ASLM | 2014
AFRICAN SOCIETY FOR LABORATORY MEDICINE

Innovation and Integration of Laboratory and Clinical Systems
Reshaping the Future of HIV, TB, Malaria, Flu,
Neglected Tropical Diseases and Emerging Pathogens in Africa

Oral Session 1.2:
Strengthening Laboratory Management Systems

Monday, December 1, 2015

11:00AM – 12:45PM

Co-chairs: Katy Yao and Giselle Guevara

Session Overview

	Title	Presenter
1.	Evidence from 501 Laboratories in 39 Countries for **SLMTA**-Driven Improvement in Quality Management Systems	Katy Yao
2.	Strengthening Laboratory Management Toward Accreditation (**SLMTA**) – A Systematic Review of Research Issues, Results, and Remaining Gaps	Elizabeth Luman
3.	Challenges Facing Implementation of Strengthening Laboratory Management Toward Accreditation (**SLMTA**) Program in Blood Transfusion Service in Kenya	Eric Wakaria
4.	The Road to Laboratory Accreditation Through **SLMTA**: Key Success Factors	Thomas Gachuki
5.	The Impact of the Strengthening Laboratory Management Toward Accreditation (**SLMTA**) Training Program in Improving Laboratory Quality Systems in the Caribbean Region	Gisele Guevara
6.	Perceptions and Attitudes towards **SLMTA** Among Laboratory Professionals and Hospital Chief Executive Officers in Ethiopia	Adino Desale
	Question and Answer	

SLMTA Overview

Strengthening **L**aboratory **M**anagement **T**oward **A**ccreditation
An Innovative Tool for Quality Improvement

A *structured* quality improvement program that teaches laboratory managers *how to* implement *practical* Quality Management Systems using *available* resources

Designed to achieve *immediate, measurable* results

Launched in 2009 by WHO AFRO concurrently with the stepwise laboratory accreditation preparation scheme (branded SLIPTA in 2011)

Stepwise Laboratory Quality Improvement Process Towards Accreditation

**It measures** the level of quality using an ISO 15189-based audit checklist with **111** items totaling **258** points

It recognizes a lab's progression towards accreditation using a **0-to-5 star** scale

0 Star
1 Star
2 Star
3 Star
4 Star
5 Star

55-64 %
65-74 %
75-84 %
85-94 %
≥ 95 %
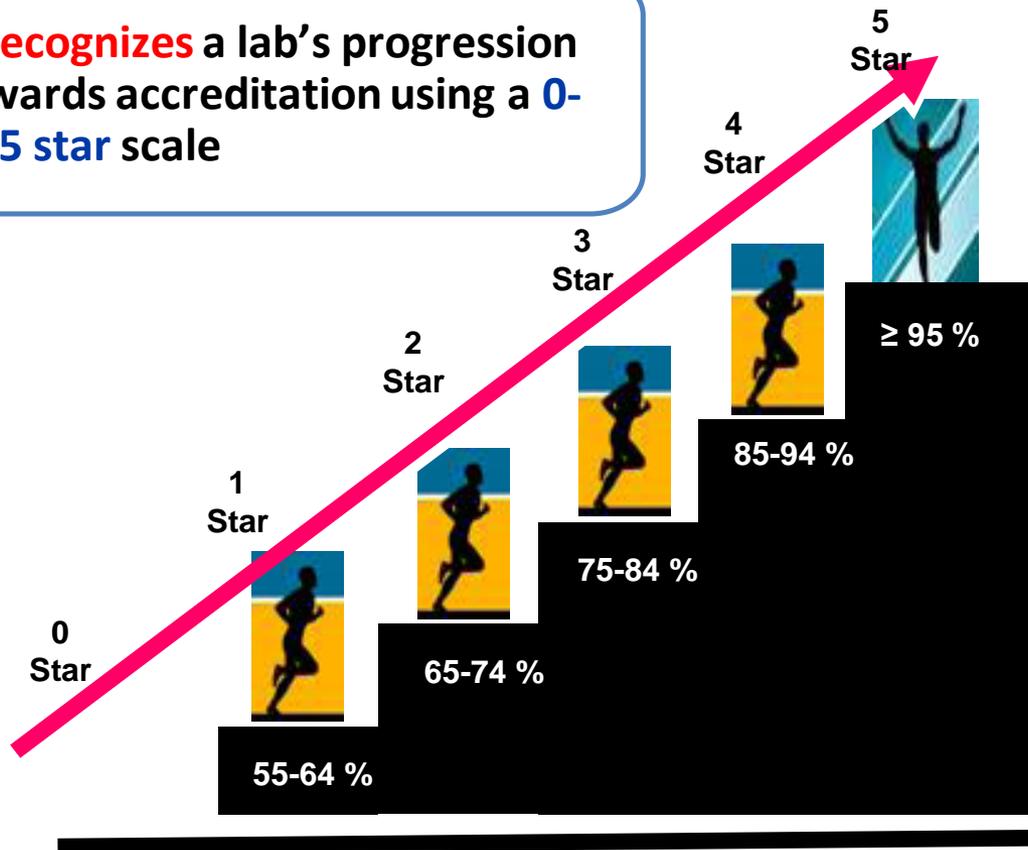
World Health Organization
REGIONAL OFFICE FOR Africa

Stepwise Laboratory Quality Improvement Process Towards Accreditation (SLIPTA) Checklist

Audit Sections	Score
Section 1: Documents and Records	25
Section 2: Management Reviews	17
Section 3: Organization & Personnel	20
Section 4: Client Management & Customer Service	8
Section 5: Equipment	30
Section 6: Internal Audit	10
Section 7: Purchasing & Inventory	30
Section 8: Process Control and Internal & External Quality Assessment	33
Section 9: Information Management	18
Section 10: Corrective Action	12
Section 11: Occurrence Management & Process Improvement	12
Section 12: Facilities and Safety	43
TOTAL SCORE	258

The SLMTA Process

Content + Implementation = Impact

Baseline Audit

Exit Audit

Workshop #1 → Improvement Projects (3 months) → Workshop #2 → Improvement Projects (3 months) → Workshop #3 → Improvement Projects (3 months) → Behavioral Changes & Laboratory Improvement

Site Visits

Site Visits

Site Visits
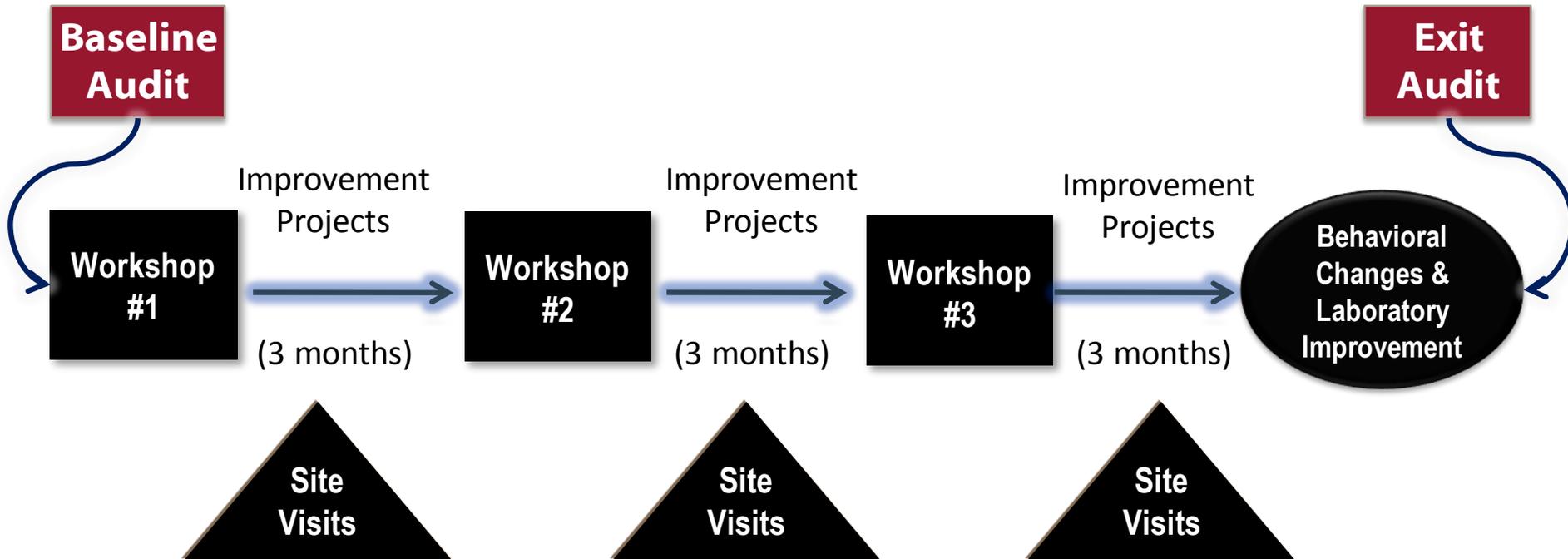
Exit Score [AFTER] − **Baseline Score [BEFORE]** = **SLMTA Effect**

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Theme: Transforming the Quality of Laboratory Medicine through the Strengthening Laboratory Management Toward Accreditation Program
Guest Editors: Michael Noble, Robert Martin, Jean-Bosco Ndihokubwayo
Supplement Coordinators: Katy Yao, Elizabeth Luman
Read press release >>
Additional publications will be coming soon.

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617
Evidence from ~~501~~ Laboratories in ~~30~~ Countries   47
for SLMTA-driven Improvement in Quality Management Systems

SLMTA
STRENGTHENING LABORATORY
MANAGEMENT TOWARD
ACCREDITATION

Katy Yao, PhD

International laboratory Branch

1 | Background |

Background

- **SLMTA is a large-scale global effort aimed to improve the quality of laboratories in resource-limited countries.**

- **This study sought to evaluate first 4 years of SLMTA program implementation (2010-2013).**

2 | Methods

Data Collection

❑ **Program data up to December 2013 were collected from all countries**

❑ **Variables include:**

▪ Duration of implementation

▪ Number and types of laboratories in the cohort (i.e., training round)

▪ Number of people trained

▪ Audit scores (baseline, exit, surveillance)

▪ Approximate number of tests conducted by each laboratory

3 | Results |

Spread of the SLMTA Program
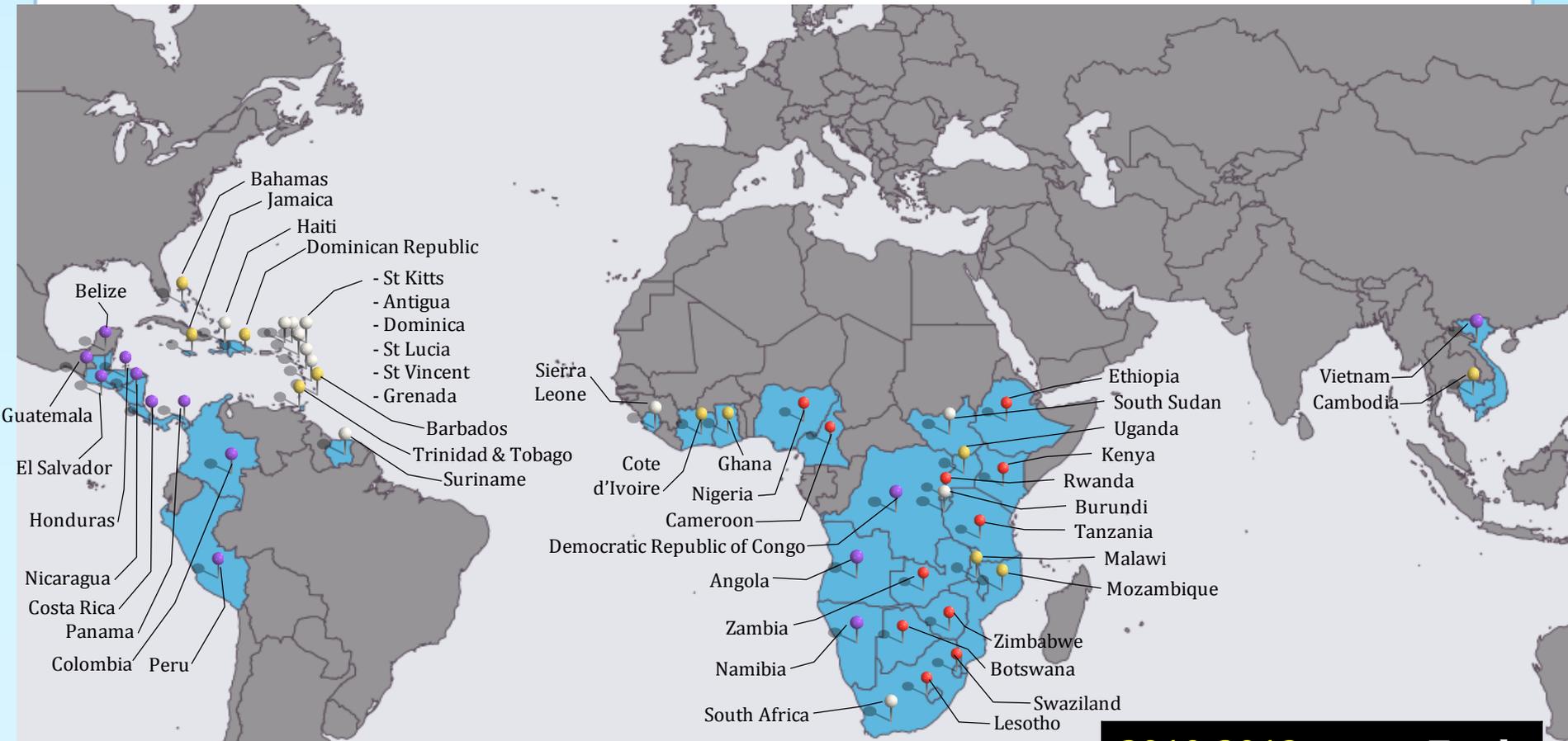
2010-2013	Total
# countries	47
# labs enrolled	617
# people trained	1,923

Baseline vs. Exit Audit Results (n=302)

Baseline

Exit

Legend:
- 5 Stars (blue)
- 4 Stars (green)
- 3 Stars (yellow)
- 2 Stars (orange)
- 1 Star (dark orange)
- 0 Stars (red)

Average Score **39%**

64%

85%

30%

Stars: 5, 4, 3, 2, 1, 0
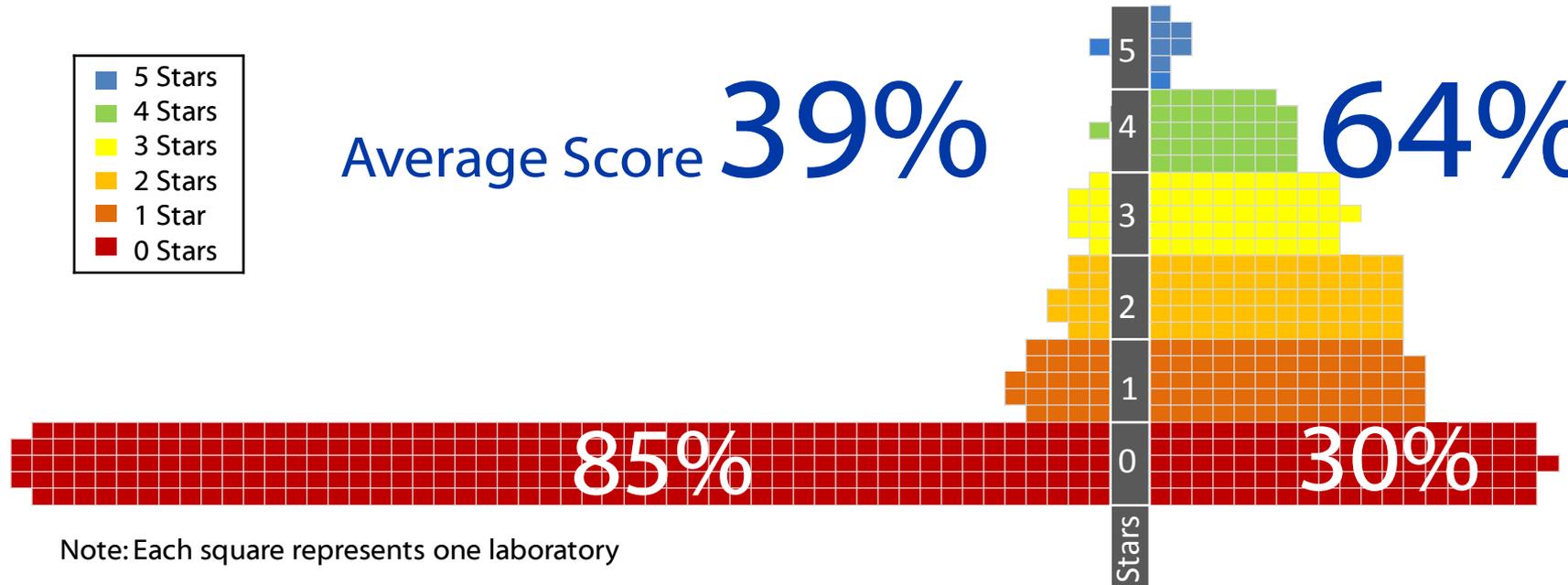
Note: Each square represents one laboratory

Average Implementation Time = *16* months

Average Performance by Laboratory Type (n=302)
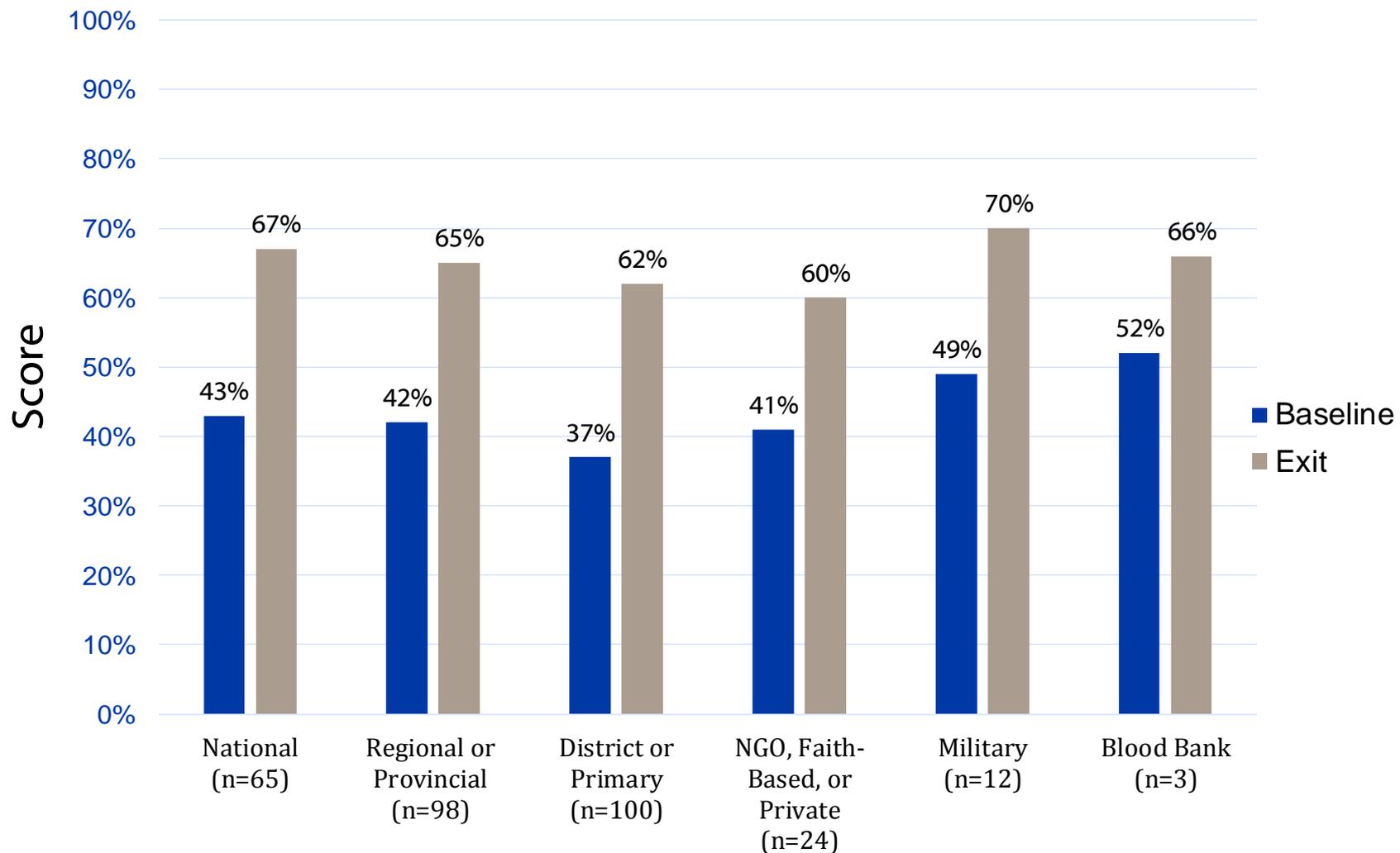
Post-SLMTA Surveillance Audit (n=92)

Median of 11 months (5-28 months) post exit

38% of these laboratories failed to improve from exit

62% of these laboratories further increased their scores from exit

Percentage point difference between exit and surveillance audit scores
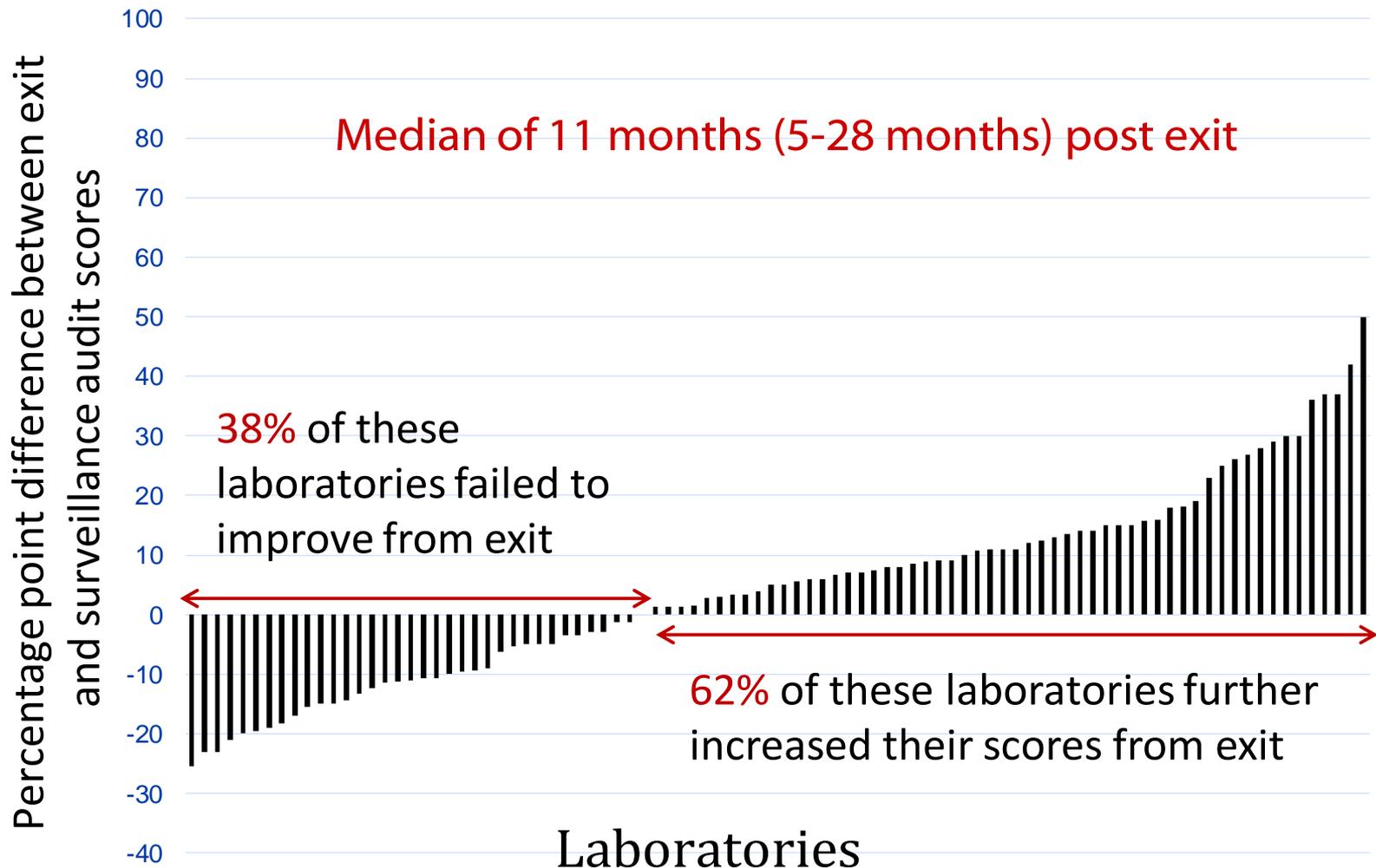
Laboratories

From SLMTA to International Accreditation

	Laboratory Name	Type of Laboratory	Time from SLMTA enrollment to accreditation	Baseline Score
1.	HIV National Reference Laboratory, Kenya	National	35 months	45%
2.	KEMRI/CDC TB Laboratory, Kenya	National	17 months	75%
3.	HIV National Reference Laboratory, Bahamas	National	28 months	38%
4.	Hai Duong Prevention Medicine Center, Vietnam	Regional/ Provincial	19 months	29%
5.	Cimas Harare Medical Laboratory, Zimbabwe	Private	54 months	34%
6.	Bungoma District Hospital Laboratory, Kenya	District	43 months	38%
7.	Nyangabgwe Referral Hospital Laboratory, Botswana	Regional/ Provincial	35 months	75%
	Median		35 months	38%

Estimated proportion of 43.5 million laboratory tests performed by star level before and after SLMTA implementation (*n*=302)

16%

1 Star 1%
2 Stars 2%
3 Stars 2%
4 Stars 0%
5 Stars 1%
0 Stars 84%

Score 45-54% 23%
Score 35-44% 22%
Score 25-34% 12%
Score 0-24% 27%
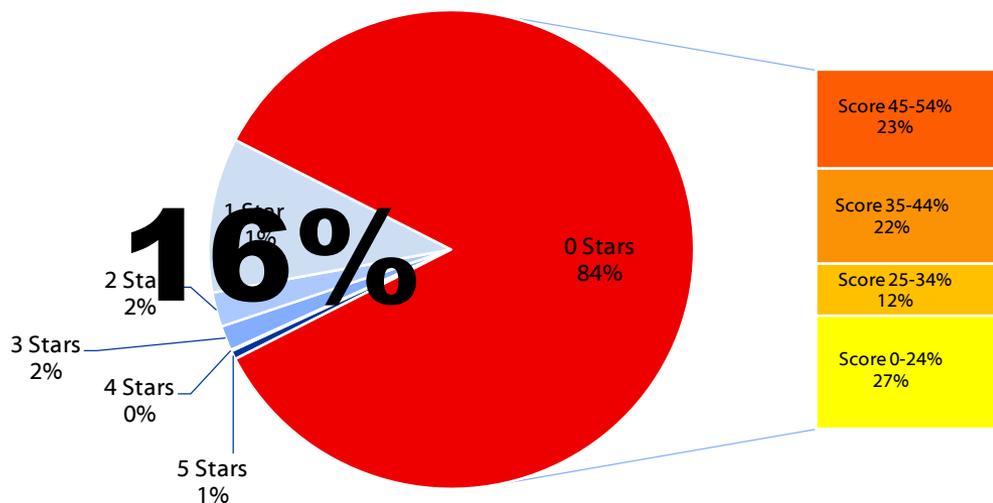
Before SLMTA

16% of tests done in laboratories with at least 1 star

23 million tests were done by labs 0 stars before → 1 or ↑ stars

68%

1 Star 19%
2 Stars 2?%
3 Stars 21%
4 Stars 7%
5 Stars 1%
0 Stars 32%

Score 45-54% 20%
Score 35-44% 10%
Score 25-34% 2%
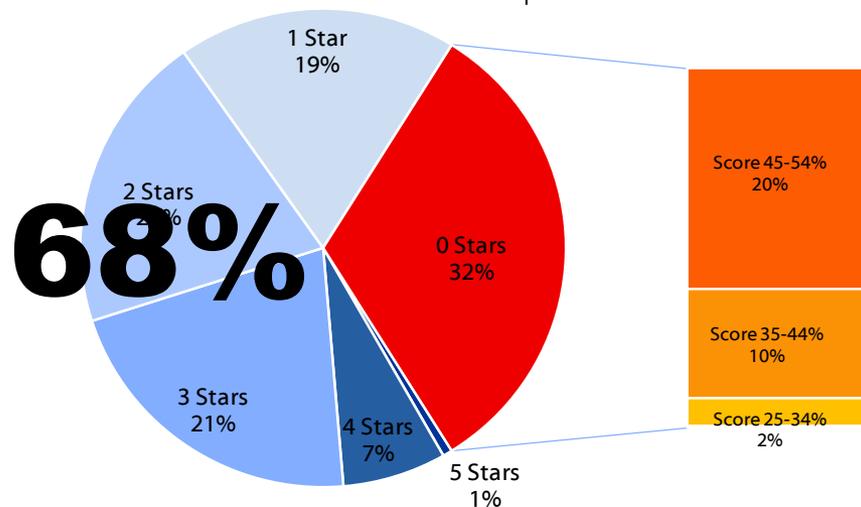
After SLMTA

68% of tests done in laboratories with at least 1 star

4 | Conclusion

Data from the first 4 years of SLMTA implementation (2010-2013) suggests that:

❑ **SLMTA has transformed the laboratory landscape in the developing world by empowering laboratory teams to strive for continuous quality improvement and accreditation, despite limited resources.**

❑ **It has the potential to make a substantial and sustainable impact on the quality of laboratory testing and patient care.**

❑ **SLMTA has emerged as a vital strategy for the fulfilment of ASLM's 2020 Vision:**

> *"By 2020, to enroll 2500 laboratories in the SLIPTA program and enable 250 laboratories to achieve accreditation to international standards"*

- *118* laboratories from *16* countries have been officially audited by ASLM
- *96%* (113) of those laboratories went through the SLMTA program

Acknowledgement

- **Elizabeth Luman, CDC**
- **66 Collaborating authors**

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