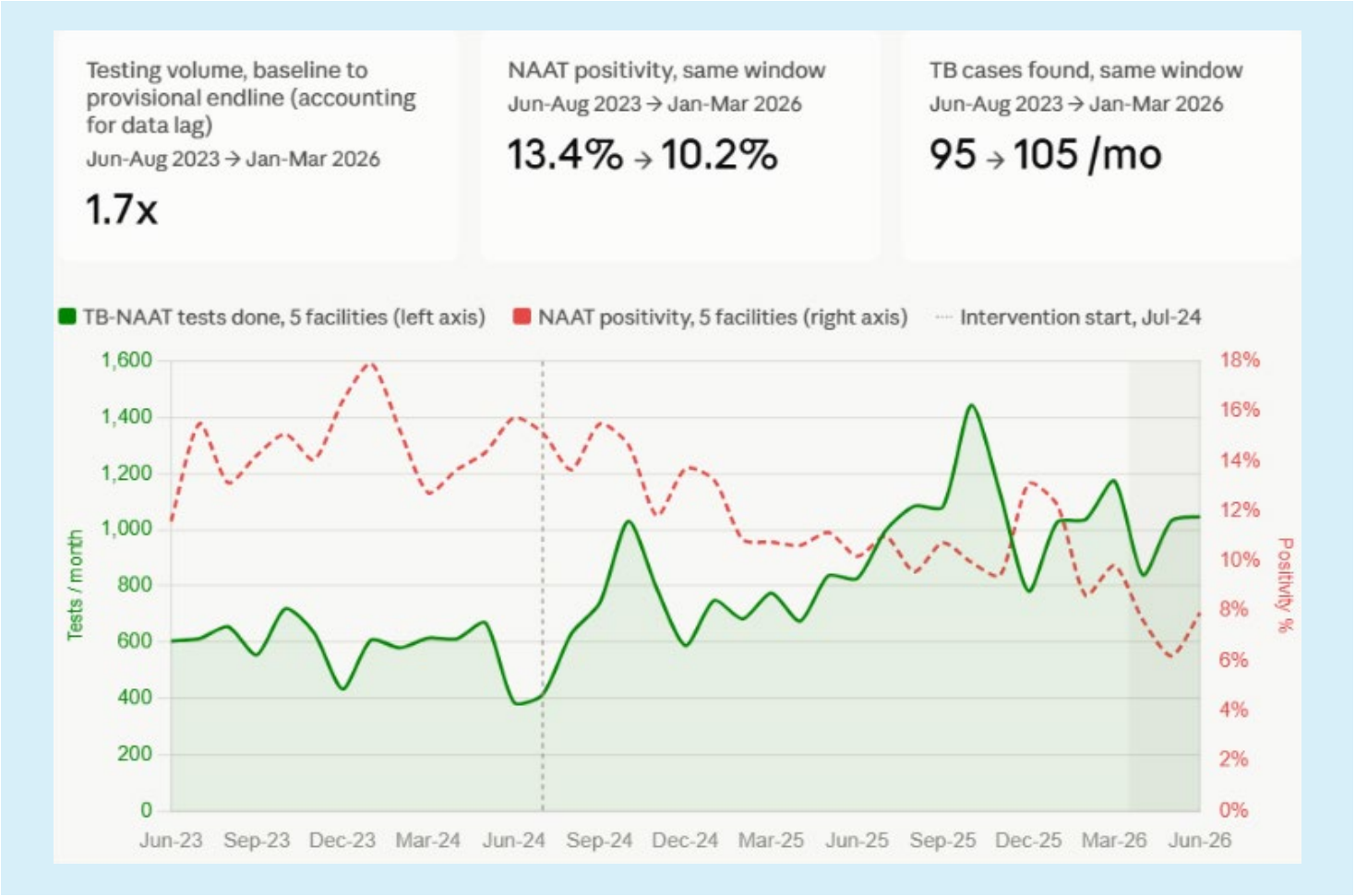



Figure 2. Combined monthly TB-NAAT sputum testing (left axis) and NAAT positivity (right axis) across the five high-burden focus facilities, June 2023 – June 2026. Axes are independently scaled. Dotted line marks the start of the grant team's facility- and community-based QI interventions. Source data: TB cascade, SPV.

## Lessons Learned

- Shifting a single indicator in a health programme required a multipronged model, but the model itself was low-cost to run.
- Stable staffing was critical regardless of whether a facility ran a dedicated TB room or a more integrated care model, given how administratively heavy TB case management is relative to other programmes.
- Policy change does not reach lower-cadre staff automatically; engaging facility leadership directly, so they could brief and empower their own teams, was necessary.
- QI mentorship had to be in-person: helping facilities work out what to monitor, how often, and how to embed testing into existing flows typically took several initial on-site sessions.
- NIMART training for TB room staff matters because ~30% of clients in the Rural West ecosystem are HIV/TB co-infected (source: Rural West TB analysis for Provincial M&E&L, May 2025). Without it, co-infected clients have to move through a separate part of the facility for ART care during their TB treatment months, adding time and disrupting flow for a client already carrying two diagnoses.

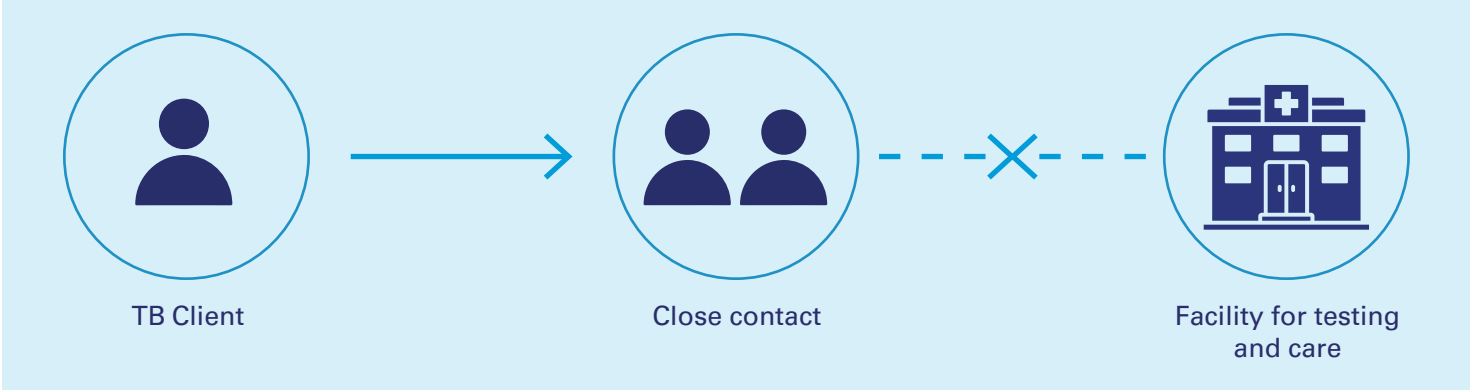
CASE STUDY 20

# 20 Reaching contacts of TB clients: piloting and scaling the use of TB Contact Cards

## The Challenge

The Targeted Universal Testing for TB (TUTT) policy aims to find more people with TB, to treat them, and to protect those at risk of getting TB by providing TB preventative therapy (TPT). Close contacts of people with TB are a higher risk group and need to be offered TB testing with linkage to TB treatment if positive and TPT to protect them if they are negative.

Staff in TB rooms have identified that it is difficult to get the contacts of TB clients to come into facilities to be tested for TB and access TPT if they test negative. Currently, TB clients are asked by staff to tell their close contacts that they need to be tested for TB and about TPT. What happens when the TB client goes home is unpredictable. Some TB clients may not tell their close contacts about the diagnosis, and that they are at risk of having TB. Some may tell them but may not communicate the next steps clearly to their contacts. TUTT is also being provided in communities by CHW's, who offer testing to close contacts. Whether a person tests positive or negative, they should be referred to the facility for either treatment or TPT. However, this does not happen optimally in all areas.




## The Intervention

In MHS, a TB contact card, to be issued to all contacts of a TB client, was developed by TB Proof in collaboration with WCGHW and CCT colleagues. The aim of the contact card is to communicate clearly to the close contacts that they are at risk, what they need to do and to link them to a facility. Providing a personal card for each contact is a targeted and direct way for health workers to reach out to each close contact of a TB client. City Health developed a health and wellness screening slip which is used in a similar manner for TB contacts. Primary Health Care facilities across the Metro have been sensitized to both the cards and the slips, and either is accepted at any facility.

Michael Mapongwana CDC was chosen as the pilot site to test the cards in MHS, and support from the facility manager, family physician and TB OPM was obtained for the intervention. Staff were trained on the cards and the TUTT policy, and patient flow in the TB area mapped. At TB diagnosis, all close contacts are noted in the clinical record and the index client advised about the need for their close contacts to be tested. The clinical staff in the TB rooms were advised to issue cards for all TB clients (newly diagnosed as well as those coming for follow-up), with a TB contact card for each of their close contacts.

The TB contact card states that the person is a TB contact and provides some basic information about TB. There is space for a name to be written, but this is optional, given possible confidentiality concerns. The card indicates whether or not TB testing has been done and if TPT has been started. The card states that if a person takes the card to the facility they will receive faster care.

The facility staff, including the security at the gate were advised that if a contact brought a TB contact card back to the facility, they needed to receive streamlined care, as stated on the card.


Figure 1: TB contact card front.

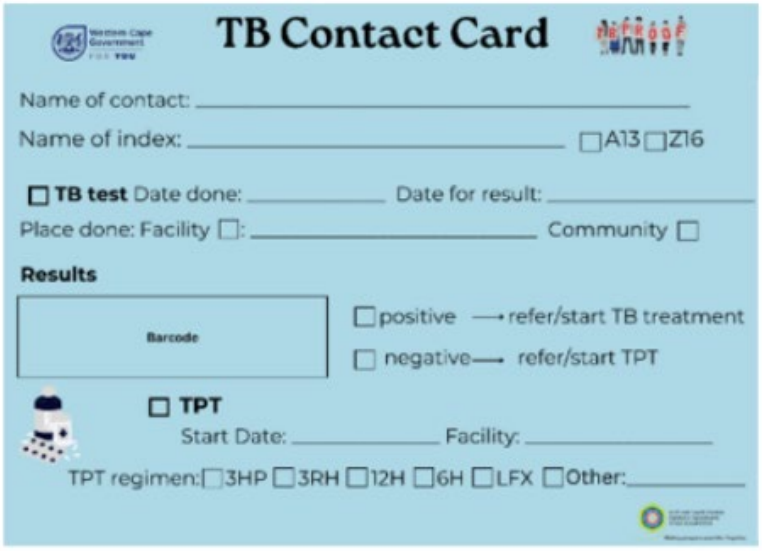



Figure 2: TB contact card back.


Figure 3: City Health Wellness and TB screening slip.

The pilot project was initiated in MHS in October 2024, and all TB contact cards brought by contacts to the TB clinic were put into a marked box in the TB clinicians' room to assess how many contacts used them to link to care. The TB Room staff were also asked to track the number of contacts started on TPT from the time of introducing the TB contact cards. 480 cards were handed out from October 2024 to July 2025.

In CCT, the use of the TB Screening and Testing slip was applied in three pilot sites; Kuyasa CDC, Uitsig Clinic and Gugulethu Clinic in the period October 2025 to 31 March 2026.

## The Impact

In MHS, by 31 July 2025, 85 cards had been returned – a return rate of 18%. The number of contacts initiated on TPT during the pilot project was 160, of whom 55 were children under 5 years and 105 were 5 years and older.

The graph shows the increase in TPT given to TB contacts after the TB contact cards were introduced in October 2024. This was especially evident in the over 5-year age group. The line graph shows the number of NAAT tests returning positive for the facility as a whole. The average number of positive tests was 31/month in 2024. This increased to 36/month in 2025.

**TB Contacts Initiated on TPT and TB NAAT Positive tests at Michael Mapongwana CDC**


The outcomes for CCT sites are as follows: at Kuyasa CDC 55 contact slips were issued between 17 index cases with a return rate of 38% (21 contacts), and 11 of these contacts initiated TPT. At Gugulethu Clinic 196 contact slips were issued between 51 index cases, with a return rate of 18% (36 contacts), 12 of which initiated TPT. Lastly, at Uitsig Clinic 101 contact slips were issued among 28 index cases with a return rate of 39% (39 contacts) of which 21 initiated TPT.

## Lessons and future implications

It is important to ensure that all clinic staff are aware of the contact card to accommodate for staff rotations and general awareness. Security and reception staff also need to be trained to ensure that clients can be sent directly to the TB room.

Not all contacts remembered to bring the card with them, but it was felt that the cards assisted contacts in understanding TB and the need for testing.

Using the contact cards in a facility helped to reinforce the implementation of the TUTT policy and increased staff awareness around TPT. TPT initiations increased substantially during the TBCC pilot project.

Counselling conversations are important to motivate TPT uptake with the client and should include information on the regimen with clear information on the length of treatment and benefits for TB negative/otherwise healthy individuals.

Data capturing of TPT initiation needs to be incorporated into routine capturing, as delays and incomplete capturing are a challenge.

The increased testing of contacts may have resulted in an increase in case finding, although there was a general increase in testing of high-risk groups during this period in the facility.

In March 2026 a workshop was held for all MHS substructure Sexually Transmitted Infections, and TB (HAST) teams and clinical programme coordinators to plan the rollout of the TB contact cards across all MHS PHC facilities. All facilities are now issuing the cards to newly diagnosed TB clients to distribute to their contacts. Monitoring and evaluation will be done quarterly. For CCT, the use of the wellness/contact slip is due to be rolled out across all clinic sites in mid-2026.

This intervention provides a systematic way to identify and track contacts of TB clients and can aid the early diagnosis and treatment of TB. It promotes the prevention of transmission by encouraging testing, and timeous treatment or prophylaxis. The cards provide information to clients and their contacts with clear messaging that is not reliant on the client. This is a client-centered intervention, where clients receive streamlined care when they return to the facility.

CASE STUDY 21

# 21 Embedding Data Use to Improve TB Linkage to Care in KESS

## The Challenge

In Khayelitsha Eastern Substructure (KESS), a persistent gap was identified in the linkage to care of people with tuberculosis (PWTB) diagnosed in hospitals compared with those diagnosed at primary healthcare (PHC) facilities. This gap contributed to delays in treatment initiation and poorer continuity of TB care.

The challenge was not simply a lack of data. KESS had routine TB data available for reporting, but facility teams had limited access to an accessible view of overall programme performance and there was no established, standardised mechanism for routinely reviewing data and translating it into quality improvement (QI) action. Key drivers included limited facility-level engagement with TB programme data, poor data quality, limited awareness of hospital-diagnosed clients allocated to PHC facilities, and limited QI knowledge and practice among PHC teams.

## The Intervention

Rather than introducing a stand-alone intervention, a monthly TB support forum was developed. The forum provided a consistent structure for reviewing TB programme performance and responding to identified challenges. The standard agenda incorporated data review and QI report-back alongside routine programme challenges, helping to make improvement part of the existing management platform rather than an additional activity.

The intervention had three key components:

**Integrated Recall Systems**

A centrally generated TB programme report was developed to provide facilities with a more accessible view of TB programme performance. This addressed the previous gap where routine data existed but was not presented in a way that readily supported facility-level interpretation and action.

**Translate data into action**

Monthly action line lists and reports were distributed to key TB programme staff. These provided a practical mechanism for teams to act on the data. TB staff used the lists to identify and address data-capturing issues. Additionally, they were used to support patient recall, including identifying hospital-diagnosed PWTB who had been allocated to their facilities. Feedback from facilities was also used to improve the tools and reporting process.

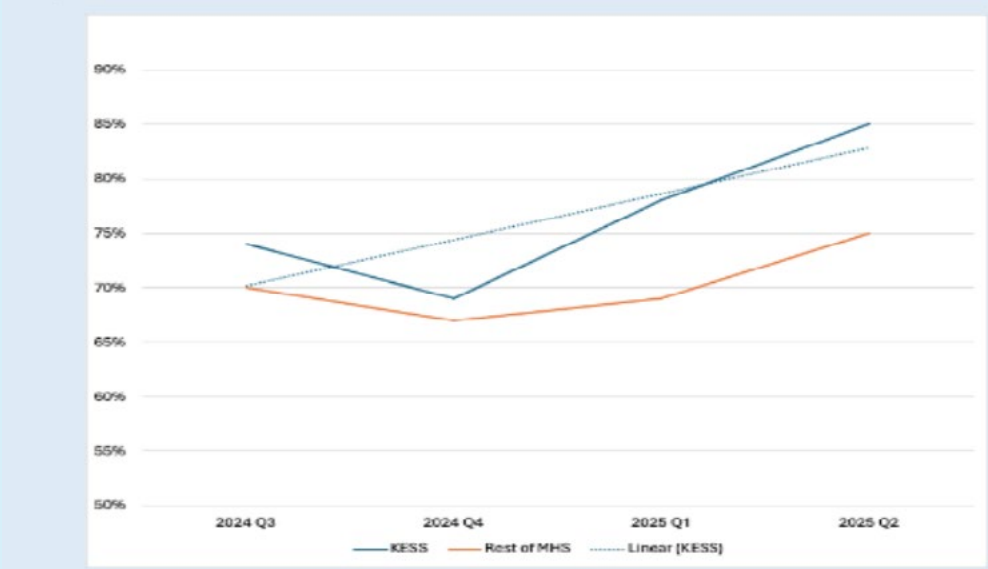
**Build QI capability**

Facility visits were used to support teams in understanding and using the reports and action line lists. A QI workshop was subsequently conducted, with participating facilities developing their own QI plans. This recognised that providing data alone was insufficient: teams also needed the skills, structures and support to interpret data and translate findings into changes in practice.

## The Impact

The intervention was associated with an improvement in hospital-to-PHC linkage. The proportion of hospital-diagnosed People with TB (PWTB) linked to PHC treatment increased from a baseline of approximately 72% to 85% over a year.

**Percentage of Hospital Diagnosed PWTB Linked to PHC in 3 Months: KESS vs Rest of MHS**




## Lessons Learnt

Implementation highlighted that improving linkage required changes in data visualisation and access, workflow, and mindset.

- Providing data in a user-friendly format with clear application to the facility's performance was very helpful for facility clinicians.
- Implementation was strengthened by providing a forum for facility staff to meet regularly, discuss data, grapple with challenges, and share learnings.
- Facility staff initially had limited experience with QI methodology, meaning that embedding QI would require continued mentoring and support. The intervention also required a shift in clinical ownership: hospital-diagnosed PWTB allocated to a PHC facility needed to be understood as part of that facility's population for which the team had responsibility, rather than as patients belonging to the hospital.
- Limited staff time for patient recall was another practical constraint. The action line lists therefore needed to support prioritisation and make it easier for teams to identify clients requiring follow-up.
- The monthly manual development of the report was labour-intensive, highlighting the importance of integrating the reporting functionality into existing provincial information systems. The availability of the TB Programme Report through SPV is a major step forward in terms of facilities having easy access to their programmatic data.

Implementation highlighted that improving linkage required changes in data visualisation and access, workflow, and mindset.

## From Project Intervention to Routine Practice

Sustainability was considered from the outset. The monthly TB support platform was developed together with substructure staff, with embedded substructure staff identified as essential to establishing and maintaining the platform. Responsibility was intended to transition to new HAST coordinators rather than remain dependent on the project team.

The planned availability of the TB programme report through SPV also provides an opportunity to scale the approach beyond KESS, reducing the dependence on labour-intensive manual reporting and enabling broader use of the data-to-action approach across the province.

CASE STUDY 22

# 22 Hospital to Clinic: Improving TB Linkage to Care in Drakenstein

In the Drakenstein sub-district (rural Western Cape), hospital-diagnosed TB patients are less likely to reach Primary Healthcare (PHC) facilities for definitive treatment, which negatively impacts TB treatment success and health outcomes. Drakenstein had no structured intervention to bridge the gap between hospital discharge and PHC follow-up before 2023. To address this, an NPO began using NHLS alerts from the hospital to trace discharged TB patients. While an improvement, this approach had limitations. It flagged only lab-diagnosed cases, created unnecessary workload for the tracing NPO (as some patients independently linked to clinics post-discharge), and lacked effective feedback mechanisms.

The Rural Health Services (RHS) team introduced the TB Treatment Action List (TTAL) with a significant innovation: decentralised use, supported by several champions, to prevent patients from falling through the cracks. First, the team built on the concept of using the hospital's Infection Prevention and Control (IPC) nurse as the main implementer for hospital-PHC linkage. The IPC nurse now reviews the TTAL weekly to identify hospital-diagnosed TB patients who haven't been linked to PHC care, verify their information, initiates SMS recall attempts, and communicates with the test-and-trace staff at the local NPO. Additionally, each PHC facility has a champion who draws TTAL weekly to identify those diagnosed at their own site who have not linked to care within the required time period. A TTAL champion in the sub-district office reviews the TTAL intermittently to ensure that no one else has fallen through the cracks.

This intervention required thorough initial data cleaning, ongoing weekly TB data capture, clear delineation of stakeholder roles, and consistent mentoring on using the digital tools. Unlike previous approaches, this system ensures that more TB diagnoses are accounted for, creates accountability while distributing the load through designated champions at each level, and establishes digital tracking of patient journeys across facilities. Feedback is evident through SMS deliveries displayed in the system and digital notes captured on SPV regarding recalls. Comprehensive recall feedback remains a challenge; however, the team is actively working on a potential solution.

**TB Treatment Action List (TTAL)**

NHLS alerts from the hospital to trace discharged TB patients.

The IPC nurse reviews TTAL weekly, initiates SMS recall attempts and communicates with test-and-trace staff at local NPO.

PHC facility champions identify cases at their site and ensure patients link to care within the require time period.

## Results and Impact

Over one year, TB hospital-to-PHC linkage improved from 71% to 82% (Figure 1), meeting the grant target, and coinciding with increased TTAL use across facilities. While hospital data remains significantly affected by advanced illness and in-hospital deaths—limiting the scope of intervention—TTAL has helped clarify the true TB burden beyond facility registers. This has strengthened patient recall efforts for those not yet linked to care.

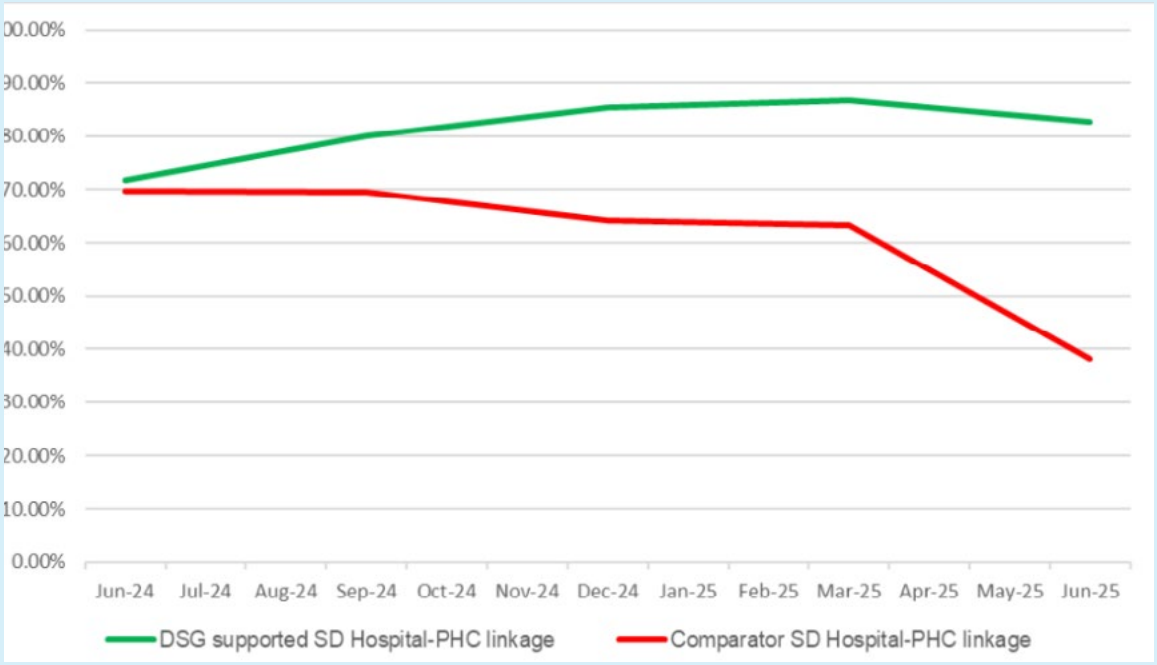



Figure 1. Drakenstein TB linkage to PHC in 90 days vs. comparator sub-district (Witzenberg)

## Lessons and Future Implications

Drakenstein's experience highlights that combining technical solutions with culture change, peer mentorship, and inclusive engagement is critical for success. The key lesson: start small, combine bottom-up momentum with top-down support, and engage continuously with frontline teams.

CASE STUDY 23

# 23 Using Data to Reduce TB Loss to Follow-Up at Kuyasa Clinic

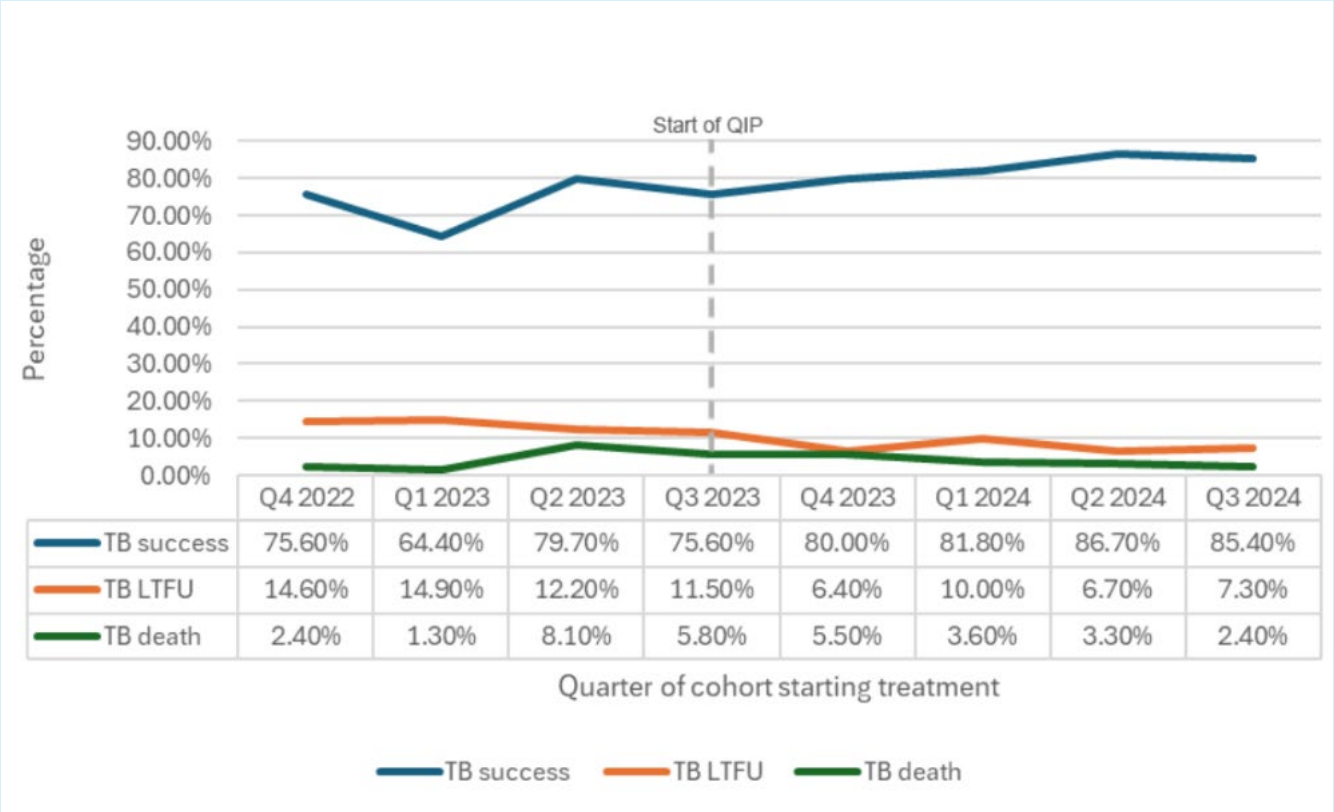
In Area East, Quality Improvement (QI) is supported by a 'functional team', comprising all members of the management team, each with a specific QI role. After a year of HAST QIP work and iterative cycles of learning, the Area East TB functional team identified the need for TB QIPs at the 15 main facilities (based on Plan-Do-Review (PDR) data), as well as the need for a standardised monitoring approach (monitoring tool with pre-populated run charts, and cluster meetings).

In September 2024, the 15 facilities (called the TB QIP cluster) were taken through their individual facility data, received a refresher on the QI methodology tools, and were orientated on the monitoring tool. Afterwards, they worked on developing their individual TB QIPs with their respective staff members and facility managers. The TB QI cluster continues to meet monthly to exchange best practices and lessons learnt, and to receive data support and technical assistance in QI methodology.

Kuyasa Community Day Centre (CDC) in Khayelitsha offers comprehensive primary healthcare, including HIV/TB care, women's and child health, adult services, and substance use support. Plan Do Review results (PDR) (using SPV) showed a poor TB treatment success rate, indicating the need for a focused intervention (see figure below).

**Kuyasa CDC TB Treatment Outcomes**

(Data source: SPV accessed 18092025)




| | Q4 2022 | Q1 2023 | Q2 2023 | Q3 2023 | Q4 2023 | Q1 2024 | Q2 2024 | Q3 2024 |
|---|---|---|---|---|---|---|---|---|
| TB success | 75.60% | 64.40% | 79.70% | 75.60% | 80.00% | 81.80% | 86.70% | 85.40% |
| TB LTFU | 14.60% | 14.90% | 12.20% | 11.50% | 6.40% | 10.00% | 6.70% | 7.30% |
| TB death | 2.40% | 1.30% | 8.10% | 5.80% | 5.50% | 3.60% | 3.30% | 2.40% |

Kuyasa CDC focused its TB QIP on decreasing TB loss to follow-up — from a baseline of 15% in October 2024 to 12% by June 2025. The facility followed the 5 QI methodology steps. Their first three prioritised change ideas were strengthening the recall system, enhancing the use of TTAL monitoring on SPV, and improving the implementation of the Appointment system (PAS).

The QI facility team meets weekly to review their data and intervention, using the run charts tool (below) to monitor outcomes and processes related to the change ideas.


**Monthly TTAL Activity Trend**

(Data source: SPV accessed 18092025)

| | | | | |
|---|---|---|---|---|
| | Week 5 | 7 | 1 | 7 |
| | Jan total | 29 | 15 | 29 |
| Feb | Week 1 | 11 | 6 | 11 |
| | Week 2 | 14 | 10 | 14 |
| | Week 3 | 5 | 4 | 5 |
| | Week 4 | 9 | 7 | 9 |
| | Week 5 | 6 | 2 | 6 |
| | Feb total | 34 | 23 | 34 |
| Mar | Week 1 | 11 | 5 | 7 |
| | Week 2 | 14 | 7 | 14 |
| | Week 3 | 9 | 6 | 9 |
| | Week 4 | 8 | 4 | 8 |
| | Week 5 | 1 | 1 | 1 |
| | Mar total | 40 | 25 | 39 |
| April | Week 1 | 7 | 3 | 7 |
| | Week 2 | 10 | 4 | 10 |
| | Week 3 | 6 | 5 | 6 |
| | Week 4 | 8 | 2 | 8 |
| | Week 5 | 4 | 0 | 4 |
| | Apr total | 35 | 14 | 35 |
| May | Week 1 | 3 | 2 | 2 |
| | Week 2 | 1 | 0 | 1 |

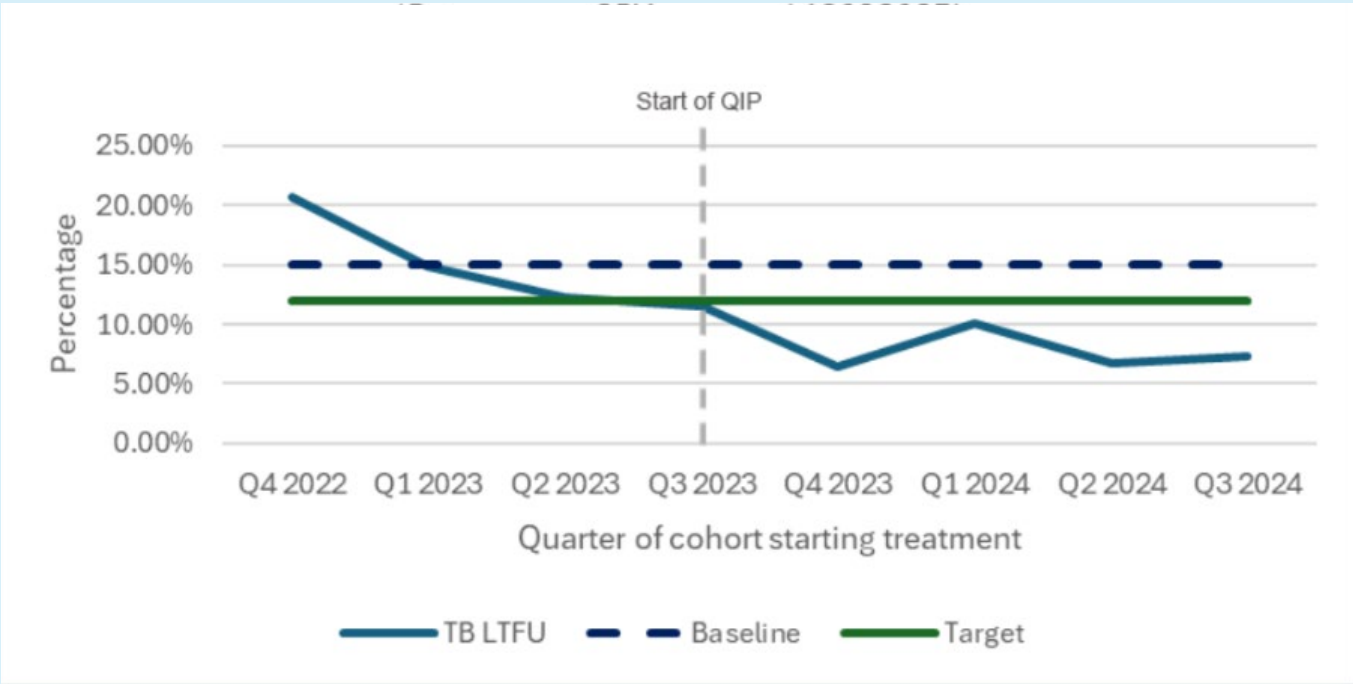
Graphical Illustration of the Monthly TTAL Action Trend

The tool empowers the TB facility QI team to engage with, understand, and use data more practically to monitor their interventions. Frequent meetings enable team members to identify gaps, discuss strategies, and implement timely changes.

The graph below shows that with the start of the QIP (and the implementation of TTAL monitoring on the run charts), there was an improvement in TB outcomes (decrease in loss to follow-up).

**Kuyasa CDC TB LTFU**

(Data source: SPV accessed 18092025)




## Lessons and Future Implications

The QI functional team at Area East identified challenges by understanding and monitoring data. They worked as a multidisciplinary team to develop an innovative solution: prepopulated data graphs ("run charts") that would allow the facility team to engage with and use data effectively. At Kuyasa CDC, effective data use and strong teamwork drove the success of the TB QIP.

Programmatic challenges, such as delayed recalls by the community-based NPOs and the U.S. Agency for International Development (USAID) stop order, affected progress. General staffing logistic challenges highlighted the importance of training several staff on TTAL and SPV to provide continuity in the program.

Following their successful use in Kuyasa, the run charts were scaled up to the Area level for other QIP work, such as the HIV QIP cluster, and presented to other Areas via the QI huddle. They were also presented through the Data Scaling Grant to other partners (MHS, RHS) for review and potential adoption.

CASE STUDY 24

# 24 Inzame Zabantu CDC: Best Practice Case Study Summary

## Optimising TB Services Through a Whole-System Approach

### Background

Inzame Zabantu Community Day Centre (CDC), located in Browns Farm within the Mitchells Plain health subdistrict, serves a community experiencing high levels of poverty, unemployment, crime, and food insecurity. Tuberculosis (TB) and HIV place a significant burden on health services, with 6,983 clients receiving antiretroviral therapy (ART) and 460 clients receiving TB treatment in 2025. Despite being a small facility with limited staff, Inzame Zabantu CDC has become a leading example of how targeted interventions can strengthen TB services and improve outcomes.

### The Challenge

The facility faces a high TB burden, linked to overcrowding, informal settlements, poor living conditions, and food insecurity. In 2023, the TB test positivity rate was 16.9%, while retention in care was 89%. Staff recognised the need to improve both TB case detection and retention in care, with a goal of reducing positivity rates to 10% or below through expanded testing and strengthened patient support systems.

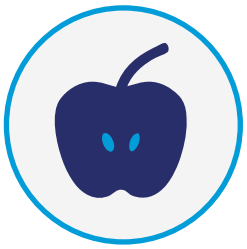
### Key Interventions

**1 Strengthening Facility-Based TB Testing**

The facility implemented the TUTT policy and integrated TB screening throughout all service points. All clients entering the facility are screened and referred for testing before clinician consultation. TB laboratory request forms are made readily available at all service points to encourage and aid testing. Routine HIV testing for clients without documented HIV status was implemented, followed by TB testing for newly diagnosed HIV-positive individuals. Routine TB testing of other priority groups was also implemented, e.g. pregnant people living with HIV, and annual testing of ART club clients. Health promoters provide patient education sessions, and posters were put up to increase awareness and encourage testing.

**2 Improving Retention in Care**

The facility established robust patient tracking systems to reduce treatment interruptions and improve continuity of care. An appointment booking system and pre-prepared folders ensure efficient patient flow. Missed appointments are identified immediately, and Community Health Workers (CHWs) assist in contacting these clients. They conduct home visits to bring them back to care if they can not be contacted telephonically. WhatsApp communication groups are used to facilitate tracing of clients between facility staff and the NPO CHW teams. Out-of-area clients are referred to the substructure office to allocate to the appropriate community teams for tracing.



## 3

### Addressing Food Insecurity

Staff identified food insecurity as an important driver of treatment interruption. To support adherence, the facility began providing peanut butter sandwiches to TB patients attending appointments. This simple intervention encouraged clinic attendance and helped patients continue treatment despite challenging socio-economic circumstances.

## 4

### Community-Based Case Finding

Strong collaboration with community health worker teams expanded TB services beyond the facility. CHWs screen households and trace contacts of newly diagnosed TB clients. Intensive community screening is done in identified TB hotspots. The facility and NPO teams collaborate to provide testing at various community venues, including three Wellness Hubs, schools, shopping centres, and transport hubs.

## 5

### Data-Driven Management

Performance data are reviewed weekly at facility level and monthly at subdistrict meetings. Routine monitoring enables rapid identification of gaps, informs quality improvement initiatives, and strengthens accountability. Data sharing with non-profit organisations and community partners also promotes teamwork and coordinated action.

## Results and Impact

The interventions produced significant improvements in TB programme performance:

A **3.9-fold increase** in TB testing between 2023 and 2025.

Reduction in TB positivity from **16.9% to 6.7%**, surpassing the facility's target.

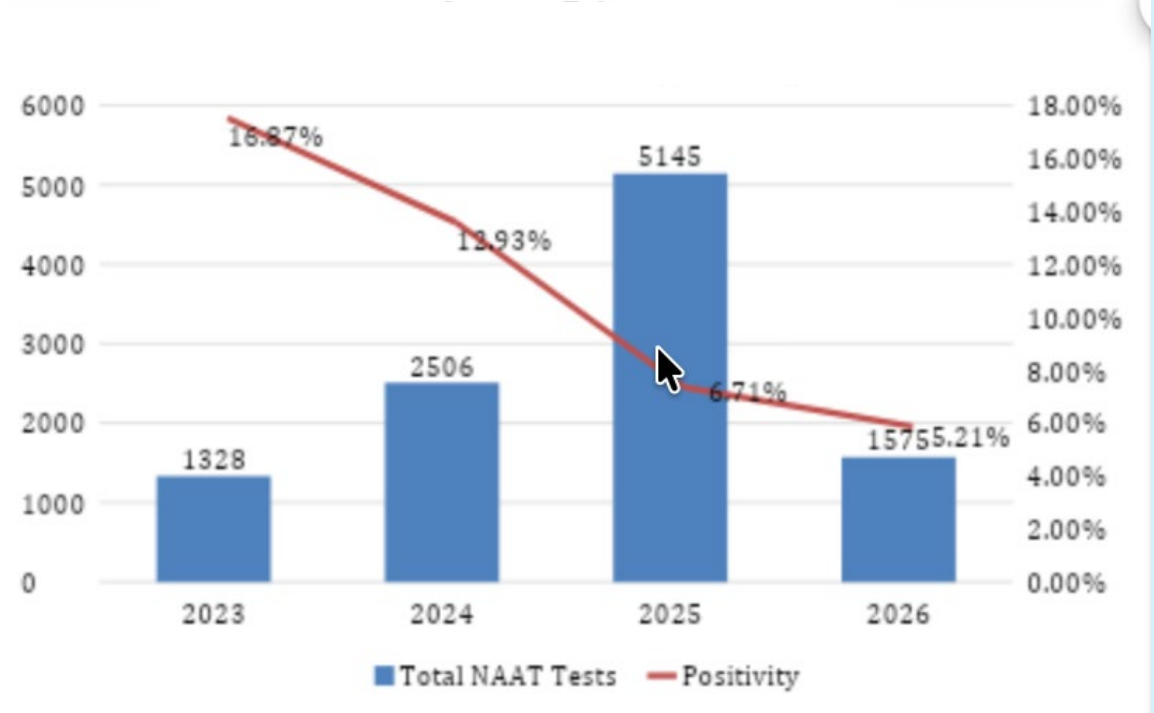
Increased TB case finding from 332 in 2023 to 465 in 2025, despite lower positivity rates.

Improved retention in care from **89% to 93%**.

Increased TB testing among priority groups, particularly people living with HIV.

**Inzame Zabantu**

Total NAAT Tests and Positivity




*Note: 2026 data includes only January and February.

## Lessons Learnt and Success Factors

Several factors contributed to the programme's success:

### Strong Systems

- A proactive testing strategy with TB screening across all service areas, targeting priority groups.
- Effective appointment and recall systems.
- High-quality data management and regular clinical audits.
- Implementation of quality improvement projects based on gaps identified.
- Weekly team meetings to review performance and coordinate action.

### Strong Partnerships

- Close collaboration with CHWs, non-profit organisations, schools, and community structures.
- Regular multidisciplinary meetings to coordinate activites and strengthen community-based interventions.

### Strong Leadership & Teamwork

- Open, supportive leadership that encouraged staff participation and innovation.
- A highly motivated team culture focused on patient care and problem-solving.
- Recognition of staff achievements and shared ownership of results.

### Skilled Workforce

- Continuous staff development and advance TB Training.
- Well trained staff ensured uninterrupted service delivery despite workforce constraints.

## Conclusion

The Inzame Zabantu CDC experience demonstrates how a comprehensive, system-wide approach can significantly improve TB outcomes in a resource-constrained, high-burden setting. By combining targeted TB testing, strong patient retention systems, community partnerships, data-driven management, and interventions addressing social determinants such as food insecurity, the facility achieved improvements in both TB case detection and retention in care. This model provides a valuable example of best practice for strengthening TB services.

CASE STUDY 25

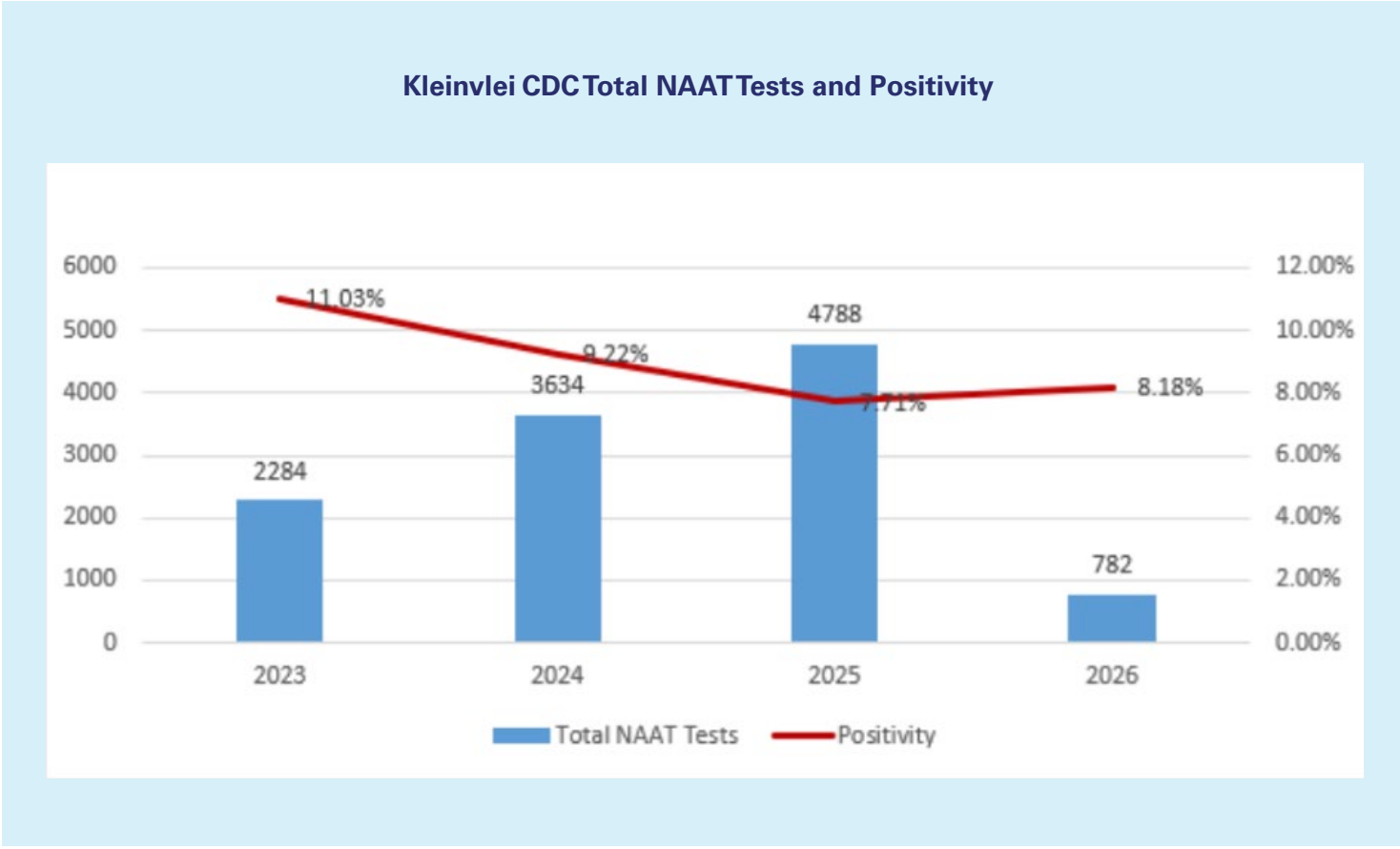
# 25 Kleinvlei CDC: Effective TUTT Policy Uptake in Practice

## Context

Across the Cape Metro, uptake of the Targeted Universal TB Testing (TUTT) policy has been variable. While some facilities achieved high levels of uptake early in implementation, others demonstrated more gradual rates of improvement. Notwithstanding this variability, overall Metro-wide uptake and facility performance have been strong. However, a subset of facilities continues to show suboptimal uptake trajectories; despite upward trends, these facilities would benefit from targeted support to further strengthen TUTT implementation.

Against this backdrop, Kleinvlei CDC presents a compelling example of effective TUTT policy uptake where it has been institutionalised into routine workflows rather than implemented as a one-off or parallel activity. The facility has consistently and successfully embedded TUTT into routine clinical practice, demonstrating sustained implementation and performance over time.

## Evidence




Since the beginning of 2023, TB testing at Kleinvlei CDC has increased substantially. Monthly testing rose from 2284 clients 2023 to 4788 in 2025. Over the same period, NAAT positivity declined from 11% in January 2023 to 7%, meeting the programme target of 8% or below.

## Enabling Factors

A combination of inter-related factors underpin Kleinvlei CDC's strong performance. These can be grouped across system levels.

# 1

**Substructure / Sub-district**

Sub-district management support provided structure, consistency, and accountability for TUTT implementation.

Kleinvlei benefited from Substructure team engagements, including:

- TB support forums/platforms where TUTT was consistently communicated as a priority.
- Regular facility-level performance monitoring and reporting.
- Supportive visits focused on patient flow and related processes, with practical on-site advice and open discussion of both successes and implementation challenges.

This support enabled early identification of gaps and maintained a sustained focus on improving TUTT performance.

# 2

**Facility Level**

Several internal facility factors were critical to successful implementation:

- A clear facility Standard Operating Procedure (SOP) outlining roles and responsibilities for TUTT delivery.
- Consistent staff training and ongoing clinical support, including an open-door management approach and routine inclusion of TUTT progress in general staff meetings.
- A welcoming, patient-centred approach to TB screening and testing, with clients treated respectfully and provided with clear information on the importance of TB testing for their own health and for community protection.
- Routine use of data, including TUTT indicators, to inform clinical decision-making and continuous quality improvement.
- Strong clinical and operational leadership that drove ownership of the programme, set clear expectations for good clinical practice, modelled appropriate TUTT implementation, encouraged staff to raise concerns, and fostered a culture of learning and accountability.

Together, these elements supported reliable, repeatable implementation of TUTT within routine service delivery.

3

**Partnerships and Community Engagement**

Effective collaboration with external partners strengthened both clinical service delivery and the management of social determinants that influence TB care.

Partnerships with NGOs and other stakeholders (including NPOs and Aurum) contributed to:

- Additional training and mentorship support for facility staff.
- Post-diagnosis support for clients.
- Addressing social and structural barriers to care, including linkage and adherence challenges.

These partnerships enhanced referral pathways, improved adherence support, and strengthened responsiveness to patient needs beyond the clinic setting.

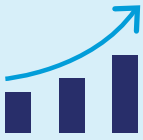
## System Considerations

Kleinvlei CDC demonstrates that successful TUTT implementation is not solely dependent on policy availability, but on deliberate system design, strong leadership, and continuous data-driven improvement. The experience at Kleinvlei offers a practical, locally relevant model for facilities seeking to strengthen TUTT uptake across the Cape Metro.

It proves that consistent, high-quality TUTT implementation is achievable within a resource-constrained primary healthcare setting when appropriate organisational conditions are in place. Finally, the case illustrates that high TUTT uptake is achievable when leadership, systems, and partnerships are aligned, providing valuable lessons for broader scale-up across the Metro.

Deliberate Systems design & investment to create an enabling environment

Strong leadership at all levels



Data-driven decision-making and continuous quality improvement

# Change Package for Improving Linkage to Primary Health Care for Hospital-Diagnosed TB Clients using the TB Treatment Action List (TTAL)

This change package presents a consolidated set of tested activities to strengthen the linkage between hospital-based TB diagnosis and initiation of care at primary health care level. Developed through structured quality improvement processes across Metro Health Services, the City of Cape Town, and Drakenstein Rural Health Services, it consolidates lessons from multiple implementation teams working to address PHC follow-up for TB diagnosed clients at hospital level. The package outlines the key drivers, tested change ideas, and practical tools that services can use as a roadmap to adapt or adopt to their own context, offering a shared foundation for improving continuity of care and reducing loss to follow-up across the treatment cascade.

## The Intervention

Experience from the three Western Cape partner sites shows that a structured approach to hospital-to-PHC TB linkage, centred on the TB Treatment Action List (TTAL), can increase the proportion of hospital-diagnosed TB clients accessing PHC TB services.

The intervention comprised five key steps to incorporate TTAL into routine TB management (Figure 1).

**Figure 1. Key process steps for effective use of TTAL by facilities**


1 TTAL and related TB reports were generated centrally (at the sub-district or sub-structure level) or locally (at the PHC facility level) at least monthly, with greater frequency for high-volume facilities.

2 Centrally generated TTAL were then distributed to PHCs for actioning.

3 Unlinked patients were identified and their contact details verified.

4 Clear action plans were developed to recall patients (including telephone recall and home visits), with a named person assigned to follow up on each unlinked patient and document the next action.

5 Real-time monthly linkage data based on the TTAL were collated locally and used to continuously improve linkage. These TTAL-based indicators were also integrated into routine monthly data and governance meetings.

## Roles and Responsibilities

Clear roles and responsibilities ensured that each step of the multidisciplinary process was well coordinated and resulted in action:

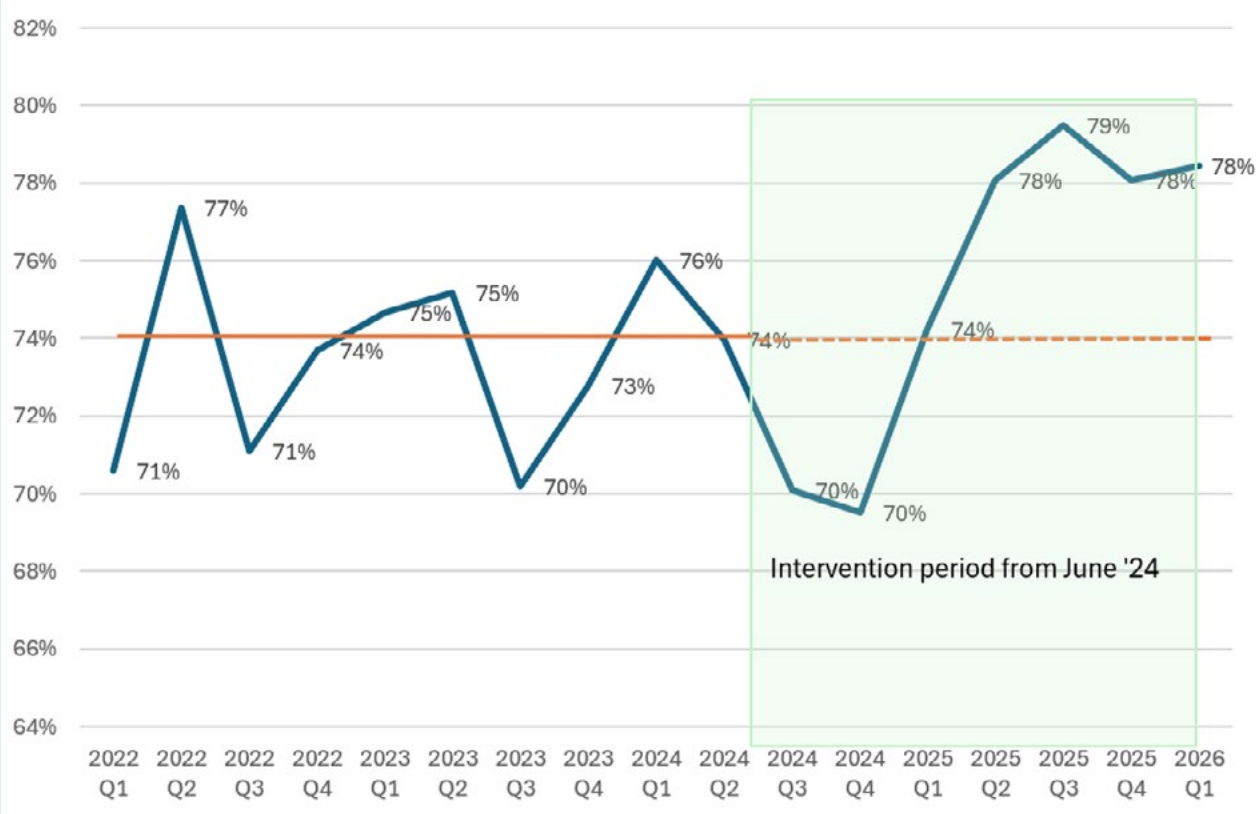
| Role | Action |
|---|---|
| IPC nurse /TB focal nurse/clerk | Generate, extract, and distribute TTAL; verify patient information across folders, registers, and data sources |
| Data capturer | Verify patient data, support data quality, update records following tracing or linkage |
| Community and facility tracing teams | Telephone recall and home visits for confirmed unlinked clients |
| Operations/facility manager | Monitor performance, support QI activities |
| Sub-district HAST and IM teams | Embed TTAL indicators in routine monthly meetings; provide ongoing mentoring, support, and training |

## Outcomes

The outcome measure of the overall intervention was the percentage of hospital-diagnosed people with TB who accessed TB services at a PHC facility within 3 months – a routine, quarterly indicator on the Scaling Use Data project dashboard on SPV.

The combined median linkage rate across the three sites rose from a baseline of 74% to 78% following the intervention. The peak in Q3 2025 reached the combined target of 79% (Figure 2). The intervention is ongoing; however, these results provide early evidence of success.

**Figure 2: Hospital Linkage to Care Across the Three Partner Sites**




Data limitations: Quarterly reporting requires a longer evaluation period to confirm improvement than monthly data. In addition, only four quarters of intervention-period data are currently available, as the indicator reflects the linkage outcome of a cohort diagnosed three quarters earlier, meaning that the most recent available data point does not reflect current performance. To address this, facilities generated their own monthly TTAL-linked process and outcome data for real-time decision-making.

## Success Factors, System Improvements & Challenges

The intervention's success was driven by patient-level data via the SPV and TTAL platforms, including facility-based collation and use of TTAL-linked data, quality improvement (QI) teams and cross-sector multidisciplinary collaboration. Integrating the model directly into existing provincial tools and governance structures enhanced communication, data quality, and facility-level ownership of TB outcomes.

Implementation required facilities to adapt to local challenges, including inconsistent community health worker (CHW) availability, weak uptake of community referral tools, and the time needed for tracing systems to mature. Facilities deployed refresher training, provided ongoing support, and varied report distribution frequencies—such as weekly reviews or centralised monthly reports—to fit their specific operating environments.

The combined experience of the three Western Cape sites demonstrates that a structured, action-list-driven approach to hospital-to-PHC TB linkage using TTAL is feasible and potentially scalable across different settings.

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