“RTCQI+”

Rapid Testing Quality Improvement

TA meets

Digital Transformation
Acknowledgements - SEAD leadership
Acknowledgements - funders

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Who are SEAD Consulting?

• Niche public health consultancy – est. 2005
1. Journey
   • 12 years of improving HTS quality

2. Describe the move to “RTCQI+”
   • The importance of digital health
   • From traditional approach to seamless digital platform

3. RTCQI+ and Health Systems Strengthening:
   • Digitally-assisted TA tools
   • Distance-based learning tools
   • RTCQI+ given as a model – platform available for many HSS programs
Why did SA need to address HIV Rapid Test QI?
Integrated Clinical- Laboratory System Interface Analysis:

Analysis Findings: HIV Testing

August 2010
HIV VCT Rapid Test Process Compliance
- at Activity Group level (National)
Test 2 Analysed - when actually performed

- Identify patient: 72.83%
- Register, history and gloves: 28.30%
- Test 1: 29.06%
- Test 1 Incubation: 27.17%
- Test 1 Results: 66.42%
- Test 2: 18.52%
- Test 2 Results: 12.96%
- Post Counseling: 16.60%
Codifying elements of HTS quality
# Key elements of HTS quality

## Stepwise Process for Improving the Quality of HIV Rapid Testing (SPI-RT) Checklist

### SPI-RT Checklist

Version 3.0

<table>
<thead>
<tr>
<th>Assessment Score Sheet</th>
<th>Total Points</th>
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<tbody>
<tr>
<td><strong>Section</strong></td>
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<td>Section 6</td>
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<td>Section 7</td>
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<td><strong>TOTAL SCORE</strong></td>
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Key elements of HTS quality

Stepwise Process for Improving the Quality of HIV Rapid Testing (SPI-RT) Checklist

### SPI-RT Checklist

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<td>External Quality assessment</td>
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<tr>
<td><strong>TOTAL SCORE</strong></td>
<td><strong>70</strong></td>
</tr>
</tbody>
</table>

**Level 4**
- >90%
- Eligible for national site certification

**Level 3**
- 80% - 89%
- Close to national site certification

**Level 2**
- 60% - 79%
- Partially ready for national site certification

**Level 1**
- 40% - 59%
- Needs improvement in specific areas

**Level 0**
- <40%
- Need improvement in all areas and immediate remediation
Structured, standardized intervention model - RTCQI
RTCQI is a comprehensive package of QI activities that support accurate rapid HIV testing.

Includes:

- Guidelines and policies on QI of rapid HIV testing
- A certification program for testers and sites
- Scaling up proficiency testing programs
- Improving uptake of the standardized HIV testing logbook
- Strengthening capacity to assure the quality of rapid HIV test kits
SEAD applying RTCQI methodology

- Measure improvement
- National policies
- National/regional infrastructure
- Baseline assessments
- Targeted TA
- Interventions
- Training
- IQC and PT

Measure improvement → National policies → National/regional infrastructure → Baseline assessments → Targeted TA → Interventions → Training → IQC and PT → Measure improvement

ASLM - African Society for Laboratory Medicine
RTCQI – does quality improve with TA?

**Project:**

- PEPFAR/CDC award
- Country-wide
- Assist all provinces and Implementing Partners
OVERALL PERFORMANCE PROGRESS
2017 - 2019

2017 Performance
- Level 0: 66.0%
- Level 1: 10.4%
- Level 2: 0.9%
- Level 3: 22.6%

2018 Performance
- Level 1: 38.7%
- Level 2: 3.3%
- Level 3: 55.2%

2019 Performance
- Level 1: 19.8%
- Level 2: 26.9%
- Level 3: 52.4%
- Level 4: 0.9%
SPI-RT PERFORMANCE PROGRESS
2020 - 2021

2020 Performance
- Level 1: 18.9%
- Level 2: 40.6%
- Level 3: 38.2%

2021 Performance
- Level 2: 60.8%
- Level 3: 34.0%
What is SEAD’s Digitally-Assisted TA Platform?

RTCQI+
RTCQI+  
“RTCQI meets digital transformation”

What problem were we trying to solve?

1. Not “precision public health”
2. Move away from paper-based
3. Not enough support to field staff
4. Standardized formats for interventions
5. Reporting was cumbersome
6. Need for greater efficiencies
At organization level

- Took institutional knowledge, evaluation tools and existing training resources
- Converted into
  - state-of-the-art evaluation, support and educational content
  - Video lectures, tutorials, infographics, assessment apps, etc.
- Used by
  - our HSS staff and
  - recipient health care workers and administrators
- Automated analysis systems for data
SEAD moved to:

- Digitally transformed HSS programs
- Enhanced ability to deliver **high quality, standardized** interventions
- Do this **at scale**
- **Without large increases** in specialist **HR** field resources
- **Reporting** on program defined objectives/indicators are
  - Standardized and automated
- Comparability of **data** and **measure of impact**
SEAD’s Digitally-Assisted TA Apps form:

- A **seamless** program **management platform**

- The ability to **rapidly implement and scale** health TA and capacity building programs across value chain
SEAD’s journey to RTCQI+

Needed 3 components:

- SEAD Collect app
- SEAD Management Platform
- SEAD Learning Management System
The journey to RTCQI+

Needed to support different levels

- Field staff
- Managers
- M&E staff
- Donors and governments
Supporting field staff

At field staff level

- **Customized apps** for use on basic smartphones, tablets or laptops

- Apps **do not require** a live internet connection on-site

- **Support them** during site visits by allowing them to
  - analyze an environment
  - conduct capacity building interventions
  - communicate with their managers
  - document their activities and findings
  - track progress
SEAD COLLECT APP

Android based app

- Designed tools are assigned to users
- Submit data when tools are filled in/completed.
- Appears on SEAD platform for manager
Supporting field staff

RTCQI$^+$

XRecorder
Supporting managers

• Managers support staff and guide interventions
  • Access to comprehensive dashboards
  • Live, remote monitoring and management of implementing teams
  • Data and business intelligence visualizations
  • Program M&E and reporting
Management platform

Submission data from app appears on platform

“Live ticker”

Browser

https://seadsolutions.co.za/
RTCQI⁺ -- Converting data into intelligence

At managerial level

- Where to go and what to do
RTCQI+ -- Converting data into intelligence

At managerial level

- Where to go and what to do
RTCQI+ training
RTCQI+ - Learning management system

Three levels

1. In person training
2. Online training
3. On-site training
RTCQI+ - Learning management system

Three levels

1. In person training
2. Online training
3. On-site training
RTCQI+ - Learning management system

Three levels

1. In person training

2. Online training

3. On-site training
RTCQI+ - Learning management system

Lab courses assigned to learners enrolled

COURSE CONTENT

National RTCQI Course - Self Paced

A Training Program and Innovative Approach To Ensure Accuracy and Reliability of HIV Test Results.

You will require at least 80% to pass the Module Quizzes and 86% to pass the Assessment at the end.

Content

- 01. Introduction to HIV Rapid Testing Training.mp4
- RTCQI: Module 3 Quiz
- RTCQI: Module 1 Quiz
- 02. Module 2: Stock Management and inventory.mp4
- RTCQI: Module 2 Quiz
- 03. Module 3: Safety at HIV Testing Sites.mp4
- RTCQI: Module 3 Quiz
- 04. Module 4: Specimen Collection - Finger Prick Blood.mp4
- Module 4 Demonstrates Finger Prick Procedures.mp4
- RTCQI: Module 4 Quiz
- 05. Module 5: HIV Rapid Test Algorithm.mp4
- Module 5 Demonstrates Testing Procedure according to National Testing Algorithms.mp4
- RTCQI: Module 5 Quiz
RTCQI+ modules

- Enrollment
- 00. Introduction to HIV Rapid Testing Training.mp4
- RTCQI: Module 0 Quiz
- 01. Module 1 Assuring the Quality of HIV Rapid Testing.mp4
- RTCQI: Module 1 Quiz
- 02. Module 2 Stock Management and Inventory.mp4
- RTCQI: Module 2 Quiz
- 03 Module 3 Safety at HIV Testing Site.mp4
- RTCQI: Module 3 Quiz
- 04. Module 4 Specimen Collection - Finger Prick Blood.mp4
- Module 4 Demonstration: Finger Prick Procedure.mp4
- RTCQI: Module 4 Quiz
- 05. Module 5 HIV Rapid Test Algorithm.mp4
- Module 5 Demo: Testing Procedure according to National Testing Algorithm.mp4
- RTCQI: Module 5 Quiz
- 06. Module 6 Record Keeping.mp4
- RTCQI: Module 6 Quiz
- 07. Module 7 Quality Control.mp4
- Module 7 Demo: Independent Quality Control Procedure and Trouble Shooting.mp4
- RTCQI: Module 7 Quiz
- 08. Module 8 Introduction to Proficiency Testing.mp4
- Module 8 Demonstration: Proficiency Testing Procedure and Corrective Action.mp4
- RTCQI: Module 8 Quiz
- 09. Module 9 HIV-RT Tester Competency and Certification.mp4
- RTCQI: Module 9 Quiz
- 10. Module 10 SPI-RT Assessment.mp4
- RTCQI: Module 10 Quiz
- 11. RTCQI: Module 11 Professional Ethics
- RTCQI: Module 11 Quiz
- RTCQI Course Evaluation
Assuring the Quality of HIV Rapid Testing
Learning Objectives of this Module:

1. Follow personal health and safety practices
2. Maintain a clean and organised work space
3. Dispose of infectious waste properly and disinfecting work areas
HIV test results are invalid when:

- The kits are stored according to the manufacturer's instructions
- No control line is present within the test device
- The control line is present but faint
- The HIV test results are recorded in the HIV testing register (or logbook) using a red pen

Submit answer
RTCQI+ - Learning management system

Three levels

1. In-person training
2. Online training
3. On-site training
SEAD RTCQI⁺ - Progress tracking
SEAD RTCQI$^+$ - Progress tracking
SEAD RTCQI+ Reporting

Learner Completions by Province and Groups

Province
- Gauteng
- Eastern Cape
- Multiple
- KZN
- North West
- Free State
- Limpopo
- Mpumalanga
- Western Cape

Groups:
- DCS
- DOH
- DSP
- HSRC
- Mixed

Learner Completions
- 361
- 196
- 159
- 62
- 47
- 40
- 33
- 33
- 30
- 25

Gauteng: 361
- DCS: 61
- DOH: 37
- DSP: 75
- HSRC: 36
- Mixed: 53

Eastern Cape: 196
- DCS: 157
- DOH: 159
- DSP: 84
- HSRC: 36
- Mixed: 53

Multiple: 159
- DCS: 62
- DOH: 29
- DSP: 47
- HSRC: 28
- Mixed: 40

KZN: 47
- DCS: 18
- DOH: 12
- DSP: 21

North West: 40
- DCS: 12
- DOH: 33
- HSRC: 33

Free State: 33
- DCS: 30
- DOH: 30

Limpopo: 33
- DCS: 30
- DOH: 30

Mpumalanga: 33
- DCS: 30
- DOH: 30

Western Cape: 25
- DCS: 25
- DOH: 25
- DSP: 25
- HSRC: 25
- Mixed: 25
SEAD RTCQI+ Reporting

Learner Completions by Training Organisations

Training Organisations

Learner Completions

- TSBHC Care - SEAD: 173
- RTC: 159
- WRH & DoH (SEAD): 103
- SEAD Internal: 82
- GP Health RTC: 76
- WRH - SEAD: 54
- DoH: 46
- ANOVA: 42
- DCS: 39
- Broadreach: 38
- AURUM: 32
- TSBHC Care & DoH: 28
- SA Partners: 25
- ES Health - RTC: 23
- City Health / TSBHCare / Astrova: 21
- HST / DoH: 17
- Match: 15
- WRH: 8
- Limpopo NTS and RTC: 3
- Others: 2
Donor/Government reporting
Donor/Government reporting
### Donor/Government reporting

#### SPI-RT Average Performance - All

<table>
<thead>
<tr>
<th>Assessment Areas</th>
<th>% Achieved</th>
</tr>
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<tbody>
<tr>
<td>Percentage scored</td>
<td>90.51%</td>
</tr>
<tr>
<td>Personnel Training and Certification</td>
<td>74.41%</td>
</tr>
<tr>
<td>Physical Facility</td>
<td>92.98%</td>
</tr>
<tr>
<td>Safety</td>
<td>93.82%</td>
</tr>
<tr>
<td>Pre-testing Phase</td>
<td>95.03%</td>
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<tr>
<td>Testing phase</td>
<td>91.01%</td>
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<tr>
<td>Post/testing Phase &amp; Documentation</td>
<td>93.50%</td>
</tr>
<tr>
<td>External Quality Audit</td>
<td>94.26%</td>
</tr>
</tbody>
</table>

#### Districts
- **ANOVA**: Eastern Cape
- **BROADREACH**: Free State
- **HST**: Gauteng
- **MATCH**: KwaZulu-Natal
- **Districts**:
  - Alfred Nzo District Municipality
  - Amathole District Municipality
  - Buffalo City Metropolitan Municipality
  - Capricorn District Municipality
  - Ochaba Local Municipality
  - Public Health Facility (e.g., Clinic, ...)

#### Assessment Occurrence
- **1st Assessment**
- **2nd Assessment**
- **Latest Assessment**
## Donor/Government reporting

<table>
<thead>
<tr>
<th>Province</th>
<th>DSP</th>
<th>ANOVA</th>
<th>BROADREACH</th>
<th>HST</th>
<th>MATCH</th>
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<tbody>
<tr>
<td>Eastern Cape</td>
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<td>Free State</td>
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<td>Gauteng</td>
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<td>Buffalo City Metropolitan</td>
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<td>Cape town District</td>
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### Provincial Comparison

<table>
<thead>
<tr>
<th>Province</th>
<th>Assessments conducted</th>
<th>Percentage scored</th>
<th>Personnel Training and Certification</th>
<th>Physical Facility</th>
<th>Safety</th>
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<th>Testing Phase</th>
<th>Post/testing Phase &amp; Documentation</th>
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<td>88.28%</td>
<td>67.95%</td>
<td>95.21%</td>
<td>95.25%</td>
<td>94.51%</td>
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<td>85.00%</td>
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<td>43.75%</td>
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<td>Grand Total</td>
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<td>90.51%</td>
<td>74.41%</td>
<td>92.98%</td>
<td>93.82%</td>
<td>95.03%</td>
<td>91.01%</td>
<td>93.50%</td>
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### Provincial Average Comparison - All

**Legend:**
- Personnel Training and Certification: 67.95%
- Physical Facility: 94.78%
- Safety: 91.03%
- Pre-testing Phase: 92.83%
- Testing Phase: 89.12%
- Post/testing Phase & Documentation: 93.97%
- Percentage scored: 85.00%
- Assessments conducted: 67.95%

**Provincial Comparison**

- Dashboard - Internal Assess DSP
- Dashboard - Internal Assess DCS
- Overall performance
- Provincial comparison
- District comparison
- SPI-RT

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6.3.1.1 HIV Rapid Testing Continuous Quality Improvement

Improving the quality of laboratory and point of care HIV testing to reduce error and ensure efficient delivery of services is a critical, but often neglected aspect of global public health.

COP/ROP22 Guidance for All PEPFAR-Supported Countries
Seamless digital health platform

1. Greater **understanding** - business intelligence
2. Greater **precision**
3. Greater **support** in real time
4. Greater availability of **focussed training**
5. **Scalable**
6. **Reduced pro-rata cost**
7. **RTCQI**+ one example
   - Applicable to other programs too
THANK YOU

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www.sead.co.za