NEGLECTED TROPICAL DISEASE
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NEGLECTED TROPICAL DISEASE
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9 September 2020

Workshop 2.4

Applying a Quality Improvement Model to Neglected Tropical Diseases Program Implementation: supporting programs in identifying keys for sustaining operations

Dr Bruno Bouchet, Director Health Systems Strengthening, FHI 360
Dr Kisito Ogoussan, Implementation Management Lead, Act |West, FHI 360
Dr Ibrahim Kargbo-Labour, NTD Program Manager, Sierra Leone
Dr Benjamin Marfo, NTD Program Manager, Ghana

What do we want to address?

Priority Issues for NTD Programs:

1. **Low preventive chemotherapy coverage of at-risk population at sub-district level, leading to continued pocket of transmission and failure of impact assessment**

2. **Poor quality of disease specific assessment leading to unreliable results notably with Trachoma impact assessment surveys**

How to Improve the Performance of NTD programs based on MDA strategy?

1. **Use a model for improvement:**
   - **Known to improve quality of healthcare services**
   - **Designed to address (health) system's performance**

2. **Integrate the improvement model into the MDA:**
   - **Use each MDA as an opportunity to try something new and learn from it**
   - **Target the steps of the MDA with changes**

3. **Design the improvement as a test:**
   - **Test changes on a subset of districts during an MDA campaign (intervention group)**
   - **Compare results with the regular MDA (control group)**

Presentations

1. **The QI model: Dr. Kisito Ogoussan**

2. **Planning in Sierra Leone: Dr. Ibrahim Kargbo-Labour**

3. **Results from Ghana: Dr. Benjamin Marfo**

Questions for Debate

1. **How to integrate QI into a program that operates through campaigns?**

2. **How to measure the effect of changes for NTD programs?**

3. **How to test the validity & measure the added value of QI for NTD programs, using a mix of implementation science and formative research?**

QUALITY IMPROVEMENT MODEL AND TOOLS AND NTD PROGRAMS

PRESENTED BY: DR KISITO OGOUSSAN

IMPLEMENTATION MANAGEMENT LEAD
USAID ACT NTD | WEST PROGRAM, FHI 360

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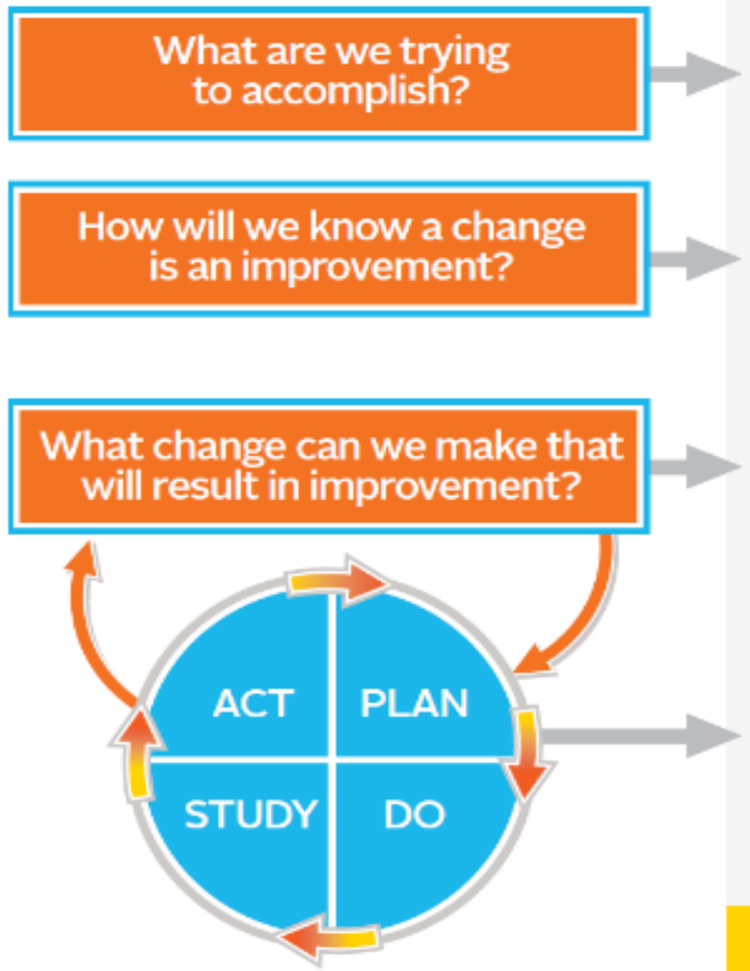
Fundamentals Of Quality Improvement Model

Principles of (Quality) Improvement

- There is no improvement in performance of a system without systems changes
- An NTD program is a complex system, with many components (inputs and process) that interact to produce a result
- We need a model for improvement that promotes systems thinking and is designed for testing changes and learning from it

FHI 360 Quality Improvement Model



I. Identify the improvement aim/objectives

II. Develop the improvement measurement system

III. Generate ideas for changes

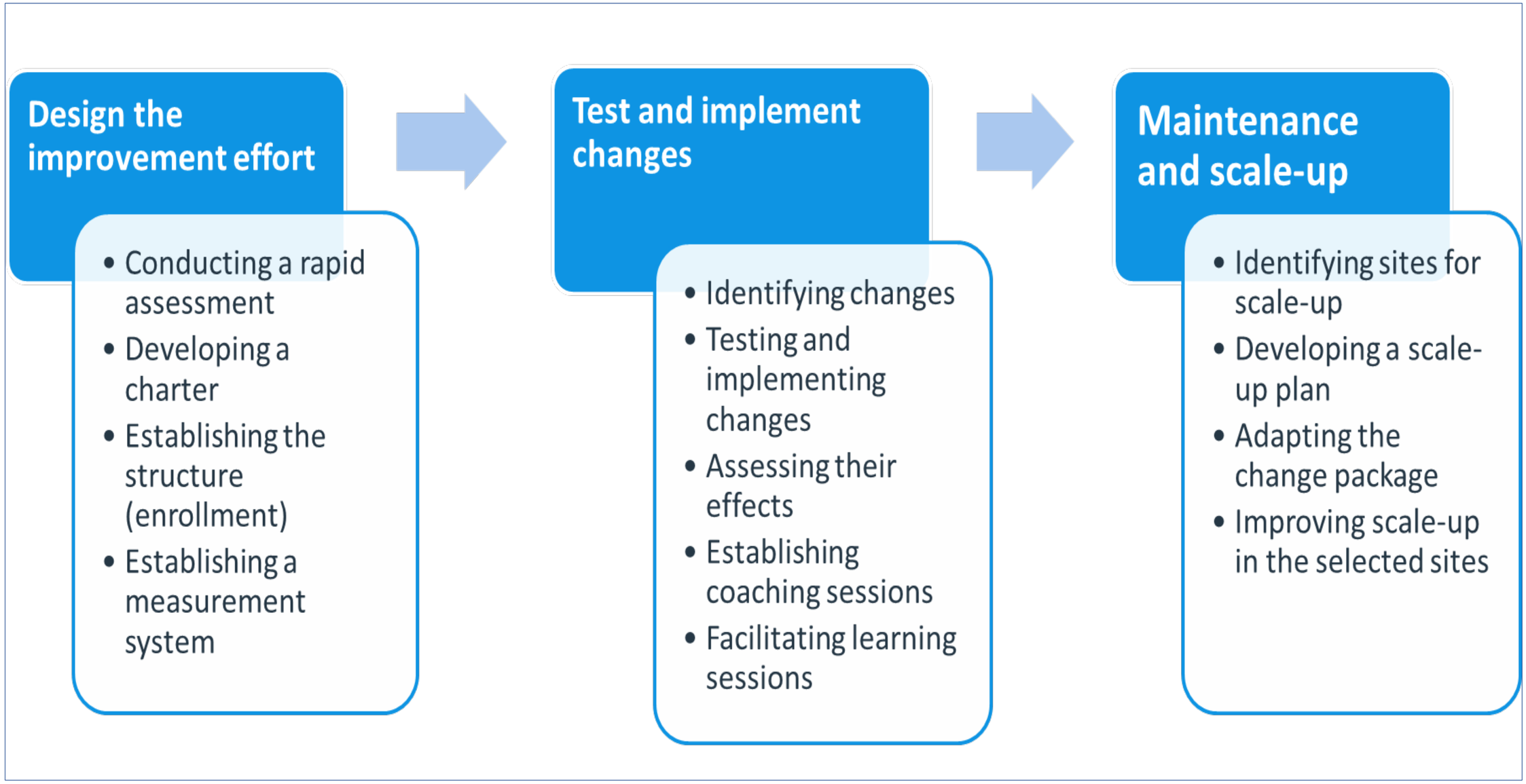
IV. Test/implement system changes

V. Sustain and spread the new system

fhi 360
THE SCIENCE OF IMPROVING LIVES

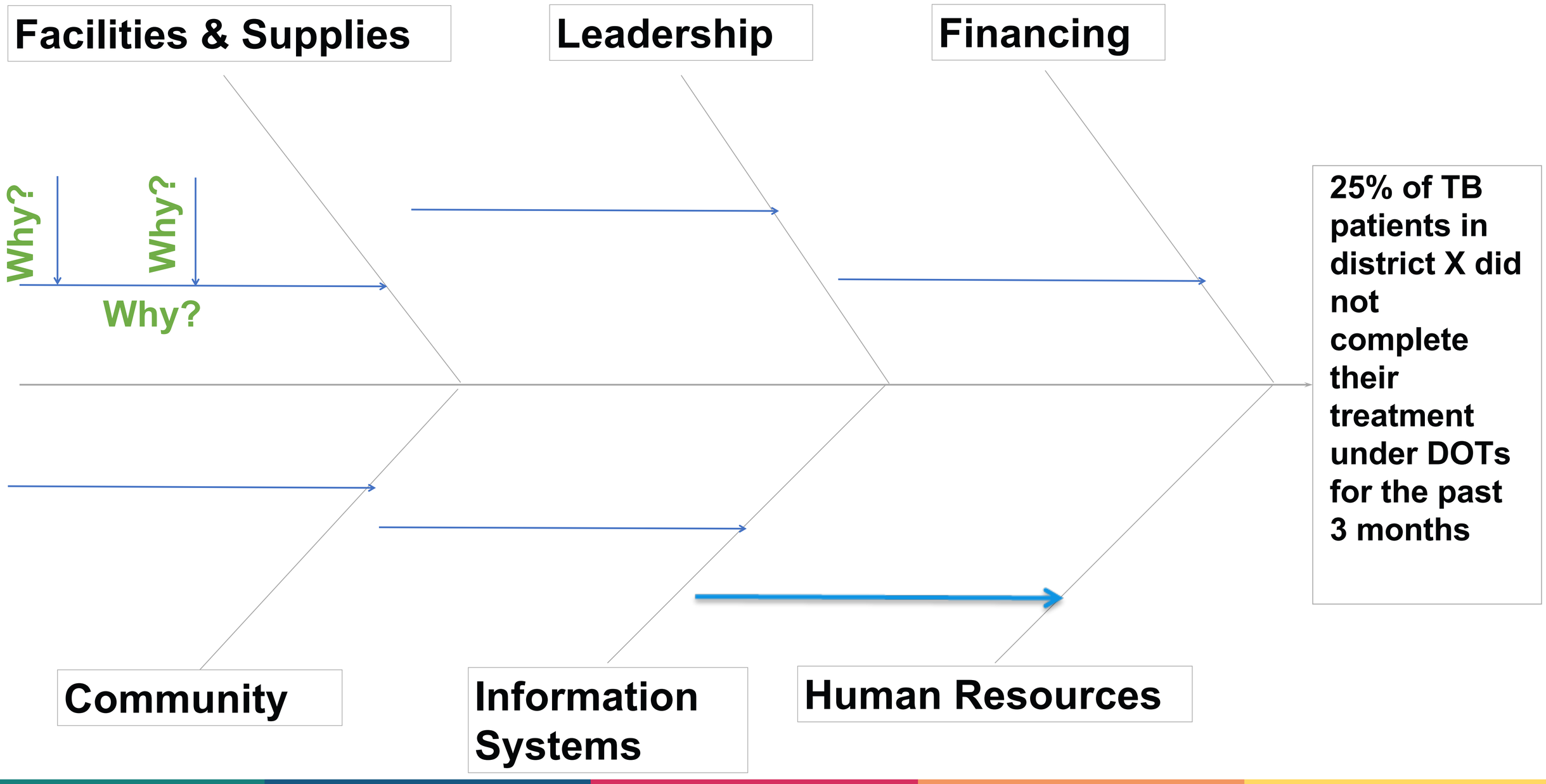
Source: GL Langley, KM Nolan, TW Nolan, CL Norman, and LP Provost, *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance* (San Francisco: Jossey-Bass, 1996).

Phases of QI Implementation Process



Tools Of Quality Improvement Model

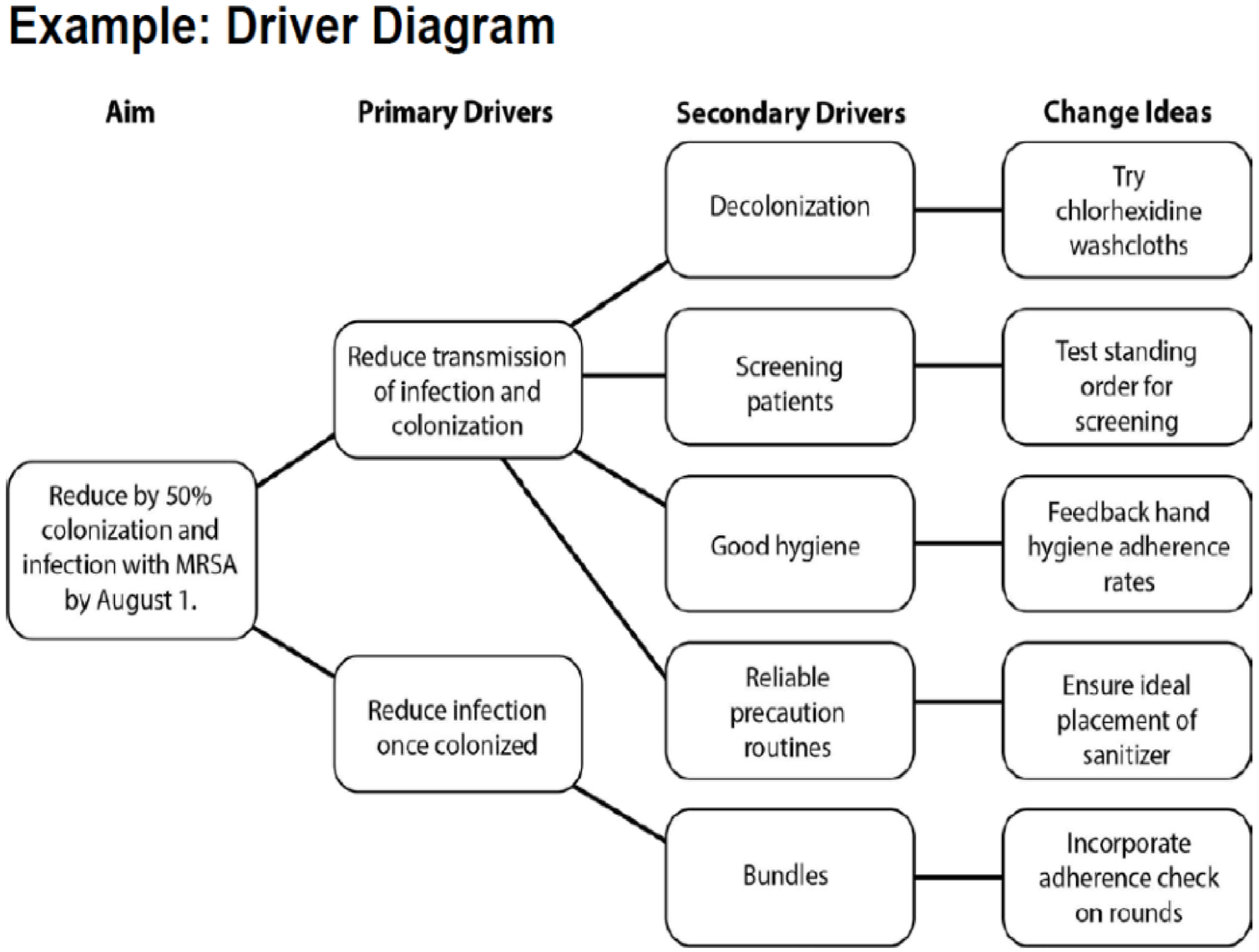
Root-Cause Analysis Of Performance : Health Systems Issues



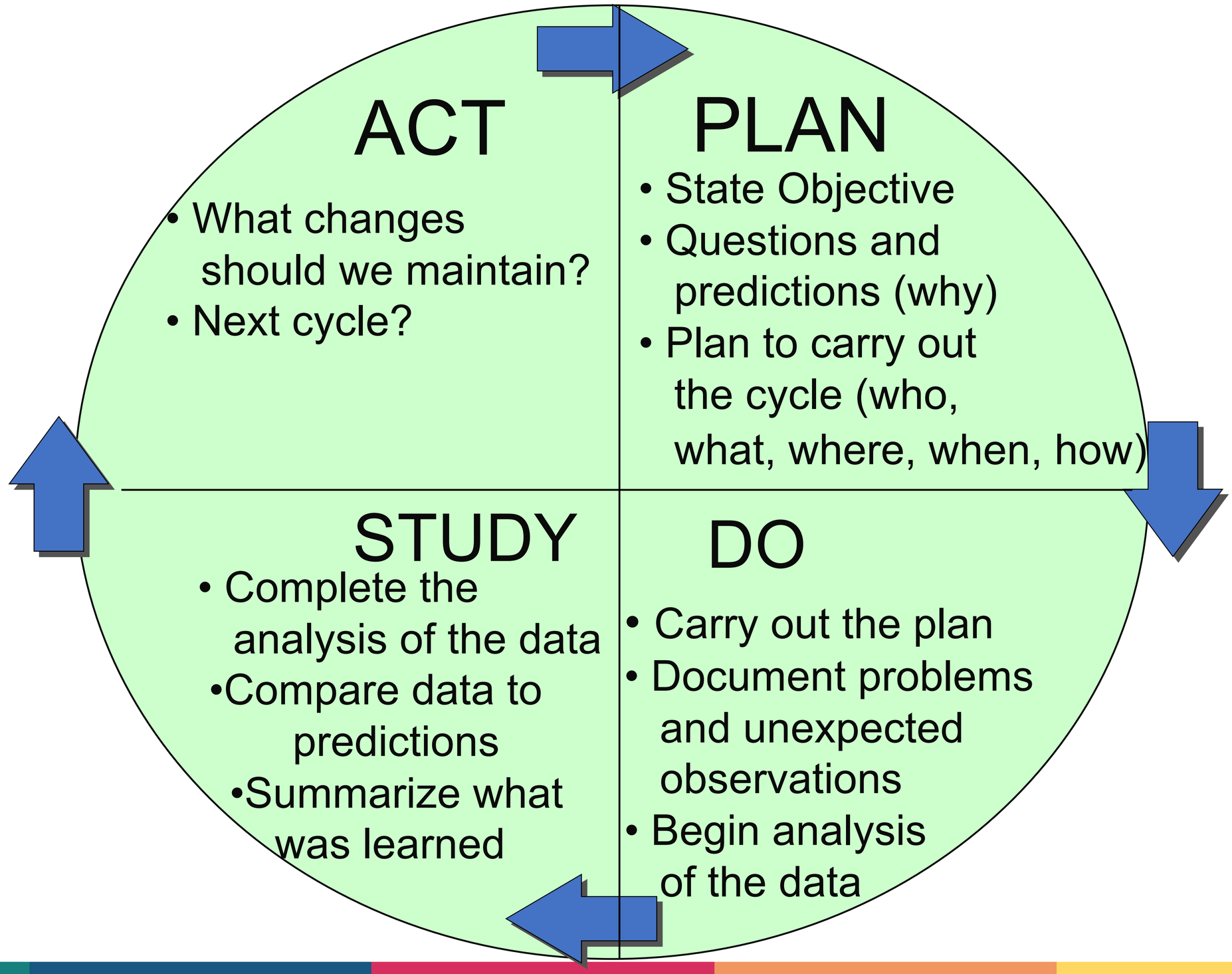
Driver Diagram

Visual display of a team's theory of relationship between

- What "drives," (Primary drivers)
- or contributes to (secondary drivers), the achievement of a project aim.



The PDSA Cycle



Designing the Improvement effort : Situation analysis and the QI charter

- **The rapid Assessment/Situation analysis** to define the borders of the system, assess the process and obtain expectation among the stakeholders.

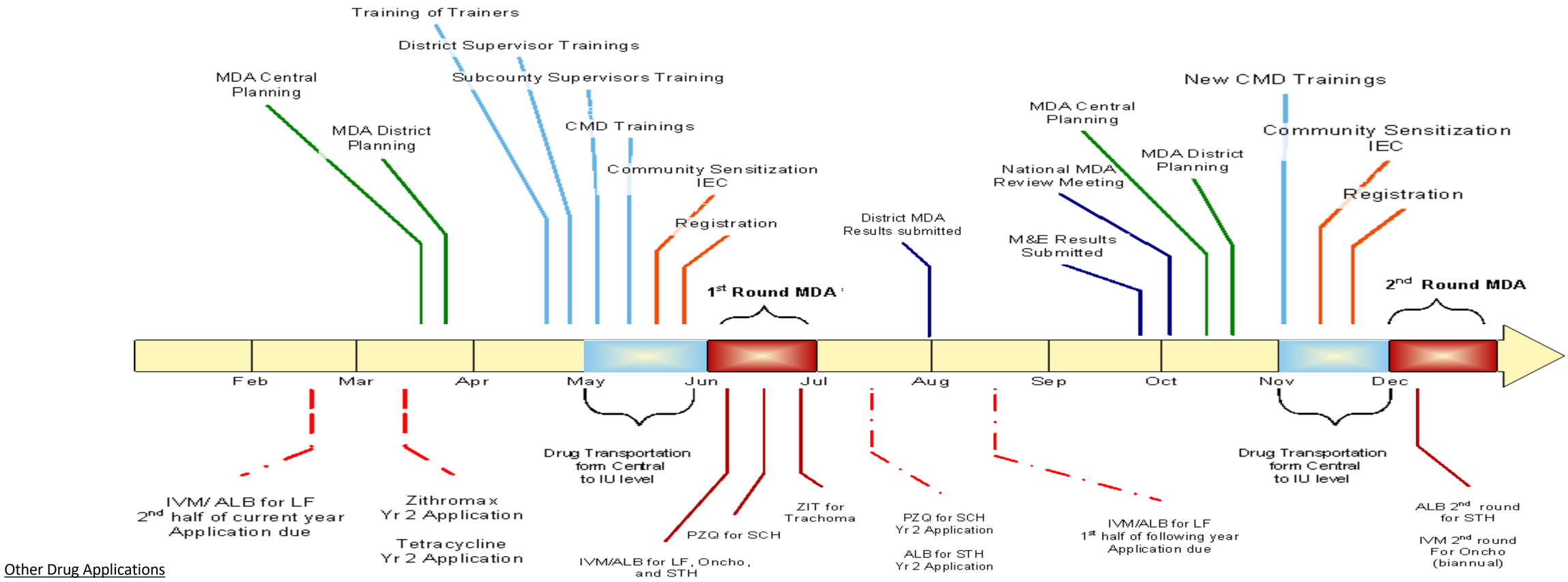
- **A quality improvement charter** is a document that describes the improvement effort and is structured according to the QI models to provide a roadmap for implementation of an improvement effort.

Expertise needed for a successful improvement effort

- **QI team(s)**
  - Deliver the service and their customers
  - Analyze systems
  - Test/implement changes
  - Measure/analyze/report results
- **Leadership/management team**
  - Manage the effort
  - Communicate to central level
  - Review results, approve changes and provide “political” support
- **Technical content expert(s)**
  - Authorities in the topic matter
  - Review/validate the scientific evidence
  - Train and communicate evidence-based standards/best practices
- **QI expert (s)**
  - Know QI model and tools
  - Train teams on QI tools
  - Coach & support QI teams
  - Support documentation & lessons learned

Applying The Improvement Model to a NTD Program

Systemic View of an MDA Cycle



Other Drug Applications

•Mebendazole

Year-round Activities

- **Strategic and technical planning**
- **Low Dose High Frequency Advocacy**
- **Supervision / use of checklists**

Plan → Execute → Evaluate → Decide

NTDP Intervention Challenges

FY19 and FY20 Challenges to address through QI :

- ❑ **Low coverage;**
  - **Especially for hard-to-reach, conflict/insecure areas, migrants, nomads, transient boarders, and mining populations (Sierra Leone)**
- ❑ **DSA implementation;**
  - ✓ **LF pre-TAS repeat failures (Sierra Leone, Ghana)**
  - ✓ **LF TAS1 failures (…)**
  - ✓ **Trachoma TIS & TSS failures (…)**

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PLANNING FOR QUALITY IMPROVEMENT INITIATION IN SIERRA LEONE/HOW TO DESIGN YOUR TEST OF CHANGE

PRESENTED BY: DR. IBRAHIM KARGBO-LABOUR

NTDP MANAGER MINISTRY OF HEALTH AND SANITATION

NNN, Wednesday September 9, 2020

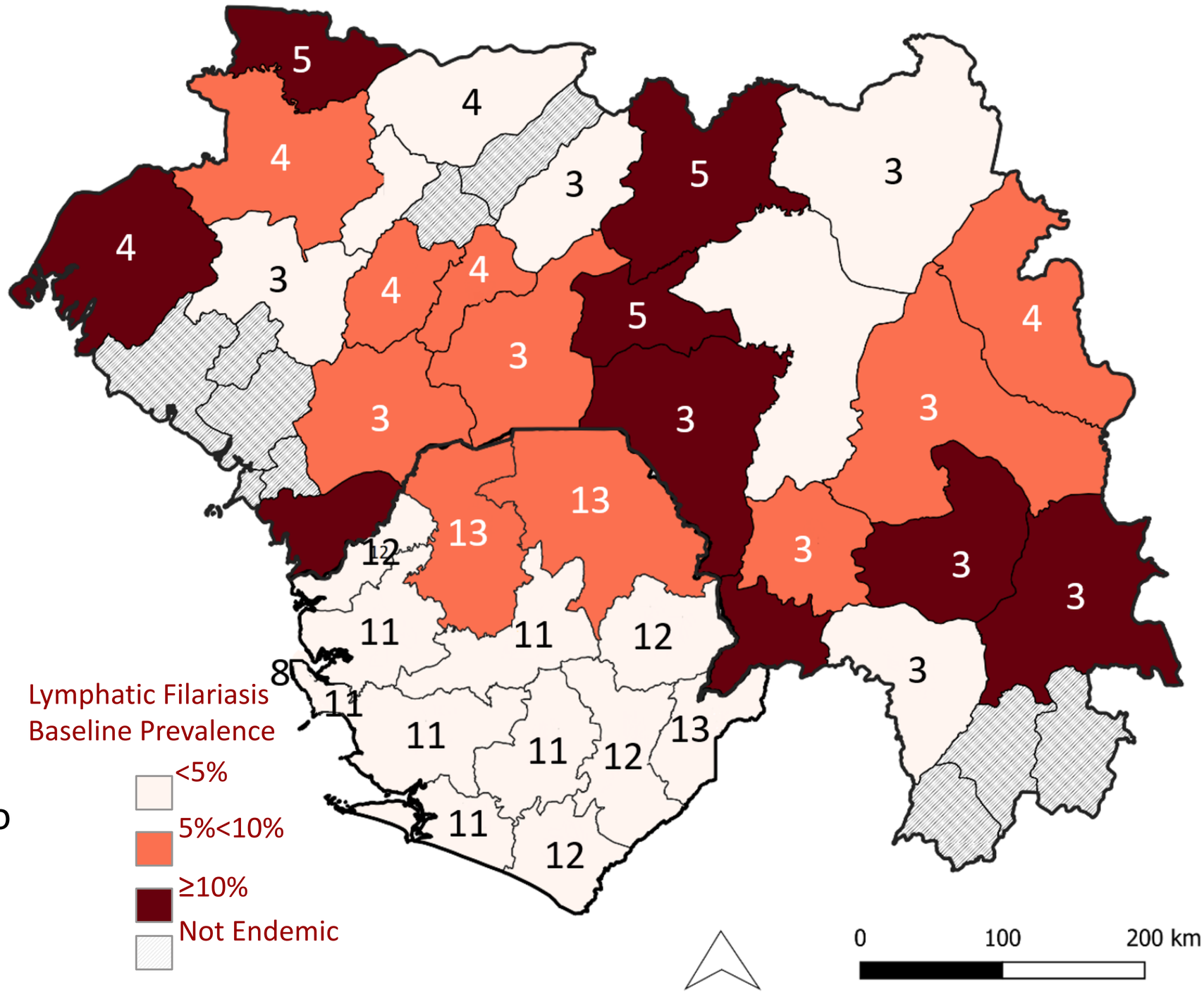
Background

- Mapping 2005: Higher prevalence in northern districts bordering Guinea (frequent seasonal migration by pastoralists and traders, Fulani and Mandingo)

- Mass Drug Administration for Lymphatic filariasis (LF MDA) commenced in 2008

- In 2013 & 2017, **four districts failed a pre-Transmission Assessment Survey (pre-TAS)** using mf despite having reported ≥65% epidemiologic coverage since 2009

- In 2017 Western Area Rural also failed the pre-TAS despite having reported ≥65% epidemiologic coverage since 2010



Quality improvement for LF elimination Sierra Leone

Issue we want to address?	Four districts failed pre-TAS in 2013 with microfilaremia and one failed Pre-TAS in 2017 using filariasis test strip (FTS)
How do we know it is a problem?	Four districts failed the pre-TAS for a second time in 2017 using FTS

GOAL: Pass Pre-TAS in four hotspot districts

Objectives:

- Achieve effective MDA coverage (65% epi) at sub-district level
- Improve quality implementation of pre-TAS and TAS
- Improve Supply Chain to reduce stock outs during MDA

Quality improvement for LF elimination

The results of root-cause analysis identified four themes that required attention:

- Data Quality
- Enhanced Community Engagement
- Supply Chain Management
- Pre-TAS preparation, training, implementation and supervision

Data Quality Issue: sub-district analysis

District	Epi Coverage (%)	No. of PHUs with MDA coverage, 2019			
		<65%	≥65%	≥100 %	#PHU with inadequate Coverage (% to total PHU)
Kailahun	79.5	1	78	3	4 (4.9%)
Bombali	83.8	3	106	2	5(4.5%)
Koinadugu	78.8	13	45	20	33(42.3%)
Kenema	79.2	17	81	24	41(33.6%)

Root-Causes:

- CDD census inaccuracies
- Urbanisation
- Migration for employment, schooling, trade
- People have accessed MDA outside their catchment community

Data Quality : Ideas to Enhance Quality

Change

- Update community drug distributors (CDDs) village census and registers
- Payments for CDDs
- Collect sub-district data asap and immediately implement MDA support and/or repeated mop-ups

Intervention

- Increase District Health Management Team (DHMT) supervision, logistics and utilize supervisor's coverage tool (SCT)
- Revise training manuals
- Increase training days for peripheral health unit (PHU) staff and in separate cohorts for large districts, even pre-COVID

Supply Chain : Improvement Ideas

- Recruit staff: Pharmacist, Storekeeper and M&E Officer 2
- Improve NTD drug inventory at the District Medical Store
- Strengthening NTD logistics management information system (LMIS)
- Training on NTD inventory management
- Strengthening reverse logistics

Quality Implementation of Pre-TAS

- Training of field supervisors and survey teams on approved survey protocol by national NTDP, Helen Keller and FHI 360 LF technical Advisor

- Sensitization of communities at selected sites prior to survey implementation
- Survey implementation: sample collection using LF bench Aid
- Supervision of Pre-TAS by NTDP, Helen Keller and FHI 360 LF technical Advisor
- The use of electronic data collection forms for the collection of supervisory and survey data.

Community Engagement Issues

- Urban communities are partially influenced by non-traditional opinion leaders and social media

- Young people do not feel ‘at risk’ of LF or Covid-19 and will be hesitant to participate
- Adolescents/youth are concerned about fertility during LF MDA
- Communities are very wary/hostile of outsiders entering their villages during an epidemic (Ebola and COVID) especially in ‘opposition’ areas
- The Fullah ethnic group needs a parallel system of traditional leaders to accept messages

Rapid assessment

- **Rapid assessment** of the social dynamics in the four LF hotpot districts that may influence Pre-TAS and MDA compliance in the context of Covid-19 by adapting the approach used during the Ebola vaccine trails:
    - focus group discussions
    - in depth interviews (chiefs, councilors, women's leaders, youth leaders)
    - ethnographic observation
    - power mapping and
    - rumor tracking

- Findings will help to start the process of identifying the change of idea.

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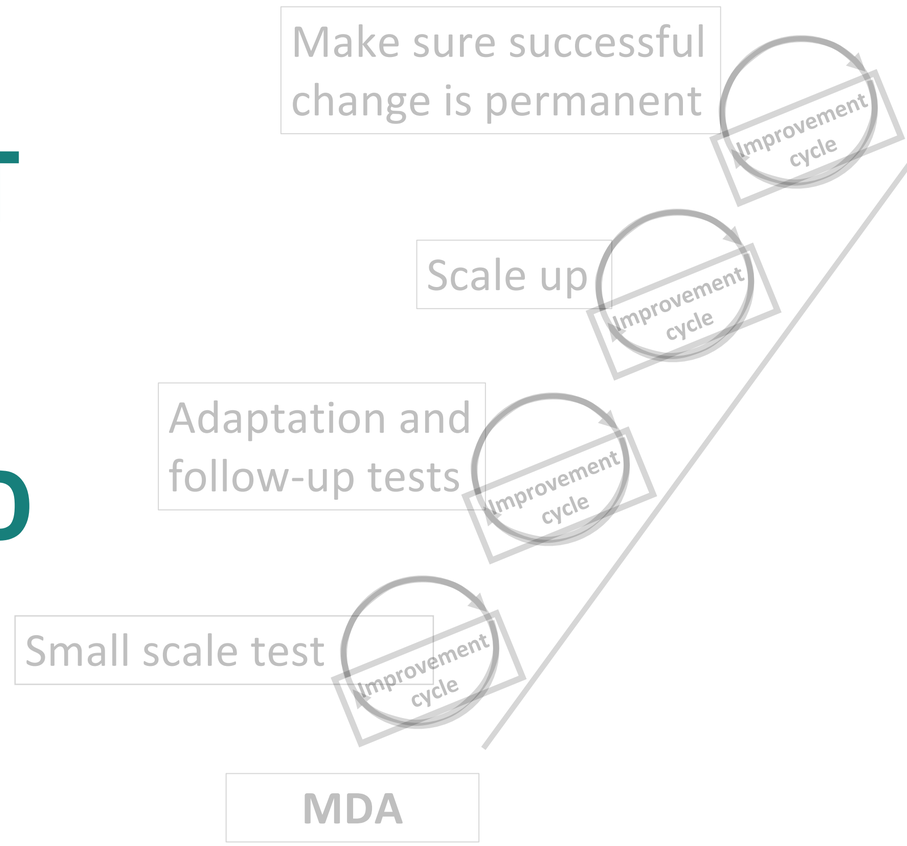
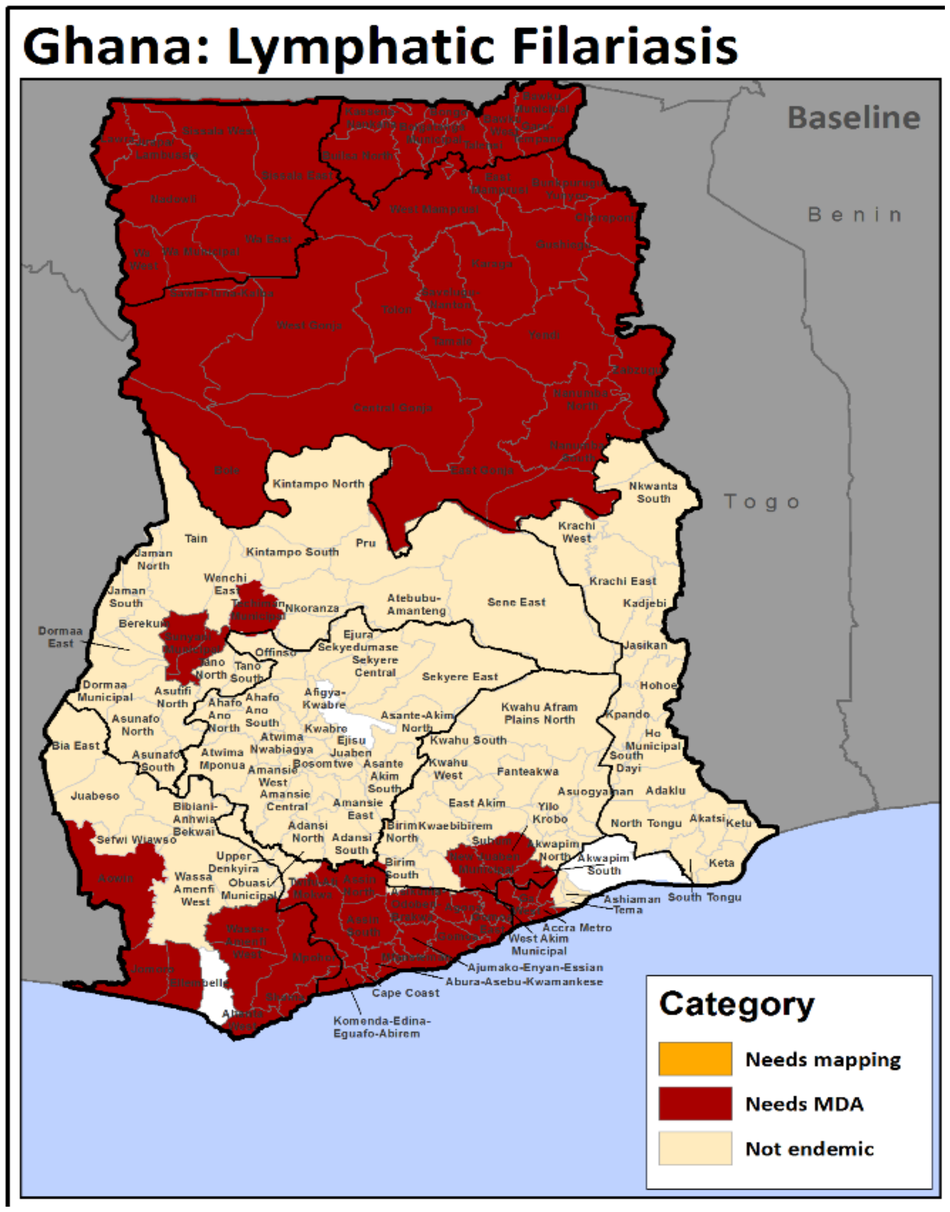
USING QUALITY IMPROVEMENT TO STRENGTHEN THE NTD PROGRAM IN GHANA : RESULTS & LESSONS LEARNED



Dr Benjamin Marfo
NTD Programme Manager
Public Health Division

Background



- Ghana began the LF Program in 2001
- 114/260 districts endemic
- At risk population: 12 million
- Broken transmission in 99/114 districts
- In 2019, treatable population in the 15 districts is 1,169,357
- High prevalence of LF in 15 districts despite 15-19 MDA rounds
  - *Persistent pre-TAS failure*
  - *Which factors are responsible?*

Outlook of Impact Assessments (Pre-TAS)

LF District	2014 Prevalence %	2015 Prevalence %	2017 Prevalence %	2018 Prevalence %	2019 Prevalence %
Sunyani Municipal	2.1% (NBS)	-	**10.3% (FTS)**	-	2.8 (FTS)
Sunyani West	0.9% (NBS)	-	**10.1% (FTS)**	-	4.2 (FTS)
Bole	5.6% (NBS)	-	**9.7% (FTS)**	-	8.4 (FTS)
Sawla-Tuna-Kalba	1.7% (NBS)	-	**12.3% (FTS)**	-	6.3 (FTS)
North Gonja	0% (NBS)	-	**2.0% (FTS)**	-	0.3 (FTS)
West Gonja	4.3% (NBS)	-	**0.9% (FTS)**	-	
Nabdam	-	1.0% (NBS)	-	**11.0% (FTS)**	
Kassena Nankana West	1.7% (NBS)	-	-	**1.4% (FTS)**	
Jirapa	-	1.4% (NBS)	-	**9.1% (FTS)**	
Lawra	-	1.0% (NBS)	-	**8.8% (FTS)**	
Wa East	-	1.0% (NBS)	-	**3.7% (FTS)**	
Wa West	-	1.9% (NBS)	-	**2.6% (FTS)**	
Ahanta West	1.4% (NBS)	-	**12.6% (FTS)**	-	4.2 (FTS)
Axim Municipal	3.75% (NBS)	-	**7.0% (FTS)**	-	3.0 (FTS)
Ellembelle	4.5% (NBS)	-	**6.8% (FTS)**	-	2.2 (FTS)

Magnitude of the Problem

- High non-compliance (Refusals & Absenteeism)
  - Compliance (44%) meaning Non-compliance (56%) for 2012 MDA- **Offei M. et al** (2014)
- Poor data quality (*untimely, incomplete & inaccurate data*)
  - Data quality assessment results show that over 60% of reported MDA data in 2015 was inaccurate. **de Souza DK et al** (2016) in 10/12 (83.3%) sites assessed

Journal of Bacteriology and Parasitology

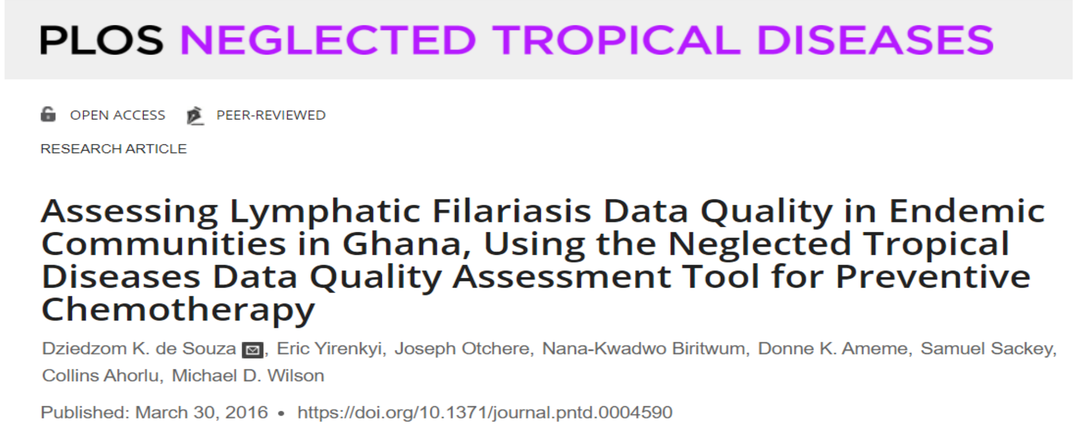
ISSN: 2155-9597

Offei and Anto, J Bacteriol Parasitol 2014, 5:1
DOI: 10.4172/2155-9597.1000180

Research Article — Open Access

Compliance to Mass Drug Administration Programme for Lymphatic Filariasis Elimination by Community Members and Volunteers in the Ahanta West District of Ghana

Marian Offei and Francis Anto*
School of Public Health, College of Health Sciences, University of Ghana, Legon, Ghana



PLOS NEGLECTED TROPICAL DISEASES

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RESEARCH ARTICLE

Assessing Lymphatic Filariasis Data Quality in Endemic Communities in Ghana, Using the Neglected Tropical Diseases Data Quality Assessment Tool for Preventive Chemotherapy

Dziedzom K. de Souza, Eric Yirenkyi, Joseph Otchere, Nana-Kwadwo Biritwum, Donne K. Ameme, Samuel Sackey, Collins Ahorlu, Michael D. Wilson

Published: March 30, 2016 • https://doi.org/10.1371/journal.pntd.0004590

Systematic Analysis of the Problem

The problem was categorized into these main categories of causes:

- **Data quality issues**
- **CDD issues**
- **Community issues**
- **Health service issues**

Root Causes of Identified Issues

- **Poor data quality** due to:
  - Non-use of standard reporting format
  - No validation or verification of data
  - Urban/Rural population dynamics
  - Population movement/Migration

■**Community issues** linked to
- *Low participation due to low awareness*
- *Inadequate engagement of stakeholders/leadership*

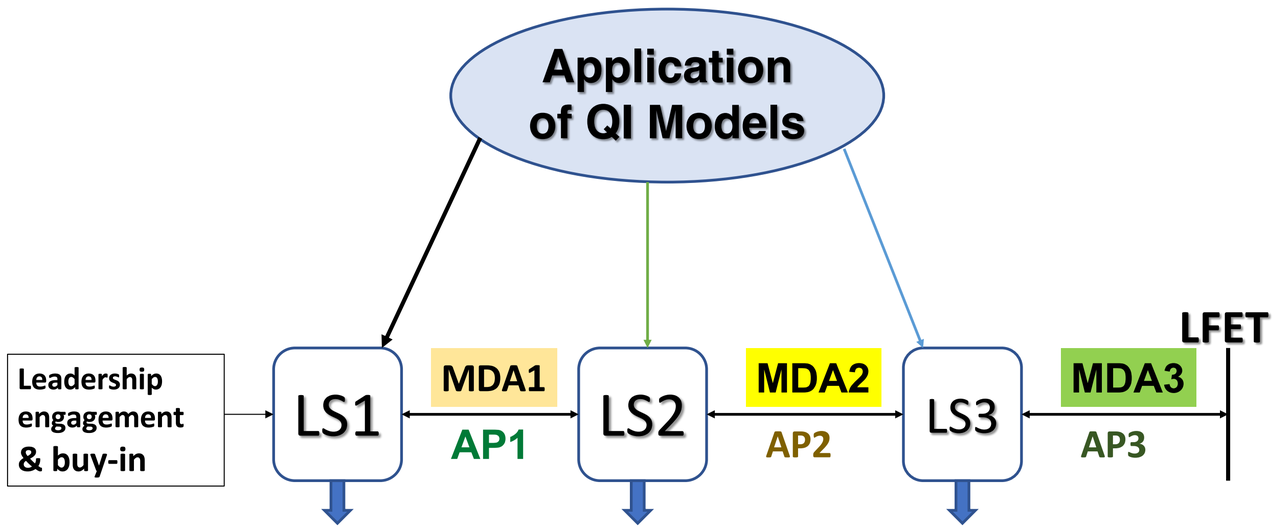
■CDD issues due to:
- *Poor selection*
- *Ineffective training*
- *Non-observance of DOT*

■Health services issues include
- *Growing leadership apathy*
- *Weak supervision*
- *Poor timing of MDA*

Improvement Aim and Objectives

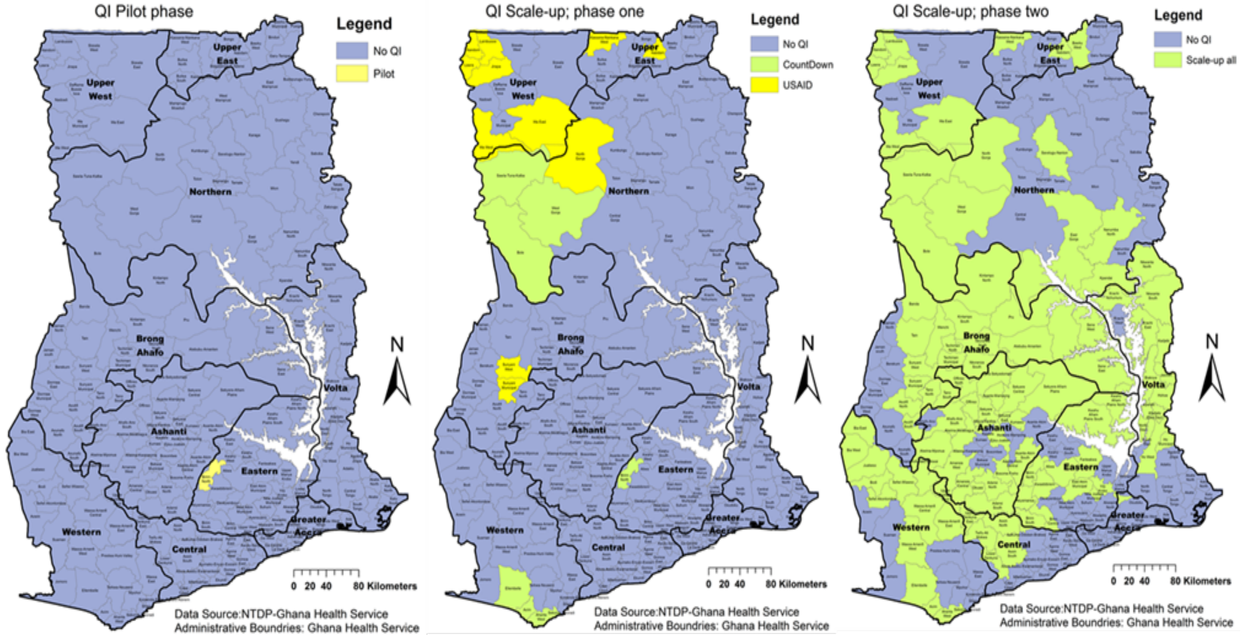
- Aim :
  - Improve MDA effectiveness in LF hotspot districts
- Objectives :
  - Decrease MDA non-compliance
  - Improve MDA data quality

Applying QI Model (Collaborative) to strengthen NTDP



Objective: *Establish program fundamentals* *Peer review session* *Consolidate on gains*

Intensive support from sub-district change agents



Change Ideas Tested – Data Quality

- Reviewed data management training module
- Instituted data validation and verification
- Population figures: Separation of migrant settlements (special population) from main communities

Change ideas tested

Health system factors

- Engagement of stakeholders, including partners, to review MDA treatment cycle
- Use of the new supervisory coverage tool
- Empower/delegation to regions and districts staff to own program

Community related

- Improved sensitization
- Effective engagement of social groups

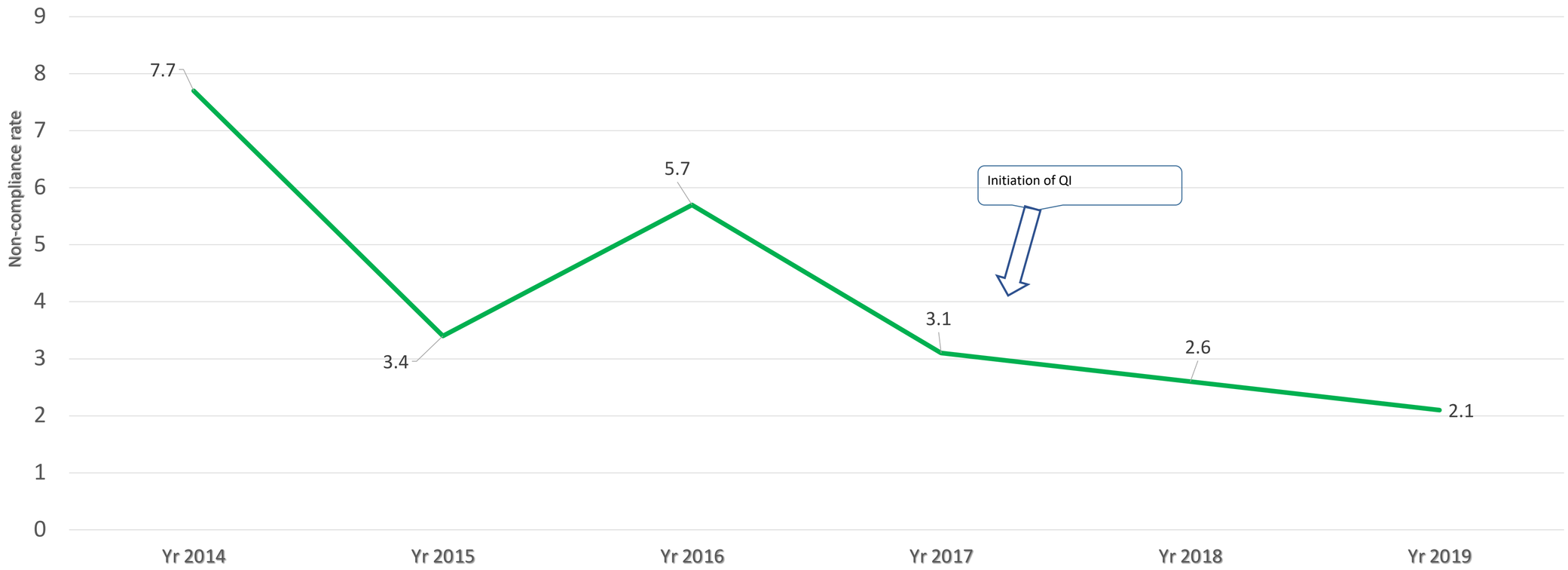
CDD related

- Review CDD training manual
- Enhanced CDD incentives

Indicators measured

- Process **indicators;**
  - Proportion of community meetings held in the sub-district
  - Proportion of communities sensitized through video screening in the sub-district
  - Proportion of health staff trained to supervise sub-district MDA activities
  - Proportion of CDDs trained to participate in MDA activities
  - Proportion of CDDs receiving at least thrice supervisory visits during the MDAs
  - Number of communities for which rapid assessment checklist was used
  - Proportion of registers validated by supervisors
- **Outcome Indicators**
  - Non-compliance rate
  - MDA coverage (therapeutic and geographic)

Results:
Trend of Non-compliance rate, 2014-2019, Axim Municipal



The improvement aim is to reduce the non-compliance rate to less than 1%. There has been an improvement in data quality after applying QI change ideas such as data validation before reporting.

Impact of data validation on data quality, Sunyani Municipal

Year	Indicators					Gap (Difference)	Remarks/interpretation
	Registered population	Treated population	Non-eligible	Refused	Absent		
2013	105,415	94,901	8,214	1,366	1,422	-488	The number of treated population, non-eligible, refused and absent combined is more than the registered population.
2014	109,057	96,611	12,501	2,239	1,501	-3795	The number of treated population, non-eligible, refused and absent combined is more than the registered population.
2015	109,607	96,021	9,616	3,149	2,338	-1517	The number of treated population, non-eligible, refused and absent combined is more than the registered population.
2016	132,932	107,714	11,900	4,482	4,604	4232	The number of treated population, non-eligible, refused and absent combined is less than the registered population
2017*	130,537	110,655	15915	1,653	2,314	0	The number of treated population, non-eligible, refused and absent are equal to the registered population.
2018*	138,403	117,829	17559	1,147	1,868	0	The number of treated population, non-eligible, refused and absent are equal to the registered population.

Impact of data validation on 2019 MDA data quality

District	Population	Pop Treated	Non-Eligible	Refused	Absent	Gap
Sunyani Mun	128549	109756	16092	1058	1643	0
Sunyani West	101945	86164	12074	1180	2527	0
Ahanta West	103756	92269	9355	998	1134	0
Ellembelle	91860	81826	4409	1384	4241	0
Axim Mun	68830	59237	7919	400	1274	0
Sawla T. Kalba	86926	76756	4074	949	5147	0
Bole	76282	64410	5322	1420	5130	0
West Gonja	36319	29874	1918	60	4467	0

Lesson learned

- Improved sensitization
  - District teams through an enhanced sensitization activities ensured every household and groups were reached with MDA messages
  - Used laminated photos of LF morbidities in the campaign
  - Some LF sufferers offered to campaign as ambassadors of the program
- Use of the new supervisory coverage tool
  - The definition of refusal and absent were reviewed to fully accommodate three (3) revisits by CDDs and ensure compliance of the DOT strategy

- Instituted data validation and verification
  - Institution of data verification and validation measures at the community and sub-district levels helped to prevent under and over registration of registrants
  - All supervisors received training on data validation to verify and validate data at all levels
- Mitigation Fluctuating population Indigenous population must be separated from migrants and other temporal settlements and registered separately.

Way forward

- *Institutionalize the best practices in all the districts*
- *Continue to use QI model to test new ideas of change*

THANK YOU

Questions for Debate

1. **How to integrate QI into a program that operates through campaigns?**

2. **How to measure the effect of changes for NTD programs?**

3. **How to test the validity & measure the added value of QI for NTD programs, using a mix of implementation science and formative research?**

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