The impact of SLMTA on Proficiency Testing (PT)/ External Quality Assessment (EQA) participation and performance

SLMTA Symposium, ASLM Conference 2016, 3rd to 4th December 2016
Presentation Outline

• Introduction
• Laboratory system strengthening in Zimbabwe
• Proficiency Testing (PT)
• Methods
• Results
• Challenges
• Lessons learnt
• Recommendations
Introduction

• Laboratories key to the health delivery system
  – Disease diagnosis
  – Monitoring treatment
  – Disease surveillance
  – Research

• Numerous challenges face laboratories in Africa
  – Resource limitation

Sub-optimal quality systems & infrastructure
Laboratory system strengthening in Zimbabwe

• Numerous initiatives
• Establishment of a local PT programme 1998
• Development of SOPs 1999, revised 2006
• MoHCC laboratory directorate
  – Set policy, strategic plan
PT Services Provided by ZINQAP

- Clinical chemistry
- Full blood count
- CD4
- Microbiology
- Serology
- POCT systems
Laboratory system strengthening in Zimbabwe - SLMTA

• Piloted in 2010
  – 11 laboratories
  – 3 workshop series

• Rolled out 2012
  – Imbedded mentorship
  – 2012 19 laboratories
  – 2016 31 laboratories
Proficiency Testing (PT)

• External quality assessment (EQA)
• Key indicator of laboratory quality and service delivery
• Zimbabwe – unique position PT Programme running since 1998
  – PT data available prior to the implementation of SLMTA
Methods

• Retrospective analysis of PT data prior to and post SLMTA implementation

• Determine participation
  – Before, during after the implementation of SLMTA
  – Comparison of SLMTA & non-SLMTA labs

• Assess performance in selected analytes
Results: Participation - FBC

Percentage of Laboratories

Year


Response Rate Cohort 1
Response Rate NonSLMTA
Results – Participation FBC

• General increase in participation in PT in all laboratories
  – Pre-SLMTA 48% (40% - 49%)
  – Post SLMTA 62% (60%-65%)

• Comparison of SLMTA and non-SLMTA labs
  – Non-SLMTA labs 61% (55%-63%)
  – SLMTA - 78% (73% - 88%)
Results – Participation Clinical Chemistry

- Participation rates over the years for Clinical Chemistry.
- Key data points include:
  - Year 2005/6: 90% Response Rate Cohort1, 80% Response Rate NonSLMTA
  - Year 2006/7: 80% Response Rate Cohort1, 70% Response Rate NonSLMTA
  - Year 2007/8: 70% Response Rate Cohort1, 60% Response Rate NonSLMTA
  - Year 2008/9: 60% Response Rate Cohort1, 50% Response Rate NonSLMTA
  - Year 2009/10: 50% Response Rate Cohort1, 40% Response Rate NonSLMTA
  - Year 2010/11: 40% Response Rate Cohort1, 30% Response Rate NonSLMTA
  - Year 2011/12: 30% Response Rate Cohort1, 20% Response Rate NonSLMTA
  - Year 2012/13: 20% Response Rate Cohort1, 10% Response Rate NonSLMTA

- The graph shows a steady decline in participation rates for both Cohort1 and NonSLMTA groups until 2009/10, after which there is a significant increase in participation rates.
Results: Participation Clinical Chemistry

• Similar observation for Clinical Chemistry - General increase in participation in PT in all laboratories

• Comparison of SLMTA and non-SLMTA labs
  – Non-SLMTA labs improvement from 41% to 55%
  – SLMTA laboratories improvement 61% to 78%
Results: Performance Hb

<table>
<thead>
<tr>
<th>Year</th>
<th>Acceptable-SLMTACohort1</th>
<th>Acceptable-NonSLMTA</th>
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<tbody>
<tr>
<td>2004/5</td>
<td>90%</td>
<td>80%</td>
</tr>
<tr>
<td>2005/6</td>
<td>95%</td>
<td>75%</td>
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<tr>
<td>2006/7</td>
<td>90%</td>
<td>70%</td>
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<tr>
<td>2007/8</td>
<td>85%</td>
<td>65%</td>
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<tr>
<td>2008/9</td>
<td>90%</td>
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<td>85%</td>
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<td>2010/11</td>
<td>90%</td>
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<tr>
<td>2011/12</td>
<td>95%</td>
<td>75%</td>
</tr>
<tr>
<td>2012/13</td>
<td>100%</td>
<td>80%</td>
</tr>
</tbody>
</table>
Results: Performance Hb

• SLMTA labs generally performed better than non-SLMTA laboratories,
  – Eve prior to piloting SLMTA
• Improvement in performance observed after implementing SLMTA
Results: Performance ALT
Challenges

• Limited appreciation of PT
• Limited transport infrastructure and courier systems for the distribution of panels
• Poor communication systems for submission of results
• Limited oversight
Discussion

• Implementation of SLMTA had a positive impact on PT participation and performance
  – NB: Participation was quite good even prior to SLMTA

• Performance of non-SLMTA laboratories also seemed to improve

• Concern over the laboratories not participating – no means of determining the quality of testing
Lessons Learnt

• PT is a useful tool that can be used to monitor the quality of testing.
  – Can be used to determine the impact of interventions implemented
  – Identify gaps or challenges in the system

• Laboratories & testing sites must participate in PT to monitor quality of testing

• PT must be cost efficient for wide up-take
Recommendations

• Mandatory participation in PT
• Establishment of local PT programmes
  – More cost efficient
  – Allows for more effective remedial action
• Supervision and monitoring of PT participation and performance
Thank You

Improving laboratory and testing Quality Systems for quality health service delivery