



Delivering High-Quality DSD Services at Scale

A CQUIN Learning Network Workshop

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Improving TB Case Finding Using the “SPRINT” Model

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29th April 2022



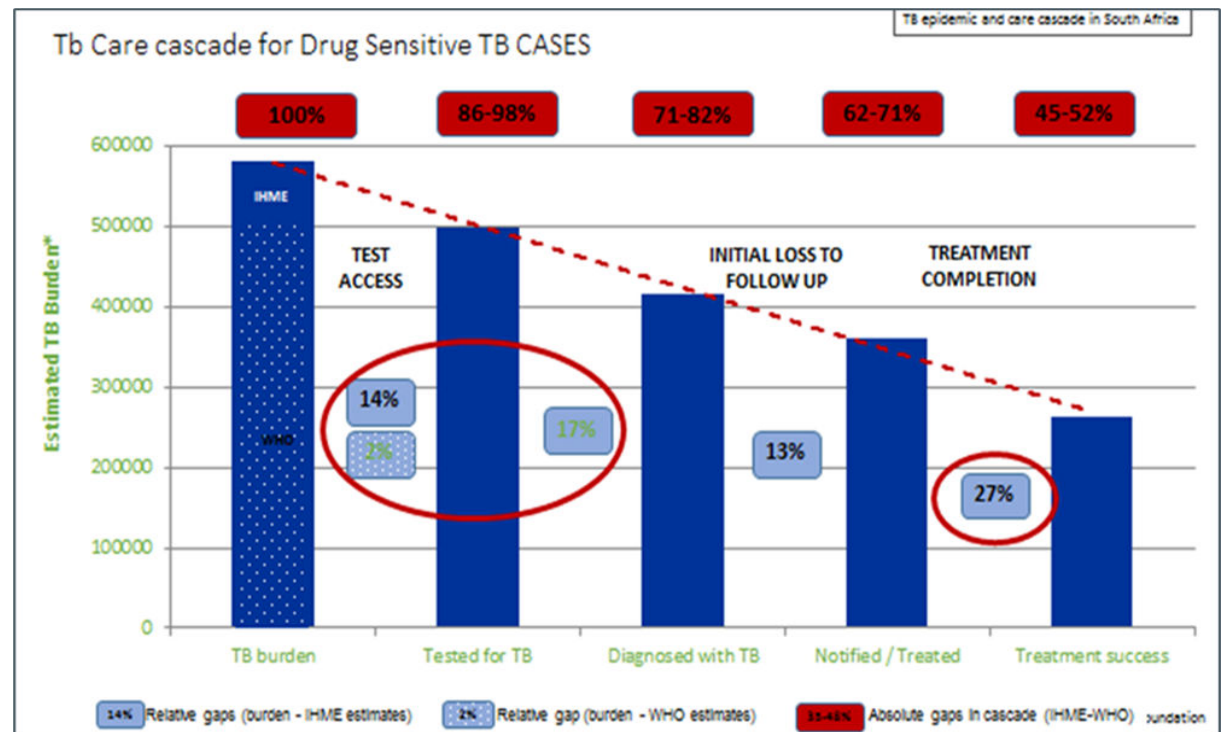
HIV Learning Network
The CQUIN Project for Differentiated Service Delivery





The Problem

- In South Africa, tuberculosis (TB) is the number one cause of death, accounting for 7% of all deaths. Gaps in diagnosis, treatment, and care continuity for patients with tuberculosis (TB) contribute to high rates of TB-related mortality.



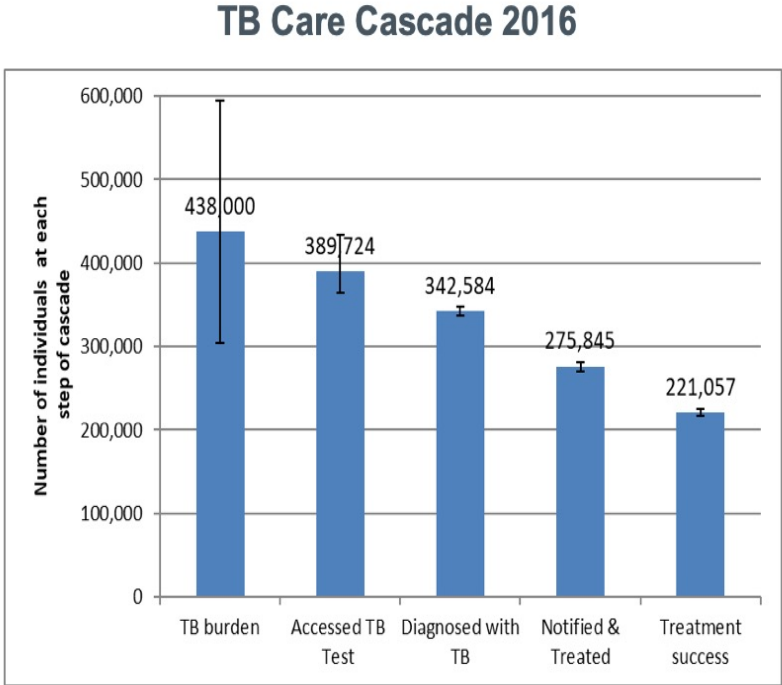


Global Aim: South Africa TB QI Initiative (2017-2020)

- Contribute towards 2022 National TB Plan’s goals
- 50% reduction in TB deaths
- 30% reduction in TB incidence

- Driven by the National Department of Health (DOH)
- Using QI methods to close gaps in the entire TB cascade in 10 districts (over 4 provinces) over a 48-month project period.

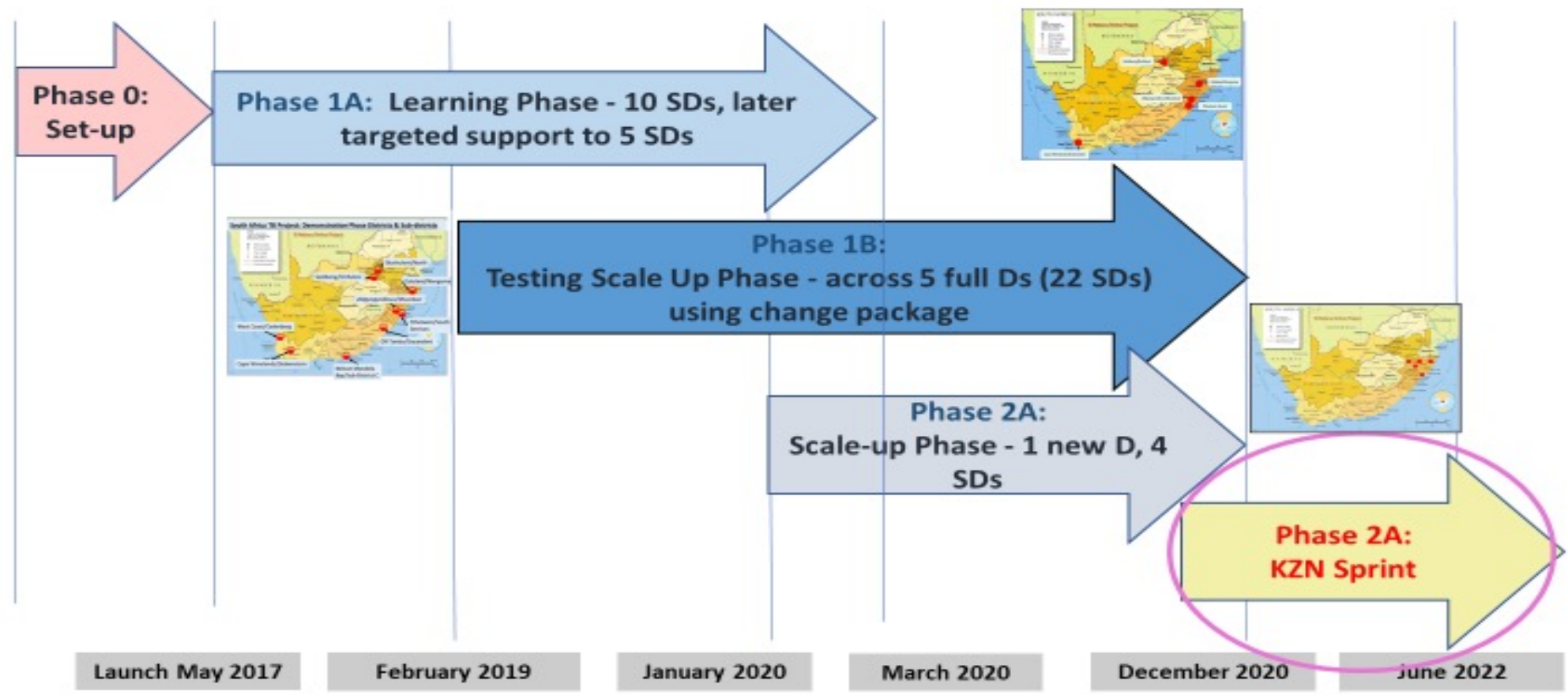
- (Linked to National Strategic Plan & National TB Plan)



Ref: Pren Naidoo



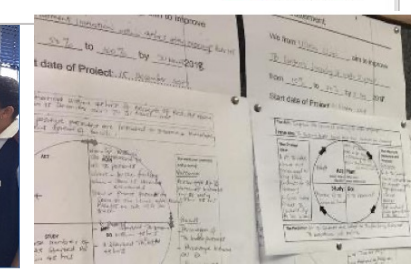
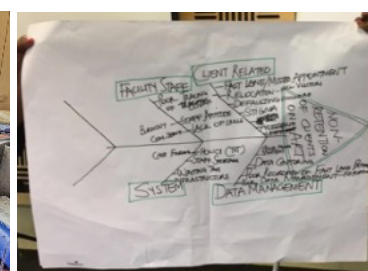
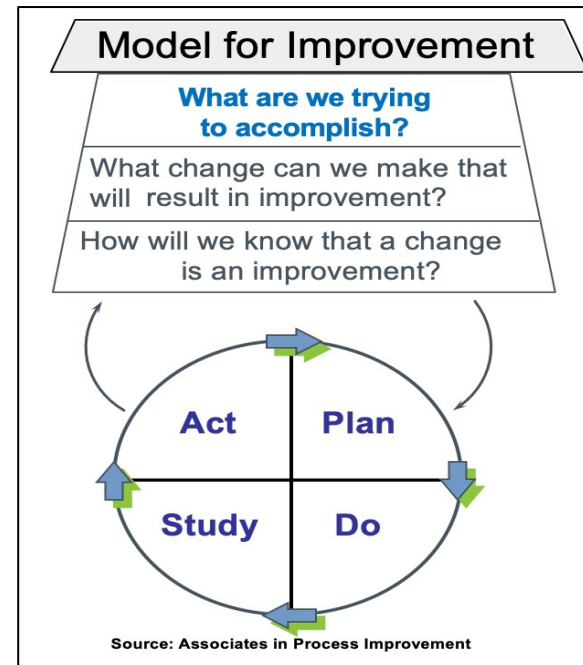
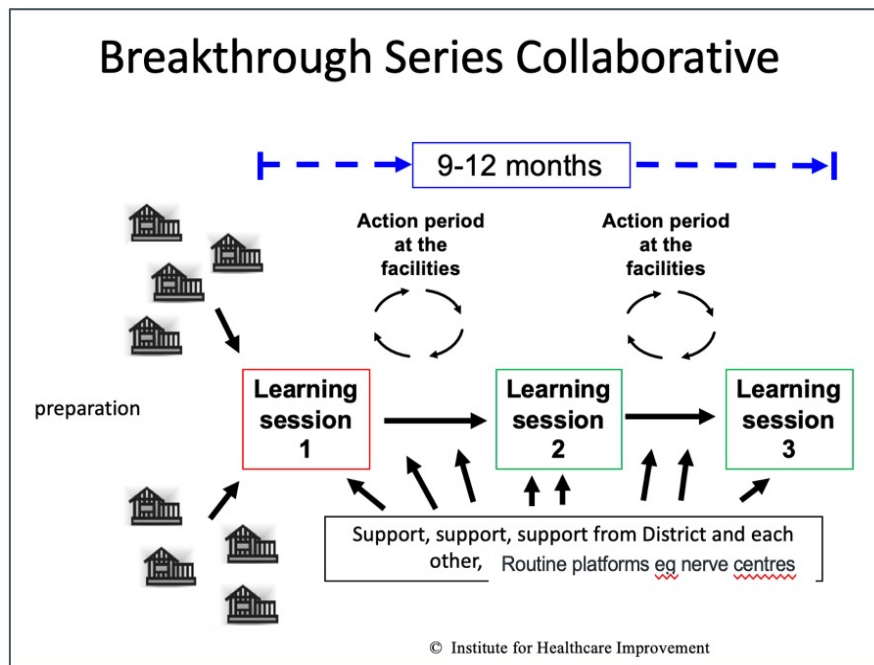
South Africa TB QI Timelines





National TB QI – Developed a Change Package

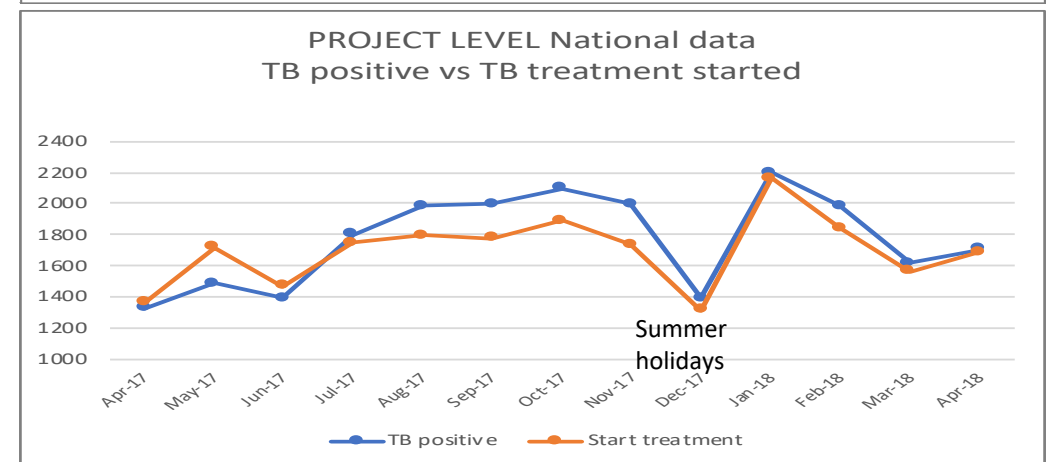
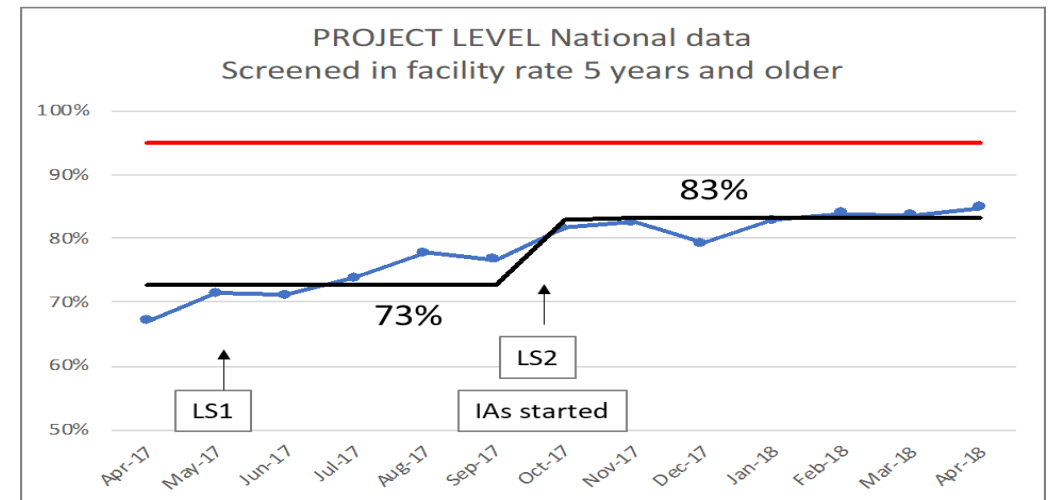
Classical Breakthrough Series model





What We Learned: Initial Phase

- Substantial improvement in case finding: **TB screening rate, number of TB tests done and in TB positive case found (DHIS)**
- High rates of TB treatment starts (--) for new TB positive patients (--)
- But.....while laboratory data subsequently confirmed a large increase in tests done,
- ***there was not a concomitant increase in lab-confirmed TB positive sputum results***
- ***Awaiting a detailed analysis for the lab***





What We Learned: Initial Phase Conclusions

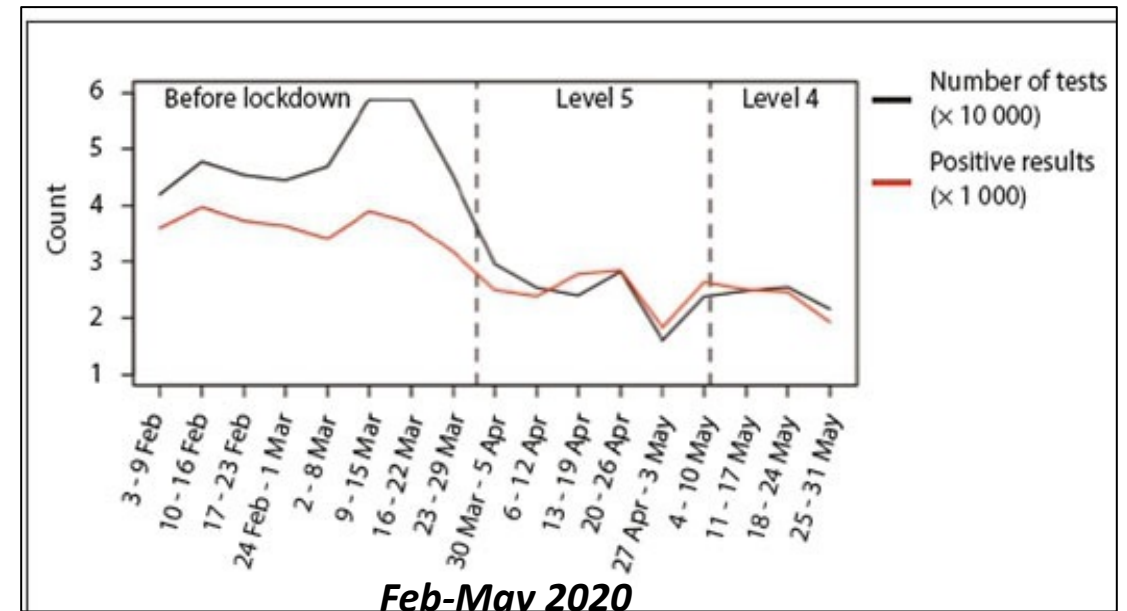
- Classical QI worked very well in the innovation phase to
 - uncover process gaps and develop ideas for change
- Classical method challenging for spreading and sustaining
- Access to testing *only* through symptom screening (national TB guideline) would miss asymptomatic TB patients
- Targeted Universal Test and Treat (TUTT) study & prevalence survey – show it's important to addresses the issue of the asymptomatic group



New Phase: The Sprint Method (August 2020)

Context

- Invited by KZN province to include more districts in TBQI
- Covid-19 pandemic:
 - Major decrease in TB case-finding
 - Limited mobility and face-to-face meeting (QI coach access, network meetings) for SA TBQI initiative.
- Towards our project end (later extended by 18 months)



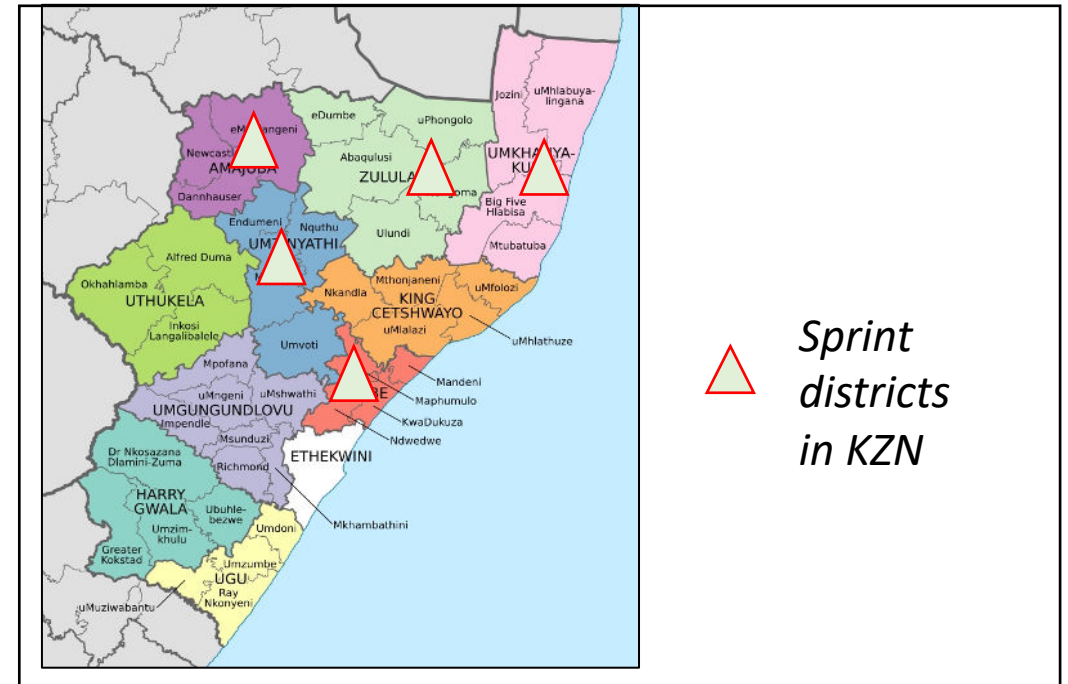
Number of TB tests (x 10 000) and number TB positive (x 1000) at the start of the Covid-19 lockdown in South Africa (Feb-May 2020)



‘SPRINT’ Districts in KwaZulu-Natal (KZN) Province

Response

- A new QI model developed
- “SPRINT” – conveyed urgency
- Tested in five districts in KZN Province (comprising four QI-naive districts and one SATBQI district), including all 23 sub-districts.





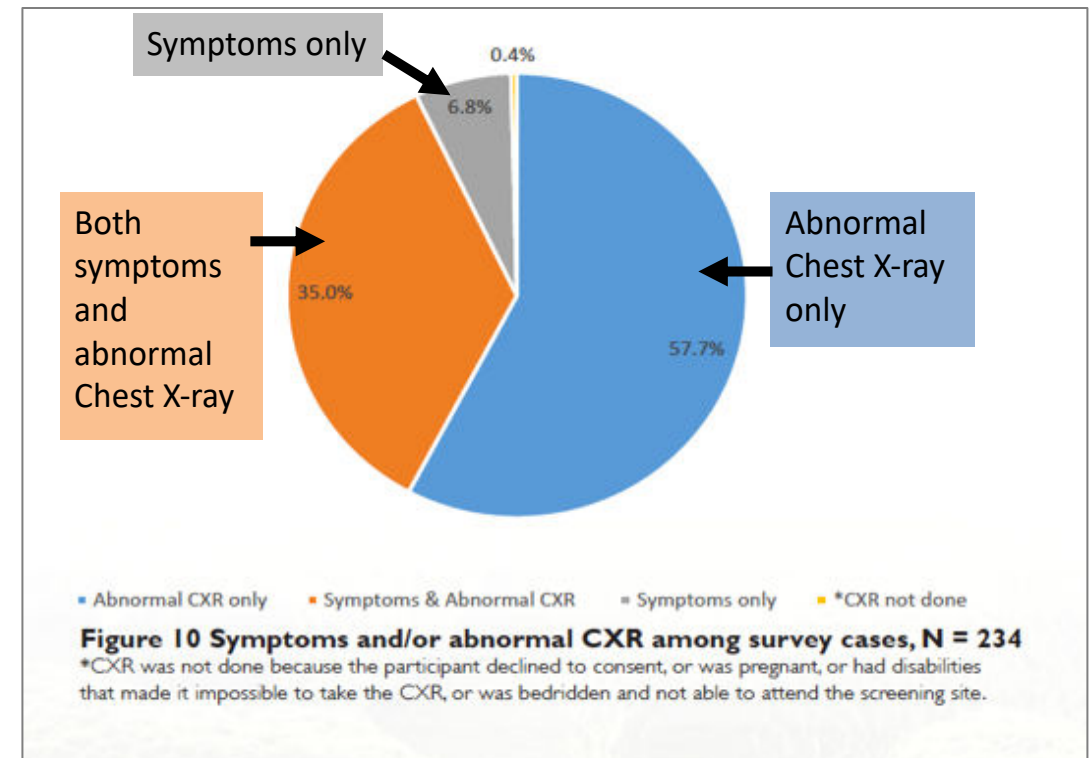
Content Theory: Two Key Change Concepts

1. Focus case-finding on HIV-positive patients attending health facilities irrespective of symptom status.

- High rates of asymptomatic TB patients (58%) (Prevalence Survey).
- HIV patients at highest risk (60%) for TB

Three HIV-positive groups targeted:

1. All HIV-positive Antenatal clients at their first antenatal visit (**HIV ANC 1st visit group**)
2. All clients newly diagnosed with HIV (**HIV New group**)
3. All clients on antiretroviral therapy (ART) at their **annual viral load visit (VL Visit group)**



Adapted from the First National TB Prevalence Survey, South Africa 2018. Short Report



Content Theory: Two Key Change Concepts

2. Double Sputum collection for sputum culture in HIV-positive patients

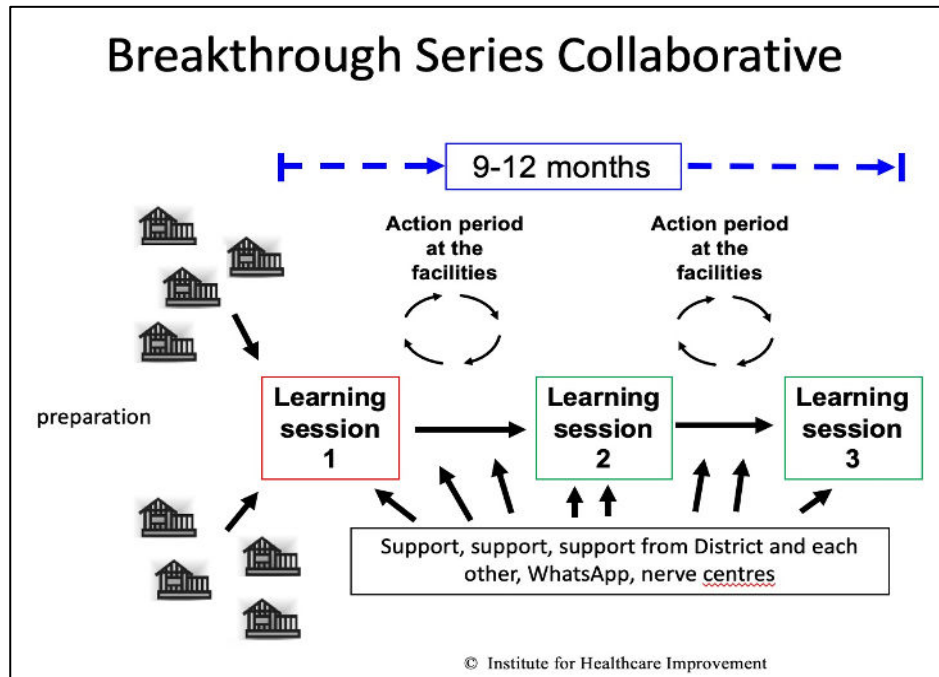
- two sputum specimens at the first visit,
- reserve one specimen in the refrigerator at the facility for
 - culture if GXP results returned negative
 - AFB if GXP positive





Execution Theory - Breakthrough Series

Main Adaptations

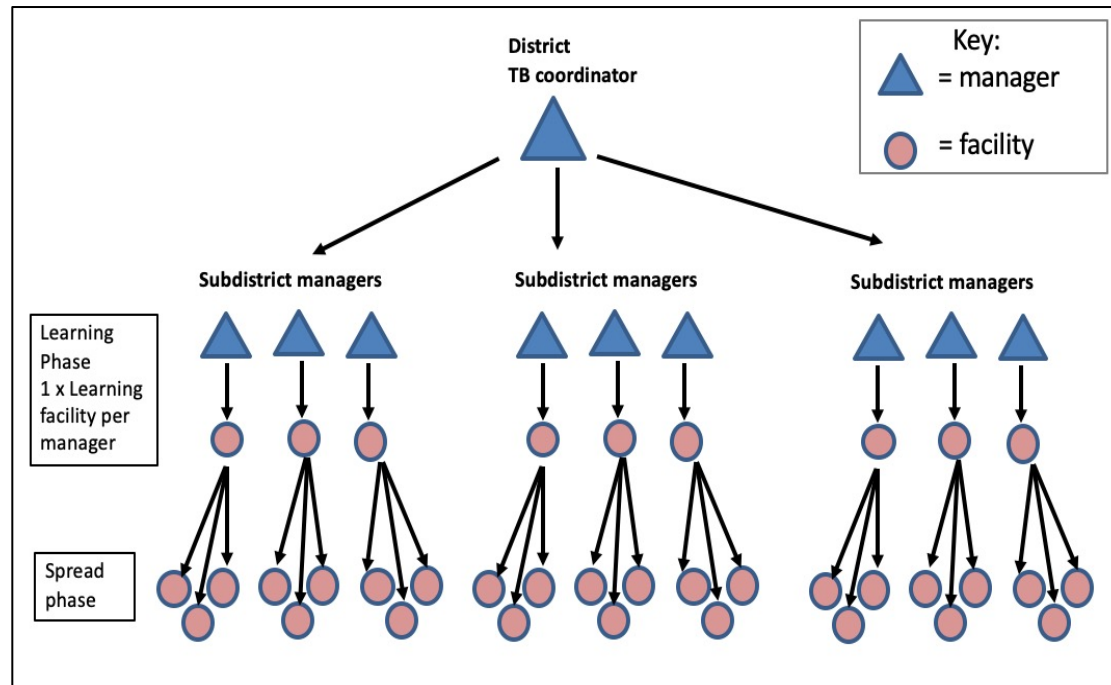


- ***Increased frequency of Learning Sessions***
- QI theory implicit (rather than explicit) in the design of 8 worksheets for implementation at the facilities
- ***Mixture of face-to-face and virtual support***
- ***WhatsApp platform*** for group of Sprint facilities in each district
- ***Analysis of worksheet data posted on WhatsApp groups***
- In addition, we had 1 x Improvement Advisor per 2 districts



Execution Theory – Key Concept: Work Through Existing Structures

1. Training and coaching of DoH managers as change agents



IHI Improvement Advisors (IAs) capacitate managers at a single 'learning' facility

Managers spread to other facilities when capacitated



Execution Theory – Change Driven Through the Designed Worksheets

2. ‘Just enough QI’

- QI theory is implicit rather than explicit
- QI is integrated into the design of a standard set of 8 worksheets for implementation at the facilities
- Worksheets are completed monthly by the facility QI teams.
- Gaps are closed immediately (e.g., outstanding sputum results), or make plans to close the gaps.





Worksheets – 4 x Foundation Phase

Aim Statement

TB Case Identification Checklist

Mini data validation tool

Aim Statement

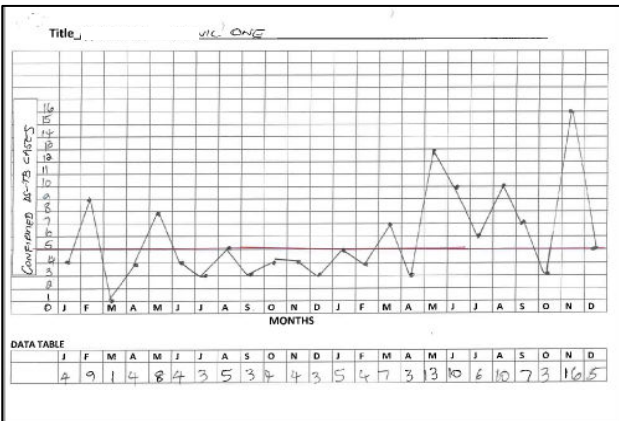
In Clinic we aim to increase

DS-TB CONFIRMED CASES ABOVE 5 YEARS

from 6 to 7 by 31/01 2022...

Start date of Project: 01-01-2022.....

Line graph



THE MONTHLY TB ID REGISTER REVIEW CHECKLIST

The monthly TB Register Review has many benefits:

- TBCI team building
- Learning about the TB Programme including patient, programme and data management
- An opportunity for the manager to show support by completing the register together
- Validation of data and update of the line graph to track progress
- Insight into gaps and motivation of the whole team to improve care

Preparation:

- Select one facility
- Draw up the paper-based line graph for the number TB positive/month for the facility (except for the data point for the previous month that they will complete at the facility during the review) (we will add graphs for number presumptive and number started treatment later in the project)
- Alert the facility that you will need:
 - All the TB ID Registers
 - A print out of the TIER.Net data (TB Identification Report), and the monthly summary sheet for the last completed month

At the Facility: MADADEN ONE

- Sit with the team at a table where there is space to open and review the TB ID Registers.
- Collect and review ALL the TB ID Registers in the facility for the last completed month
- Check the management of the register
 - The months are separated
 - A red pen is used for positive results
 - The register is used for suspects only and NOT follow up sputa
- Review the entries for the previous complete month and check the following:
 - HIV status is recorded
 - LPA/Culture has been sent if HIV-positive and GXP negative (# done.....) 1/2/5
 - The register is complete (i.e. there are no outstanding results.) (If outstanding results, pause to complete results) 1/5
 - Sputum quality is good i.e. no lab rejections (If lab rejections, how many.....)
 - Treatment starting dates are recorded (complete if necessary and make a list of patients not yet started for recall)
- Measurement (Use the mini data validation sheet)
 - Validate numbers presumptive, positive and started treatments against TIER.net and DHIS data (and correct TIER.net/DHIS as needed). Tick if done at meeting
 - Add the latest data points to the paper-based graph - and display on the wall if possible. Tick if done at meeting
- Discuss what was learned
 - Does anything need to be done to improve the management of the TB ID Register, and quality/completeness of the monthly data?
 - Make a plan to close any gaps.

TB Data Validation

Facility: Month: January 2022

Use the review period to update results and treatment start dates in the TB ID Register and to cross check that all data is captured in TIER.Net and is correctly reported on the monthly summary sheet/DHIS

GENERAL/COMMENTS: 4 TB cases New, 3 initiated, 1 initial loss to follow

Data element	Case ID Registers	TIER.Net report	Monthly summary sheet/DHIS	Comment
TB investigation done Syrs and older	227	179	227	
DS-TB confirmed Syrs and older	03	03	03	
DS-TB Treatment started Syrs and older	03	03	03	

Data updated in Tier.net and DHIS confirmed by (sign): Date: 27/01/2022

TB Data Validation

Facility: Month:

Use the review period to update results and treatment start dates in the TB ID Register and to cross check that all data is captured in TIER.Net and is correctly reported on the monthly summary sheet /DHIS

GENERAL/COMMENTS:

Data element	Case ID Registers	TIER.Net report	Monthly summary sheet/DHIS	Comment
TB investigation done Syrs and older				
DS-TB confirmed Syrs and older				
DS-TB Treatment started Syrs and older				

Data updated in Tier.net and DHIS confirmed by (sign): Date:



Worksheets: 4 x Implementation Phase

Implementation worksheet design

Description of the change idea for specific HIV group



QI team members responsible for



- Implementation
- Measurement

Data table with

- Time period (month)
- Denominator (# need testing)
- Numerator (# tested)
- Number TB confirmed



Implementation worksheet

CHANGE IDEA # 2 Routine TB investigation for all HIV new patients

The Change:
Investigate all HIV new patients for TB (GXP, X-ray, U-Lam)

Do the TB investigation the same time as HIV bloods are taken.

In the TB ID Register:

- Record names and HIV status
- Write *symptomatic* or *asymptomatic* in the appropriate column
- Record investigation done as usual (GXP, X-ray, U-Lam, etc)
- Consider doing an X-ray if sputum cannot be produced even if asymptomatic
- Do LPA for TB *symptomatic* HIV positive clients if GXP is negative

NOTE: For newly diagnosed HIV positive clients who do not have TB symptoms continue ART and IPT initiation as per the standard management protocol for TB asymptomatic clients.

Who is responsible (write the names)

- For conducting the change:
- For monitoring the change:

Monitoring the change

Make a list of the number of newly diagnosed HIV positive patients in a specified time period (HTS Register). Tick off how many of these had a sputum test or other investigation done (TB ID Register).
Was everyone tested?
Were all the HIV Newly diagnosed client recorded 'symptomatic' or 'asymptomatic' in the TB ID Register.
Keep your list in the TBQI file. Post the worksheet with the data table.

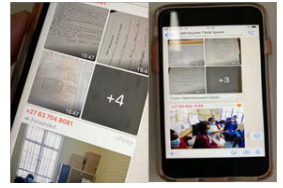
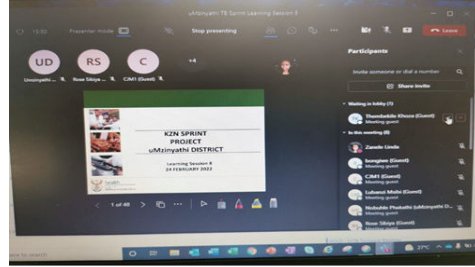
CLINIC NAME: <i>MARABANTSI / LEMU</i>		Routine TB testing of all HIV newly diagnosed			
Date started:		HTS Register	TB ID Register	Calculate	TB ID Register
Month	Time period (e.g. 1-17 th of the month)	Number HIV new	Number Investigated (GXP, X-ray, U-LAM, etc.)	Number not investigated	Number TB confirmed
<i>January 2012</i>	<i>1-31</i>	<i>25</i>	<i>20</i>	<i>05</i>	<i>02</i>



Execution Theory - Adapted Breakthrough Series

3. Hybrid face-to-face *and* virtual platforms to support Learning

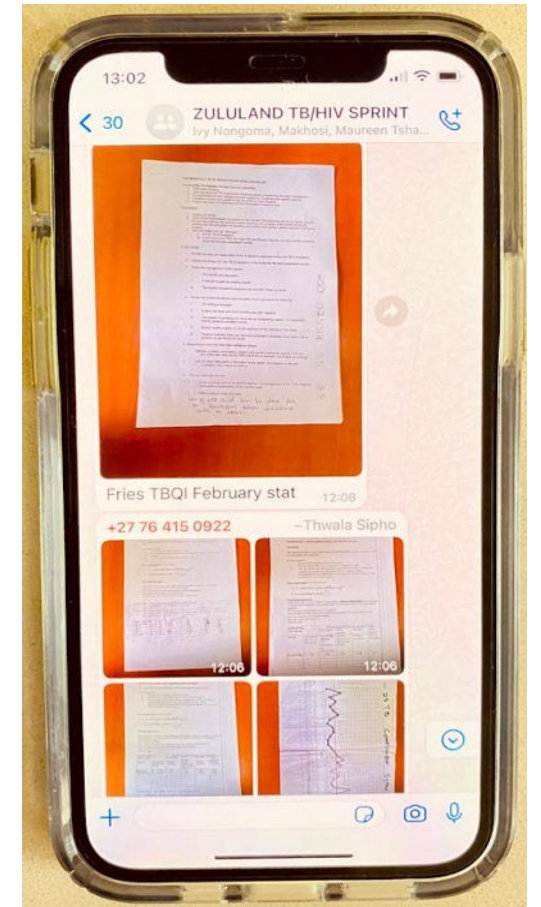
- In-person learning sessions and site visits. Use of Microsoft Teams, WhatsApp video, WhatsApp groups and emails.





Execution Theory – The WhatsApp Groups

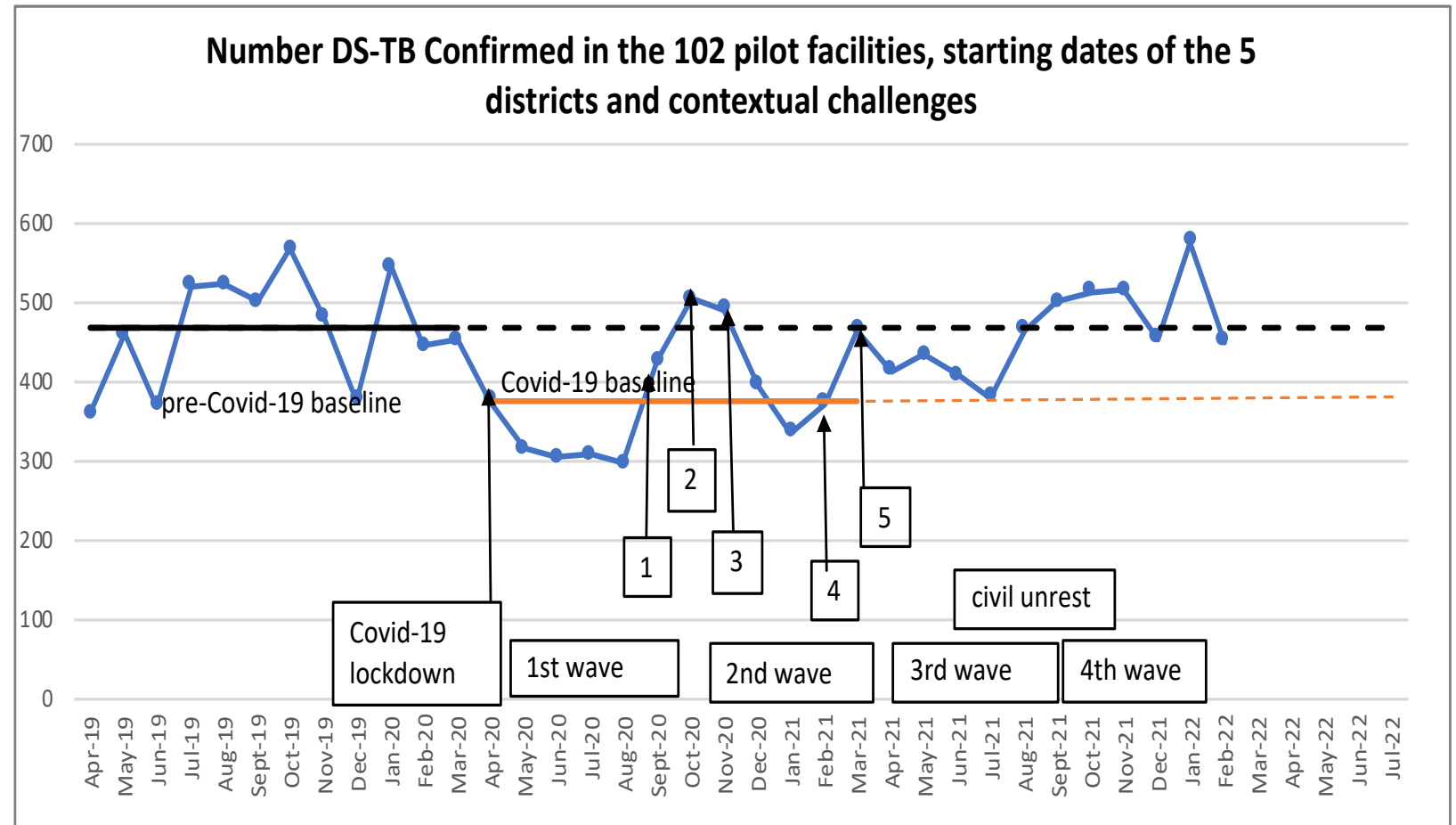
- The worksheets posted on WhatsApp allow for real time coaching.
- Analysis of the worksheets provide a level of detail not previous possible in more traditional projects including:
 - ongoing engagement of facilities in the project
 - TB register management (& sputum rejections)
 - uptake of the change ideas
 - facilities needing support
 - implementation rate and TB yield in each group





Results – DS-TB Confirmed in the Pilot Sites (DHIS)

Start points of SPRINT pilot groups	
1	uMzinyathi
2	Amajuba
3	iLembe
4	uMkhanyakude
5	Zululand





What we Have Learned

A rapid **spread project** can be implemented using

- A simplified QI approach (QI implicit rather than explicit)
- A small set of high confidence change ideas
- Simple, practical tools (A4 worksheets) that are easily adopted by health workers
- Hybrid face-to-face/virtual learning system.
- A small skilled technical QI team working through existing DoH structures



Thank you

