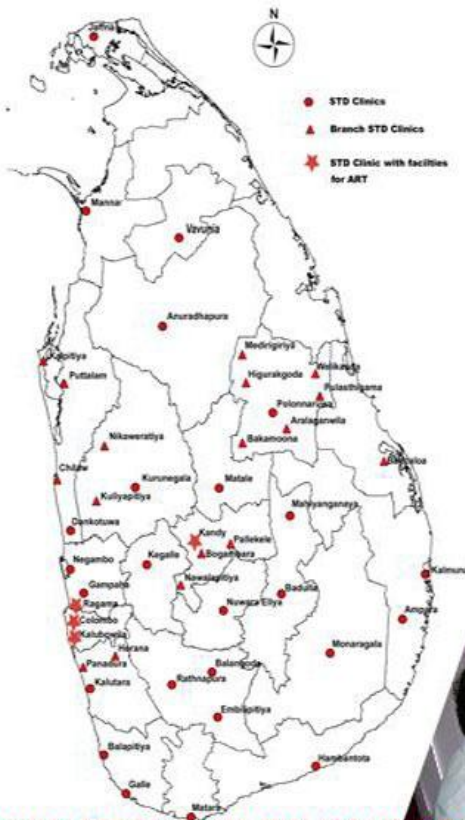


# 2012 Syphilis Serology Quality Assessment (SSQA) Programme Panel 2nd Summary Report

## NATIONAL STD/AIDS CONTROL PROGRAMME

### STD clinics in Sri Lanka



Hard work for reliability



We see your health much closer



We are the only people who confirm your good health



We can check your body immunity system



Dealing with microbes for your welfare



Viruses are under our control

### WE PAY OUR ATTENTION TO YOUR HEALTH



We are blessed with new technologies for your care

**Central Laboratory**  
**NSACP**  
**De Seram Place,**  
**Colombo 10.**  
**31/01/2013**

**Dear participant'**

**2012 Syphilis serology quality assessment (SSQA) programme**  
**2<sup>nd</sup> Panel Summary Report**

This summary report includes data for the 2<sup>nd</sup> panel of SSQA programme in year 2012. SSQA 2<sup>nd</sup> panel serum sample was distributed to the participating laboratories in November 2012. In the enclosed report form, laboratory results have been entered under your assigned laboratory code number for the test or tests in which you participated.

Test evaluated for            VDRL & TPPA

Accepted performance is an average score of >90%. If your performance does not meet this level please review the specific test technique with the assistance of the reference laboratory for this purpose. Please do not hesitate to contact Mr.A.A.A. Kithsiri at 2667163 if you need any clarifications.

Medical officers/SMLT that is in charge of the laboratories who have failed to participate in this programme are requested to communicate with the consultant Microbiologist to discuss the reasons of their inability to participate and to find solutions.

.....  
 Mr A A A Kithsiri  
 Medical Laboratory technologist,  
 Coordinator SSQA Programme ,  
 NSACP  
 Colombo 10

.....  
 Dr. Lilani Karunanayake  
 Consultant Microbiologist,  
 Supervisor SSQA Programme,  
 NSACP  
 Colombo 10

## Introduction

The purpose of the SSQA program is to measure the proficiency of participating laboratories in performing the VDRL and TPPA tests used in the serodiagnosis of syphilis. The data resulting from the SSQA program were used to evaluate the performance of individual laboratories for the purpose of improving the laboratory services provided Countrywide. The results from the laboratories participating in the SSQA 2<sup>nd</sup> panel of 2012 program are presented in this analysis.

## Materials and methods

### Sample preparation

All serum samples in this panel were prepared from individual human serum or converted plasma, that had been determined to be either reactive or non reactive in serologic test for syphilis, performed by three of experienced senior Medical Laboratory Technologist in NSACP central laboratory. Reactive specimens were diluted, if necessary, to the desired titers with non-reactive serum or converted plasma samples. Bronidex was used as a preservative .Serum were filtered to remove bacterial contamination and aseptically dispensed in to autoclaved micro vials. All samples were tested for HBsAg, HIV 1/2 Abs, and found to be negative.

Five specimens each were packed with the limited packing materials available in the central laboratory. Each of these packages was handed over to the participants with the forms of entering data.

### System for grading participants

The objective of the SSQA program was to determine the performance of a testing procedure of a participating laboratory as compared to the performance of the same procedure by the reference laboratory. Tests were performed according to the reagent manufacturer's directions.

According to the guideline provided **qualitative results** were reported using the following symbols. For uniformity of report all **quantitative results** were expressed in dilutions (the reciprocal of the highest dilution at which the test sample produced a reactive results).

VDRL: -

- R - Reactive (R<sub>1</sub>, R<sub>2</sub>, R<sub>4</sub>, R<sub>8</sub>, R<sub>16</sub>, R<sub>32</sub>, R<sub>64</sub>, R<sub>128</sub>, R<sub>256</sub>)
- WR - Weekly Reactive
- NR - Non Reactive
- \* - Not done

TPPA:-

- P** - Positive
- N** - Negative

## Method of grading SSQA

| Qualitative tests     |                           |    |                |    | Quantitative tests    |                           |    |                |                |                |                |                 |                 |                 |  |
|-----------------------|---------------------------|----|----------------|----|-----------------------|---------------------------|----|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|--|
| Reference lab results | Participating Lab results |    |                |    | Reference Lab results | Participating Lab results |    |                |                |                |                |                 |                 |                 |  |
|                       | N                         | WR | R <sub>1</sub> | R  |                       | N                         | WR | R <sub>1</sub> | R <sub>2</sub> | R <sub>4</sub> | R <sub>8</sub> | R <sub>16</sub> | R <sub>32</sub> | R <sub>64</sub> |  |
| N                     | 20                        | 10 | 0              | 0  | N                     | 20                        | 10 | 0              | 0              | 0              | 0              | 0               | 0               | 0               |  |
| WR                    | 10                        | 20 | 20             | 10 | WR                    | 10                        | 20 | 10             | 0              | 0              | 0              | 0               | 0               | 0               |  |
| R <sub>1</sub>        | 0                         | 20 | 20             | 10 | R <sub>1</sub>        | 0                         | 10 | 20             | 10             | 0              | 0              | 0               | 0               | 0               |  |
| R                     | 0                         | 10 | 10             | 20 | R <sub>2</sub>        | 0                         | 0  | 10             | 20             | 10             | 0              | 0               | 0               | 0               |  |
|                       |                           |    |                |    | R <sub>4</sub>        | 0                         | 0  | 0              | 10             | 20             | 10             | 0               | 0               | 0               |  |
|                       |                           |    |                |    | R <sub>8</sub>        | 0                         | 0  | 0              | 0              | 10             | 20             | 20              | 10              | 0               |  |
|                       |                           |    |                |    | R <sub>16</sub>       | 0                         | 0  | 0              | 0              | 0              | 10             | 20              | 20              | 10              |  |
|                       |                           |    |                |    | R <sub>32</sub>       | 0                         | 0  | 0              | 0              | 0              | 10             | 20              | 20              | 10              |  |
|                       |                           |    |                |    | R <sub>64</sub>       | 0                         | 0  | 0              | 0              | 0              | 10             | 20              | 20              | 10              |  |

### 2012 Syphilis serology quality assessment programme 2 nd panel

#### Reference Lab Results

| Sample No | Qualitative | Quantitative  | Reproducibility                | TPPA |
|-----------|-------------|---------------|--------------------------------|------|
| QC 6      | NR          | NR            | NR,WR                          | N    |
| QC 7      | R           | R (16),R (32) | R (8) ,R (16),<br>R (32),R(64) | P    |
| QC 8      | NR          | NR            | NR ,WR                         | N    |
| QC 9      | NR          | NR            | NR,WR                          | P    |
| QC 10     | R           | R (2)         | R(1),R(2),R(4)                 | N    |

**2012 Syphilis serology quality assessment programme 2nd panel**  
**Participants Lab Results and Scores**

| LAB<br>Cord No<br>& Panel | QC<br>6 | QC<br>7 | QC<br>8 | QC<br>9 | QC<br>10 | VDRL<br>Qualit<br>ative | VDRL<br>Quanti<br>tative | TPPA<br>Qualita<br>tive | TPP<br>A<br>Res<br>ults | QC<br>6 | Q<br>C<br>7 | QC<br>8 | QC<br>9 | Q<br>C<br>10 |
|---------------------------|---------|---------|---------|---------|----------|-------------------------|--------------------------|-------------------------|-------------------------|---------|-------------|---------|---------|--------------|
|                           |         |         |         |         |          |                         |                          |                         |                         |         |             |         |         |              |
| ST 01                     | NR      | R 16    | NR      | NR      | R 2      | 100                     | 100                      | Not done                | -                       | -       | -           | -       | -       |              |
| ST 02                     | NR      | R 16    | NR      | NR      | R 2      | 100                     | 100                      | 100                     | N                       | P       | N           | P       | N       |              |
| ST 03                     | -       | --      | -       | -       | -        | -                       | -                        | Not done                | -                       | -       | -           | -       | -       |              |
| ST 04                     | NR      | R 16    | NR      | NR      | R 2      | 100                     | 100                      | 100                     | N                       | P       | N           | P       | N       |              |
| ST 05                     | NR      | R 8     | NR      | NR      | R 2      | 100                     | 90                       | 80                      | P                       | P       | N           | P       | N       |              |
| ST 06                     | NR      | R 64    | NR      | NR      | R 2      | 100                     | 90                       | 100                     | N                       | P       | N           | P       | N       |              |
| ST 07                     | NR      | R 32    | NR      | NR      | R 2      | 100                     | 100                      | 100                     | N                       | P       | N           | P       | N       |              |
| ST 08                     | WR      | R 32    | WR      | NR      | R 1      | 80                      | 70                       | 100                     | N                       | P       | N           | P       | N       |              |
| ST 09                     | NR      | R 32    | NR      | NR      | R 2      | 100                     | 100                      | Not done                | -                       | -       | -           | -       | -       |              |
| ST 10                     | NR      | R 16    | NR      | NR      | NR       | 80                      | 80                       | 80                      | N                       | P       | N           | N       | N       |              |
| ST 11                     | NR      | R 32    | NR      | NR      | WR       | 90                      | 80                       | 100                     | N                       | P       | N           | P       | N       |              |
| ST 12                     | -       | -       | -       | -       | -        | -                       | -                        | -                       | -                       | -       | -           | -       | -       |              |
| ST 13                     | NR      | R 32    | NR      | NR      | R 4      | 100                     | 90                       | 100                     | N                       | P       | N           | P       | N       |              |
| ST 14                     | -       | -       | -       | -       | -        | -                       | -                        | Not done                | -                       | -       | -           | -       | -       |              |
| ST 15                     | NR      | R 16    | NR      | NR      | R 4      | 100                     | 90                       | 100                     | N                       | P       | N           | P       | N       |              |
| ST 16                     | -       | -       | -       | -       | -        | -                       | -                        | -                       | -                       | -       | -           | -       | -       |              |
| ST 17                     | NR      | R 32    | NR      | NR      | R 2      | 100                     | 100                      | 60                      | N                       | P       | N           | N       | P       |              |
| ST 18                     | NR      | R 32    | NR      | NR      | R 2      | 100                     | 100                      | 100                     | N                       | P       | N           | P       | N       |              |
| ST 19                     | NR      | R 32    | NR      | NR      | R 2      | 100                     | 100                      | 80                      | N                       | P       | N           | N       | N       |              |
| ST 20                     | NR      | R 8     | NR      | NR      | NR       | 80                      | 70                       | 80                      | N                       | P       | N           | N       | N       |              |
| ST 21                     | NR      | R 16    | NR      | NR      | R 2      | 100                     | 100                      | Not done                | -                       | -       | -           | -       | -       |              |
| ST 22                     | NR      | R 16    | NR      | NR      | R 2      | 100                     | 100                      | 100                     | N                       | P       | N           | P       | N       |              |
| ST 23                     | -       | -       | -       | -       | -        | -                       | -                        | -                       | -                       | -       | -           | -       | -       |              |
| ST 24                     | -       | -       | -       | -       | -        | -                       | St.Test                  | 100                     | N                       | P       | N           | P       | N       |              |
| ST 25                     | -       | -       | -       | -       | -        | -                       | St.Test                  | 90-                     | N                       | P       | N           | WP      | N       |              |
| ST 26                     | -       | -       | -       | -       | -        | -                       | -                        | Not done                | -                       | -       | -           | -       | -       |              |
| ST 27                     | -       | -       | -       | -       | -        | -                       | -                        | 100                     | N                       | P       | N           | P       | N       |              |
| ST 28                     | -       | -       | -       | -       | -        | -                       | -                        | -                       | -                       | -       | -           | -       | -       |              |
| ST 29                     | -       | -       | -       | -       | -        | -                       | -                        | -                       | -                       | -       | -           | -       | -       |              |
| ST 30                     | NR      | R 32    | NR      | NR      | R 4      | 100                     | 90                       | 80                      | N                       | P       | N           | N       | N       |              |
| ST 31                     | NR      | R       | NR      | NR      | R        | 100                     | -                        | Not done                | -                       | -       | -           | -       | -       |              |
| ST 32                     | -       | -       | -       | -       | -        | -                       | -                        | Not done                | -                       | -       | -           | -       | -       |              |
| ST 33                     | NR      | R 16    | NR      | NR      | R 2      | 100                     | 100                      | Not done                | -                       | -       | -           | -       | -       |              |
| ST3 4                     | R 2     | R 32    | R 4     | NR      | NR       | 40                      | 40                       | Not done                | -                       | -       | -           | -       | -       |              |
| ST3 5                     | NR      | R 8     | NR      | WR      | R 1      | 90                      | 70                       | Not done                | -                       | -       | -           | -       | -       |              |
| ST3 6                     | NR      | R 32    | NR      | NR      | WR       | 90                      | 80                       | 100                     | N                       | P       | N           | P       | N       |              |

## Summary Report

VDRL slide test 24 laboratories were participated

| Sample No | Reference Lab results               | No of participants who got same results | Percentage % |
|-----------|-------------------------------------|---|--------------|
| 06        | NR                                  | 22                                      | 91.66        |
| 07        | R <sub>16</sub> , R <sub>32</sub> , | 19                                      | 79.16        |
| 08        | NR                                  | 22                                      | 91.66        |
| 09        | NR                                  | 23                                      | 95.83        |
| 10        | R <sub>2</sub>                      | 13                                      | 54.16        |

TPPA test 18 laboratories were participated

| Sample No | Reference Lab results | No of participants who got same results | Percentage % |
|-----------|-----------------------|---|--------------|
| 06        | N                     | 17                                      | 94.44        |
| 07        | P                     | 18                                      | 100          |
| 08        | N                     | 18                                      | 100          |
| 09        | P                     | 13                                      | 72.22        |
| 10        | P                     | 17                                      | 94.44        |

Out of 36 invited laboratories only 24 had participated in VDRL and 17 laboratories had scored 100 marks **by qualitative** assay, 11 laboratories had scored 100 marks **by quantitative** assay. (One laboratory is not done quantitative assay)

Out of 36 participated laboratories 18 had used confirmatory TPPA test & 13 laboratories had scored 100 marks. (Two laboratories were done Strip test.)

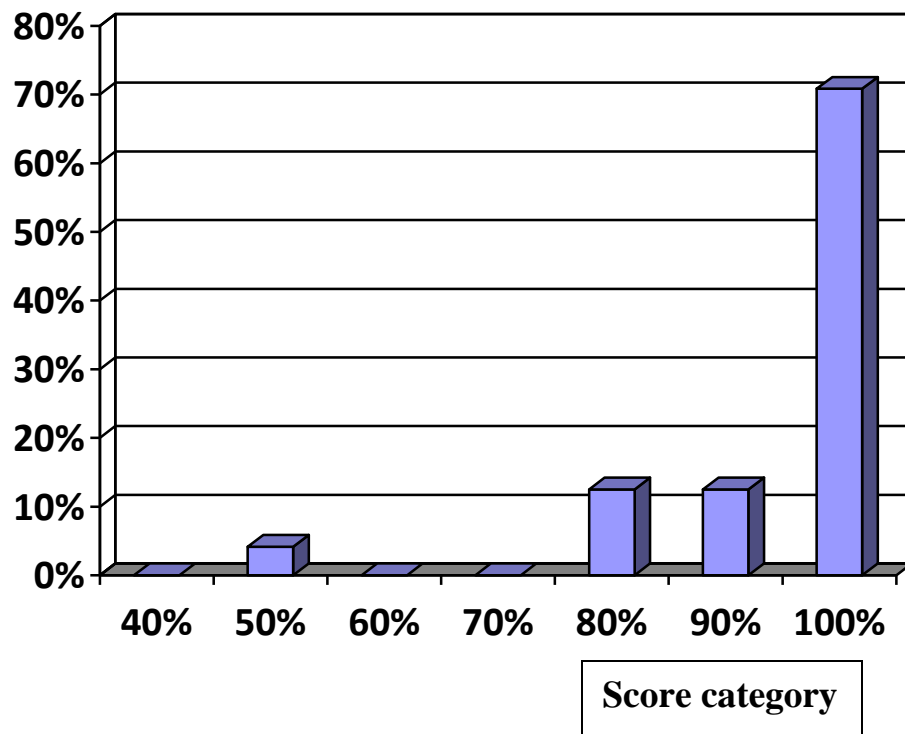
## RESULTS

Thirty-six (36) laboratories were invited to SSQA 2012 2<sup>nd</sup> panel program. Of that 9 laboratories failed to participate. (Code No. 3, 12, 14, 16, 23, 26, 28, 29, 32) Strip test method was used in Two Laboratories (Code No.24, 29). Rest of the laboratories had done VDRL slid test. Confirmatory syphilis test (TPPA) was used by 18 laboratories and 13 scored 100% marks.

### VDRL Qualitative assay (24 laboratories participated )

| Scoring category | No of labs Reaching to this category | Percentage % |
|------------------|--------------------------------------|--------------|
| 100              | 17                                   | 70.83        |
| 90               | 03                                   | 12.5         |
| 80               | 03                                   | 12.5         |
| 70               | 00                                   | 00           |
| 60               | 00                                   | 00           |
| 50               | 00                                   | 00           |
| 40               | 01                                   | 04.16        |

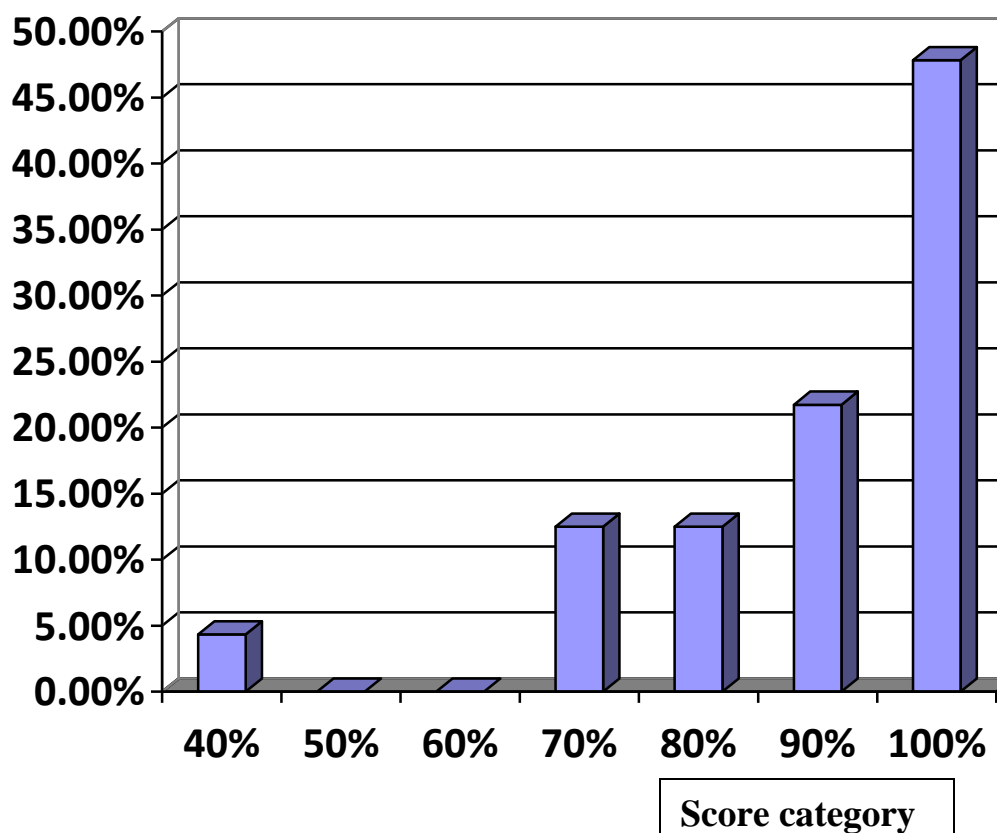
■ VDRL Qualitative test  
percentage of participant  
from 24 labs



### VDRL Quantitative assay (23 laboratories participated )

| Scoring category | No of labs Reaching to this category | Percentage % |
|------------------|--------------------------------------|--------------|
| 100              | 11                                   | 47.82        |
| 90               | 05                                   | 21.73        |
| 80               | 03                                   | 12.5         |
| 70               | 03                                   | 12.5         |
| 60               | 00                                   | 00           |
| 50               | 00                                   | 00           |
| 40               | 01                                   | 04.34        |

■ VDRL Quantitative test  
percentage of participant from  
23 labs





## 2012 SSQA 2<sup>nd</sup> Averaged Scores of Participants

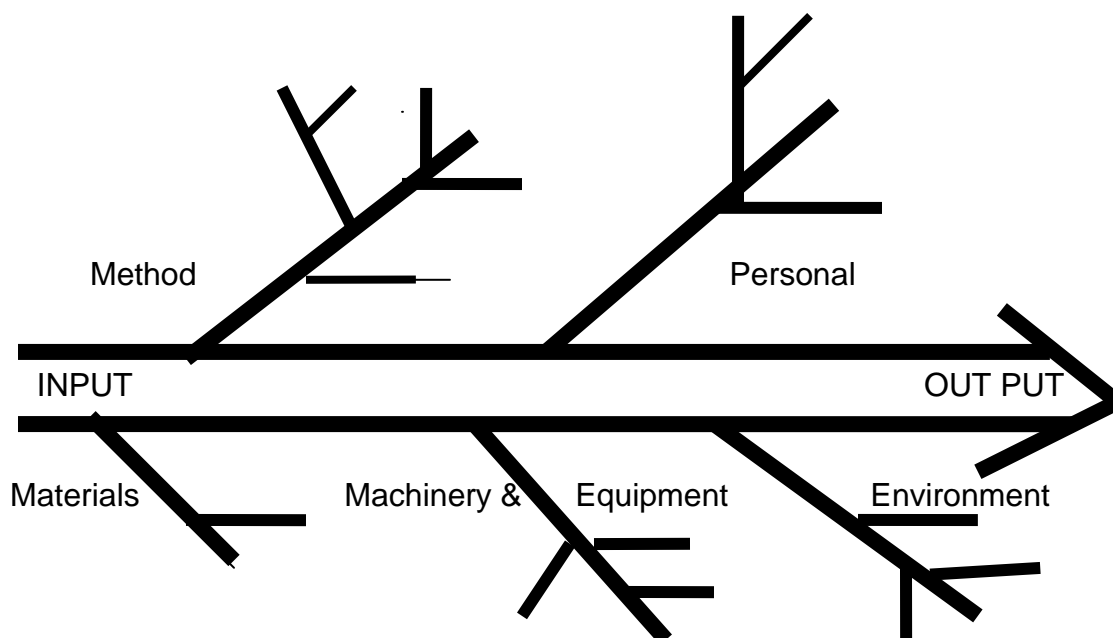
| Cord number | No of samples tested | VDRL Qualitative | VDRL Quantitative | TPPA Qualitative |
|-------------|----------------------|------------------|-------------------|------------------|
| ST-01       | 5                    | 100              | 100               | Not done         |
| ST-02       | 5                    | 100              | 100               | 100              |
| ST-03       | 5                    | -                | -                 | Not done         |
| ST-04       | 5                    | 100              | 100               | 100              |
| ST-05       | 4                    | 100              | 90                | 80               |
| ST-06       | 5                    | 100              | 90                | 100              |
| ST-07       | 5                    | 100              | 100               | 100              |
| ST-08       | 5                    | 80               | 70                | 100              |
| ST-09       | 5                    | 100              | 100               | Not done         |
| ST-10       | 5                    | 80               | 80                | 80               |
| ST-11       | 5                    | 90               | 80                | 100              |
| ST-12       |                      | -                | -                 | -                |
| ST-13       | 5                    | 100              | 90                | 100              |
| ST-14       | 5                    | -                | -                 | Not done         |
| ST-15       | 5                    | 100              | 90                | 100              |
| ST-16       |                      | -                | -                 | -                |
| ST-17       | 5                    | 100              | 100               | 60               |
| ST-18       | 5                    | 100              | 100               | 100              |
| ST-19       | 5                    | 100              | 100               | 80               |
| ST-20       | 5                    | 80               | 70                | 80               |
| ST-21       | 5                    | 100              | 100               | Not done         |
| ST-22       | 5                    | 100              | 100               | 100              |
| ST-23       |                      | -                | -                 | -                |
| ST-24       | 5                    | -                | St.Test           | 100              |
| ST-25       |                      | -                | St.Test           | 90-              |
| ST-26       | 5                    | -                | -                 | Not done         |
| ST-27       | 5                    | -                | -                 | 100              |
| ST-28       |                      | -                | -                 | -                |
| ST-29       | 5                    | -                | -                 | -                |
| ST-30       | 5                    | 100              | 90                | 80               |
| ST-31       | 5                    | 100              | -                 | Not done         |
| ST-32       | 5                    | -                | -                 | Not done         |
| ST-33       |                      | 100              | 100               | Not done         |
| ST-34       | 5                    | 40               | 40                | Not done         |
| ST-35       | 5                    | 90               | 70                | Not done         |
| ST-36       | 5                    | 90               | 80                | 100              |

## Discussion

SSQA 2012, 2nd panel was successfully completed on 2013.01.31 with the support of all participating laboratories that have completed & sent data on time. Performances of some of the participants were satisfactory while scores of some participants were not up to standard.

The following factors may affect the quality of the results.

### FACTORS AFFECTING QUALITY RESULTS



#### NOTE

Participating laboratories not meeting the criteria for satisfactory test performance as indicated above should carefully evaluate their procedure, equipment and reagents to identify the problem and take corrective actions. **They could also communicate with the organizing laboratory to discuss any issues.**

#### Acknowledgments

NSACP would like to thank all participants for their co-operation and participation in SSQA 2<sup>nd</sup> panel 2012. If you have any comments or queries about your reports or any other issues please contact NSACP on 2667163. I would like to thank Dr.Lilani Karunanayeke (Consultant Microbiologist- NSACP) for her supervision to conduct this programme. I would also like to thank our colleagues in NSACP for their assistances.