Report

WHO/NICD Microbiology External Quality Assessment Programme Joint Annual Review Meeting

Johannesburg, South Africa

14th to 15th February 2013

WHO/NICD Microbiology External Quality Assessment Programme
Joint Annual Review Meeting, Johannesburg, South Africa
from 14th to 15th February 2013
Venue: PRF, seminar room No2, Sandringham, NICD/NHLS

Background

Among the laboratory quality system elements, External Quality Assessment (EQA) programmes are essential to the establishment and support of good laboratory practices. EQAs are also essential to increase the confidence in the laboratory results that are used for surveillance purposes of IDSR priority diseases and Vaccine-Preventable Diseases.

Within this scope, the WHO has been coordinating an African Microbiology EQA programme since 2002. The EQA programme is technically organized by the National Institute for Communicable Diseases (NICD), South Africa.

The programme consists of shipments of EQA materials to National Public Health Laboratories (NHPLs) (and/or the main hospital or research laboratories functioning as NPHLs), as well as laboratories involved in the Pediatric Bacterial Meningitis (PBM) Surveillance Network three times per year, by express courier. Referee laboratories are used to control the quality of the EQA materials. Seven disciplines are covered currently by the program as follows: bacterial enteric diseases, bacterial meningitis, general bacteriology (blood culture, swabs, etc.), antimicrobial susceptibility testing, plague, malaria microscopy and acid-fast bacilli (TB) microscopy.

The WHO/NICD Microbiology EQA Programme in Africa, now entering its eleventh year, has been successful in establishing a regular communications network as well as identifying technical, management, and advocacy needs encountered by participating laboratories.

From 2002, review meetings have been regularly organized with the relevant WHO units (AFRO and Headquarters) and NICD staff. These annual review meetings allow WHO and NICD to review the policy and procedures of the EQA programme, and offer guidance for the upcoming year.

Against this background, WHO and NICD have organized the joint annual review meeting in NICD/Johannesburg from 14th to 15th February 2013.

Proceeding

Day One: 14 February 2012

Opening session

On behalf of the NICD's Executive Director, Professor Shabir Madhi, welcome remarks were made by Professor Adrian Puren. He reminded the audience that the External Quality Assessment Programme (EQAP) is a major indicator for laboratory performance, and highlighted the added value of Laboratory Quality Management Systems (LQMS) and the Stepwise Laboratory Quality Improvement Process Towards Accreditation (SLIPTA). He informed participants of the introduction of EQAP for HIV and concluded that the discussions during this meeting will contribute to improved laboratory services in the WHO African Region.

This was followed by Dr Harry Opata, WHO representative in South Africa. He welcomed the participants to this important meeting on behalf of the WR, Dr. Sarah Barber. He mentioned the importance of NICDs support for many laboratories in the region for the past 11 years through WHO EQAP. He ended by wising the outcomes of the meeting be successful.

Objectives, expected results and method of work (Dr Francis Kasolo, AFRO)

After the introduction of participants, Dr Francis Kasolo provided a picture on the burden of cholera and meningitis in the region and the impact of the introduction of MenAfriVac. He presented data on antimicrobial resistance in bacterial enteric pathogens in the African Region. Against this background, he emphasised the importance of enhancing laboratory capacity for identification of priority pathogens and antimicrobial susceptibility testing.

In addition, he presented an overview of the country laboratory performance in EQAP for meningitis and enteric disciplines and indicated clearly that there are few laboratories maintaining consistent excellent performance in EQAP. He anticipated that the meeting should offer opportunities to discuss various issues, challenges and key actions for strengthening and maintaining laboratory capacity in the African Region.

He listed the expected results of the meeting as follows:

- Organization, operation and duties of the WHO/NICD Microbiology EQA Programme for the year 2012 discussed and reviewed
- Country and laboratory performance of the year 2012 of the WHO/NICD Microbiology EQA Programme and other EQA programmes shared and discussed
- Challenges and barriers for regular participation and reaching the target of 75% acceptable responses
- Draft roadmap for improving and maintaining laboratory capacity in the WHO African Region for accurate confirmation of targeted diseases of the WHO/NICD Microbiology EQAP

Review of last year's recommendations (Dr Ali Ahmed Yahaya, AFRO)

Dr Yahaya's presentation indicated that almost all the 2011 recommendations have been implemented by WHO and NICD. Among the key achievements, he clarified that activities were conducted on the following areas: Awarding mechanisms through a letter confirming the participation in the EQAP, APW for the 2012 EQAP contract, communication improvement through translation of documents from English into French and Portuguese, development and dissemination of AMR guide and finalization of EQAP report 2011-2012. However, the activity which needs to be implemented properly is the regular teleconference before and after each survey between WHO and NICD.

Discussions on the following elements followed:

- There is an overlap on the list of laboratories participating in the general bacteriology and Pediatric Bacterial Meningitis programs and as a result some laboratories may receive two different panels for the meningitis discipline despite the two programs covering the diagnosis of the same pathogens. It is recommended to review the list of the laboratories from the two programs. There is already a discussion that has been conducted at AFRO level between laboratory focal points from different clusters involved in the two programs. It is crucial to find a way of harmonizing the two lists so that the shipments of panels may be sent in a coordinated manner to PBM and PHL networks. In addition, technical assistance may take into account the two programs even if the scopes of PBM and PHL are quite different in order to improve capacity in bacteriology in general and specifically for meningitis diagnosis.

- NICD should play a critical role to map the participating laboratories in close collaboration with AFRO. In addition, as this institute coordinates several EQAPs for the African region, it is proposed to send the panels in one package to the countries if it is more cost effective. It was indicated that funds should be mobilized in order to cover the appropriate needs of NICD for coordinating all these disciplines. This support will include the regular updating of the complete addresses of each laboratory. It was mentioned that more focus needs to be undertaken for non-responding laboratories. It is mandatory that the national reference laboratory from each country should be alert on importance of actively participating in the program.

- Designation of NICD as a WHOCC for EQAP has been abolished as it would compromise WHO contract with NICD for EQAP. This may affect the logistical implementation of this important programme. However, a NICD expertise in field of monitoring and analyzing the AMR should qualify for WHO CC application. NICD should continue to work with AFRO on the process for the designation as WHO CC which requires additional effort from Antimicrobial Resistance Reference Laboratory at COTHI. There are few laboratories in the Region designated as WHO CC and AFRO will continue to work with NICD on this process.

General review of EQA results for the year 2012 and comparison with past years and some logistic issues (Dr Olga Perovic, NICD)

Dr Perovic provided an historical overview of the EQAP and listed the objectives of the program and highlighted the role of NICD and AFRO on monitoring the performance of participating laboratories and identification of problems for appropriate corrective actions. The technical implementation group (TIG) at the NICD with ~10 experts are involved directly in the overall coordination and implementation of the programme. Eighty One laboratories from 45 countries in the WHO African Region participate in the program, 2 of which only focus on the plague discipline.

It was presented that the percentage of laboratories returning results for each survey ranged from 39 to71% and the average laboratory turnaround time ranged from 18 to 22 days. This finding indicated that AFRO should enhance interest of the laboratories in close collaboration with each of the relevant Country Offices.

It was agreed in consensus that participating laboratories should achieve at least 75% of acceptable results to be acknowledged of having excellent performance. In general, microscopy and identification of isolates for all areas were satisfactory. However, AMR and serotyping remain an issue. The comparison of results between 2011 and 2012 does not show significant improvement, although in 2012 , the list of antibiotics to be tested were provided to the participants and guided laboratories for AMR testing and reporting. She ended her presentation with some key points such as the usefulness of translations of forms and commentaries to French and Portuguese and the need for continuous updating of participants details with names and contact details by WHO/AFRO with support from the NICD.

The elements discussed in the above presentation were summarized in the paragraph below:

Approximately 20% of laboratories are not responding to the surveys. It is important to immediately investigate the reasons for non-responding laboratories, especially national public health laboratories or reference laboratories. AFRO should call these laboratories one by one to identify clearly the issues. In addition, AFRO and NICD need to update the contact emails and telephones numbers of all laboratories participating in the WHO EQAP. This may contribute to reduce the number of non-responding laboratories. It is also essential to improve the reception of the panels timely in the laboratory by involving the national authorities and the WHO Country Office. The planning of the teleconference for better communication between NICD and AFRO should be initiated. A suitable period for all the key players in charge of coordinating this program should be identified by the both sides.

Review of results for meningitis discipline including short discussion of 10 min (Linda de Gouveia, NICD)

Six surveys were sent in two years (2011 and 2012). Seventy nine laboratories participated in this discipline and 4 laboratories never returned any results. She emphasized the need to be strict on the non-responding laboratories. Almost all the laboratories performed well in microscopy, and most of the problems experienced by laboratories when performing culture and identification and AMR, are probably due to poorly prepared and/or quality controlled culture media and failure to follow international standards. Serotyping performance remains poor. Seven laboratories got zero points in the all steps of the program. In general, some technicians do not read the feedback provided as these provide regular useful information on how to avoid errors and an approach for dealing with corrective and preventative actions.

Review of results for plague discipline including short discussion of 10 min (Jenny Rossouw, NICD)

Seventeen laboratories in fifteen countries are participating in this programme. For each survey, one of the following tests has been selected: culture and identification, Rapid Dipstick and smear microscopy. Four laboratories were not responding mainly for survey 2012-2 and 2012-3.

Review of 2012 results of general bacteriology discipline and logistical issues related to all surveys, including short discussion of 10 min (Crystal Viljoen, NICD)

The identification of a Methicillin Resistant *Staphylococcus aureus* was well performed by the laboratories. In general, there are still issues for receiving response from all the laboratories and there is a delay in the submission of the results. The development of WHO clearance letter to the national authorities may resolve them and propose a way to facilitate the reception of the panels by the laboratories.

The discussions on the three above presentations came up with some issues that need to be improved. It was suggested to develop a WHO clearance letter for airport to state that the content of the package has no commercial value. There is no significant improvement in the overall EQAP performance for all the laboratories since 2002 despite that some laboratories have been able to maintain the score above 75%. The issue of AMR has not yet been solved properly. One among the challenges is the lack of quality laboratory management system as well as the issue of the regular availability of key reagents. It is the responsibility of the laboratories to focus on their internal quality assurance for improvement. This indicates the importance of AMR regional training for underperforming countries, the planning for on-site training sessions for specific laboratories and the support for the implementation of the AFRO AMR guide. Government need to take the lead on these activities in close collaboration with partners.
It was indicated also that solutions should be identified beyond the only EQAP. The implementation of the laboratory policy and the laboratory quality management will also contribute on the enhancement of the laboratory performance. The countries should set up an

efficiency procurement system so that appropriate and good quality of reagents will continually be available. The DPCs at the WCOs need to be more involved in monitoring the participation of the laboratories in their countries and other issues related to this program. The results of each survey for an individual country should also be shared to the DPC from this country; however they will be sensitized on the confidentiality of the information. The government may need to see these results as well as the head of laboratory in MoH. This will be an advocacy for involving the MoH to address the identified issues in the program. Effort need to be enhanced for each country on the laboratories involved in the confirmation of meningitis and enteric pathogens during outbreaks. It is not admissible that a PHL has an issue on the basic bacteriology such as microscopy or identification of pathogens. Further discussions will be conducted at AFRO to solve these issues mainly the strategy for better communicating to the government. The resolution on the PHL will also be used to sensitize the government on the importance of this programme. The running costs and the resource mobilization for laboratory services should be among the top priority actions for the national authorities. This has an impact on the improvement of laboratory services.

The appropriate actions for non-responding laboratories for each discipline mainly if the lab functions as reference laboratory in its country should be constantly reviewed, implemented and monitored. The feedback report should also be sent by NICD to the non-responding laboratories to allow them to be sensitized on the add value of the program. In case, the laboratory is still not responding despite several actions conducted by WHO and NICD for enrolling the laboratory in this program, it is possible to drop the laboratory temporarily in the surveys. This is very critical decision and need to be well documented before implementation. Program coordinators (WHO and NICD) need to have better understanding of the rationale behind the non-participation.

It was agreed on consensus to continue to send 3 panels per year; however, strategies need to be identified to support corrective actions for the potential laboratories that may improve their capacity after technical assistance. For instance, support should be provided to the laboratories with results between 50 to 74%.

There are several WHO tools to enhance quality and support selected laboratories, for example HQ Lyon is in process to finalize a leadership course for the laboratory directors.

The issue of the reviewing the list of the participating laboratories in order to enroll in the program all the recognized reference laboratories for each discipline by country has been further discussed. It was proposed to contact the DPC to provide appropriate information of this issue. The program needs to have clear idea of the progress for the formal reference laboratories.

It was recalled that the program sent dipsticks to all the selected laboratories to ensure the testing of plague. Discussion was conducted to understand the advantage of sending the test to the laboratories that may not have routinely the RDT for outbreak investigation. An identification of manufactures to ensure the possibility of providing sufficient quantity of RTD reagents for outbreak investigations needs to be explored.

Review of year 2012 results for tuberculosis discipline (Peggy Willson, NICD)

She started the presentation by indicating that the TB microscopy panels consist of 10 slides and the participating laboratories are required to use the International Union Against Tuberculosis and Lung Disease (IUATLD) grading system for reporting of smears.
Currently, 77 laboratories participate in this programme of which 60% have acceptable results. She concluded her presentation on the following key points:

- In 2012, NICD did not accept results received after the result submission deadline and late submission were only accepted in exceptional circumstances.
- The number of non-responders for 2012 has decreased. However there is a need for review of laboratory participation.

Review of 2012 results for mycology discipline (Ruth Mpembe, NICD)

As the global burden of HIV-associated cryptococcal meningitis is still high in the African region, the reference laboratories should be able to support diagnosis of fungal pathogens. Ruth Mpembe informed the meeting participants that there is new dipstick test (LFA) to detect cryptococcal antigen. WHO has recommended use of an antigen test as the first-line test for diagnosis of cryptococcal meningitis. In 2012, samples (*Cryptococcus neoformans* culture for identification) were shipped to 79 participants and responses to the overall survey were received from only 39 laboratories; only 12 laboratories had a correct response. The lack of staff and reagents may have been among the reasons for non-response to this challenge. The NICD reference laboratory recommended that the WHO programme continue to include cultures of *Cryptococcus* and *Candida* and simulated spiked CSF samples for microscopy in bacteriology surveys. It was also recommended that simulated CSF samples spiked with cryptococcal antigen be added for proficiency testing of the dipstick test.

Review year 2012 results of enteric discipline (Arvinda Sooka, NICD)

The notifiable diarrheal diseases reported from Africa are Cholera, Typhoid, *E. coli* O104 and *Shigella* dysenteriae type 1. The antimicrobial susceptibility testing is among the issues identified. Not all the laboratories indicated whether they performed any specific biochemistry testing. Although, some laboratories indicated that they are using more than one method, it would be relevant to investigate the possibility to introduce some automatic technologies such as VITEK or MICROSCAN to improve the identification of the pathogens and the AST. The number of laboratories responding to the panels was less than 50 during all the surveys. She proposed to consider the option of including a questionnaire to investigate challenges of laboratories to determine the issues on getting poor response to EQA programme and also highlighted to support the laboratories on institutionalizing the Standard Operating Procedures to improve laboratory support.

Review of year 2012 results for malaria discipline (Bhavani Poonsamy, NICD)

Overall, the microscopy results are fairly good. It is still evident from the results that participants have difficulty with non-falciparum and non-malaria species identification. False negative and false positive results do occur but are limited. It is concerning that for high parasitemias, there are still some laboratories reporting a negative result.
The parasite counts are performed poorly compared to microscopy. Participants' counts are not consistent; this is seen from the intra- and inter-survey repeats.
The percentage of non-returns remains too high. There were five laboratories that did not respond to all three of the 2012 surveys; of these three did not return any of the 2011 surveys as well. We still need to work on the list to identify the laboratories that need to be taken off the Programme. Feedback from participants in the 2012 surveys was shown and discussed.

The following were recommended: 1) to send teaching aid for examination of blood films and counting parasites on the thick blood film, 2) to have a procedure to deal with participant feedback and 3) include RDT challenges. It was discussed that the inclusion of RDT samples as challenges may be difficult at this stage as not many laboratories are using RDTs. We may request participants to provide more information on the kits used routinely in their laboratories.

After the 4 above presentations, participants discussed on the key issues related to the different panels. The idea of the insertion of RDTs for more disciplines was been approved if needed. There are as well more and more laboratories that are not responding to the surveys for TB disciplines. The group does not have clear idea of the reasons for this issue. AFRO needs to update the list of each discipline as soon as possible in close collaboration with the unit in charge of specific discipline such as TB and Malaria. AFRO would like to receive the feedback from the participants to ensure appropriate actions for responding to these requests. After the meeting, AFRO will work on approach to involve the policy makers for each country to support this program.
The RDTs for malaria can be also implemented although microscopy is still the gold standard.
It is possible in the future to expand the program to promote new technologies that may improve laboratory services. It was recalled the importance on sensitization of policy makers using the findings from the program.
The approach on developing SOPs or Job aids or recommendations taking into account the context in the Region was discussed and it was agreed to start with 2 pathogens such as cholera and salmonella for enteric diseases. The WHO manuals will be used as reference documents but these job aids or recommendations will be developed in a manner to be more useful for the laboratories taking into account the lesson learned from the EQAP program during the past 10 years.

Implementation of WHO-AFRO Stepwise Laboratory Quality Improvement Process Towards Accreditation (SLIPTA) (Dr Jean Bosco Ndihokubwayo, AFRO)

The WHO/AFRO SLIPTA is a WHO, CDC and ASLM joint initiative. It is a framework for improving quality of public health laboratories in the African region to achieve ISO 15189 standards. Based on the principles of affordability, scalability, measurability, and accessibility,

SLIPTA promotes country ownership of the process and sustainability of the improved quality of the laboratories. A significant number of laboratories are now enrolled in the process and have started implementing SLIPTA. With partners support, the Ministries of Health ensure the cost of running this program. Approximately twenty countries have already designated SLIPTA focal points. ASLM, WHO and other partners are providing support to the MoHs to develop and implement the Country Laboratory Quality Improvement Strategic Plans. Dr Ndihokubwayo indicated in his presentation that the SLIPTA documents are composed of a guidance policy document and a checklist aligned with ISO15189. WHO/AFRO SLIPTA Checklist is an evaluation tool while SLMTA and LQMS are used as training materials that can be used to implement SLIPTA. For the assessment of each laboratory, the SLIPTA has 12 sections and the maximum score for complying with these sections is 250 points. The enrolled laboratory is audited against SLIPTA Checklist and recognized as operating at a level of performance demonstrated by star rating.
The implementation of WHO/AFRO SLIPTA that has started in a number of countries is bringing in a lot of enthusiasm and motivation from the enrolled laboratories.

WHO Quality Improvement Programme for microbiology reference/public health laboratories (Dr Sébastien Cognat, HQ/Lyon)

Training materials exist (LQMS toolkit) but in many regions there is no WHO operational roll-out framework and no benchmarking system to measure progress made by public health laboratories in area of QMS. Despite all these training materials, day to day implementation of a quality management system remains a challenge. In this view, a WHO Laboratory quality Stepwise Implementation (LQSI) tool, based on the Global Laboratory Initiative Stepwise Process Towards Tuberculosis Laboratory Accreditation, will be soon published on WHO website. It aims to provide day-to-day guidance to national reference public health laboratories to implement a quality management system and become accredited. This will decrease the need for expensive technical assistance. This tool is based on CLSI 12 Quality Systems Essentials and ISO 15189 requirements and is fully compatible with other existing tools and checklists such as the SLIPTA checklist.

After the presentation, some clarifications were provided during the discussion. The tools for training, implementation and assessment on laboratory quality management systems will be used to guide the countries to improve the quality in the laboratory as well as to promote for some of them progressively for accreditation. It is true that there are several tools that are available and some of them are really complementary. WHO office should continue to advice the countries to implement quality by using the tools that are suitable for them. In addition, WHO will facilitate the access to accreditation bodies. Laboratories participating in the EQAP promote and support laboratory quality management system.

After the presentations and the discussions, Dr Ndihokubwayo congratulates the entire group on the fruitful outcomes of meeting and recapitulates the key elements that have been discussed as follows:

- There are scopes for improvements of EQAP despite that the program has been running for 11 years. Main issue is the increasing number of non-responding laboratories for all the disciplines.
- The coordination between NICD and WHO for EQAP needs to be enhanced mainly on the communication level and identification of corrective actions.
- The opportunity of existing tools to improve LQMS should be used to improve the performance of laboratories on the EQAP.
- The group would like to develop job aids in order to improve performance of the laboratories

In the context of global access to malaria treatment RDTs are becoming critical as we have to test first and treat afterward; it is important to explore the possibility of including RDTs in the Mal/Microscopy PT schemes so that we can support countries in their efforts to validate their laboratory performance to use properly RDTs.

Day two: 14 February 2012

The Year 2013 of the WHO/NICD microbiology Programme design: Organization, operation and duties (Marshagne Smith & Olga Perovic-NICD)

In this introductive presentation to allow further discussion on the subjected mentioned above, she listed the issues that may need clarity as follows:

- Updating of participants lists
- Monitoring of corrective actions
- Capacities of laboratories to perform serotyping
- Approach to deal with referrals
- Improvement of communication
- Certificates of participation and performance
- WHO logo on annual reports
- Programme of work for 2013
- Web enabled data entry and reporting
- IB-VPD PT Scheme Google based website

As part on the process for updating the participants lists, the DPCs in the WHO Country Offices should be included in the mailing lists of the NICD database. It is requested during this exercise to tick the discipline that each laboratory is performing to allow NICD to send the surveys according to the task performed by each of these laboratories. This may also be conducted in close collaboration with the team in charge of IVB to avoid duplication of sending the same challenges to the same laboratories.

The feedback for corrective actions should include the following questions at the end of the report: suggestive cause of the ongoing issues and proposed corrective actions that will be filled by the responsible person in the laboratory for sending results and followed by laboratory manager. The analysis of the responses from each laboratory will be done by NICD in close

collaboration with WHO AFRO and key issues will be shared to individual laboratories if needed. The findings will be used by WHO to propose regular corrective actions.

Capacities of laboratories to perform serotyping or serogrouping will be scored taking into account the level of laboratory. This test is mandatory for each national reference laboratory. The NICD database will be updated according new requirements. WHO AFRO should supports sending the appropriate information for each participating laboratory to resolve non-conformances.
The issue on scoring of laboratories is the referral of specimens for insistence for serotyping. Referral is considered to be the movement of the specimen from a laboratory with an identification number to another laboratory that has a different identification number. It was agreed that if referral for testing is routinely performed for patient specimens, the practice cannot be followed for PT specimens. In this view the referral should not be evaluate. However, the laboratories that are considered as national reference lab should be able to perform all the tests for the PT specimens.

In order to improve communications, the shipment date and closing date should be shared to all laboratories and WHO as soon as possible. In addition, the non-return report and the regional summary report should be shared with AFRO. AFRO is interested to receive the feedback from each individual laboratory. This will allow to identify unacceptable performances of each country and to trouble shoot problems as well as to propose key actions for enhancing the laboratory capacity.

The certificates of participation should be sent to all laboratories that have responded to all the surveys during the year. However the certificate for performance should be only for the laboratory that have ≥75% to all the surveys as well as provide the results in appropriate turnaround time. These certificates should be sent to the laboratories at the end of the 3 surveys. The trend analysis of the finding should be shared by NICD to WHO.

For each annual report, it is agreed that both logos for NICD and WHO/AFRO should be inserted in the cover page of the report. It was also decided that the WHO AFRO and NICD logos will be inserted in the official EQA communications.

The NHLS Web enabled PT Schemes may provide real time sharing of the ongoing activities. The access of the information in the web will be provided based on roles and responsibilities of each person involved in the programme. This IB-VPD PT Scheme website is a good initiative as it will allow simplifying the work of NICD to enter themselves the results from the countries. In addition, NICD provides the option for sending hard copies for those may have difficult to use the tool. However, there are some key issues that may need to be taking into considerations:

- The language that are in the tool is currently only in English
- The re-checking of the quality of the information by NICD is not yet well defined despite that the laboratories should treat the panels as patient samples. We may receive errors

from the laboratories but this is responsibility of the total laboratory quality management system.

It was strongly recommended to propose also an offline option for laboratories that have no real time access to Internet.

At the end of the discussion, it was mentioned that AFRO will continue to support the translation of the documents in English, French and Portuguese for the questionnaires, the forms and commentaries.

EQA program for HIV serology: news from the NICD (Adrian Puren, NICD)

NICD will re-start an EQA programmed for HIV, 2 years after the last programmed was stopped because of lack of funding. The design of this new scheme will include testing of panels according the routine diagnostic testing and six-member panel with combination of negative and positive specimens. The EQAP cycles may include rapid tests and/or ELISA for the three panels during the year and other relevant techniques. The fourth generation testing as well as HIV 2 specimens may be included in the surveys. As the other disciplines, a trend analysis will be conducted in addition to triangulation of results from the same laboratories. Some approaches may as well be envisaged such as quality improvement activities including LQMS technical assistance. SLIPTA tool may help as well to monitor the progress on the different supports.

During the discussion, it was mentioned that the HIV EQAP will include the national reference laboratories from 26 countries and an APW between AFRO and NICD has already been set up. An additional discussion is ongoing to include hematology and biochemistry schemes.
The HIV program will identify appropriate corrective actions including improvement of quality using the existing resources as well as the promotion of the regular performance of internal quality assurance and on-site visits to the countries.

Quality assurance of malaria RDT (Chloe Masetti, AFRO)

In 2010, WHO recommended universal parasitological confirmation of all patients suspected of having malaria before treatment is started. In 2010, 37 of 44 malaria-endemic countries in the WHO African region reported having adopted such a policy. A total of 18 African countries are now deploying RDTs at the community level.

It was proposed that EQA for RDTs should be implemented in 2014, once positive control wells are available, with strong collaboration between NICD and AFRO starting in 2013. Other key points during the discussion are summarized as follows:

- Scoring issue for malaria need to be updated.
- Accreditation for microscopy process is provided to staff not to the institution
- EQAP is for the entire laboratory staff dealing for diagnosis of malaria and should not focus on an individual.
- All the disciplines for Malaria, TB and bacteriology should be sent together on all the participating laboratories.

Internal meeting between WHO to strengthen laboratory services in the WHO African Region

An internal meeting between WHO staff was organized after the one and half day's session between WHO and NICD.
The key point discussed during the afternoon session was as follows:

- Non responding laboratories
- Quality management system
- Corrective actions for the laboratories

For the non-responding laboratories, it was proposed to undertake as soon as possible the following actions:

- Develop a comprehensive list of laboratories participating in the EQAP by each discipline [Bacteriology, Meningitis, Enteric, TB, Malaria and Plague]. Involve other programs in AFRO for working in the appropriate list of laboratories
- Develop a comprehensive list of laboratories none responding on the EQAP by discipline and survey. Involve the WHO Country office to follow up this issue through emails and official letters

Regarding the quality management system, it was remarked that there are several tools or initiatives already available on all aspects for building capacity and implementing the quality in laboratories in the African Region. The tools cover the following key areas: training (e.g. WHO/CDC/CLSI LQMS training toolkit, CDC SLMTA), implementation process (CDC SLMTA, GLI tool, WHO LQSI) and assessment on the progress toward accreditation (e.g. SLIPTA). Each tool has its specificity. However, they are all based on the same CLSI 12 quality Systems Essentials and ISO 15189 requirements, allowing for complementary. It was strongly propose the following to allow the enhancement of laboratory services:

- Technical assistance will be provided to the country in order to enhance quality management system through training, on-site or online implementation and assessment of the progress made
- As there are several tools developed by different partners, country will select the tools that may be appropriate according the national context in order to achieve the requirement of IHR. WHO will support the countries to adapt these tools based on the appropriate country needs.

Next steps

Activity	Timeline	Responsible	Comments
1- General issues			
Feedback reports	For each panel	NICD and AFRO	Detailed feedback reports and requests from laboratories for capacity building e.g LQMS to be send to AFRO by NICD
Non –responding labs	For each panel	AFRO	Make decision on the laboratories to be dropped if needed.
Anthrax training	End April	AFRO and NICD	Further discussion will be conducted for this topic
Number of panels	Not applicable	AFRO and NICD	3 per years should be kept as previous years
Certification	End of 2013	AFRO	Criteria already discussed and activity to be implemented every year
APW timeliness	End of February for 2013	AFRO	One APW for all disciplines should be promoted
2- Malaria			
Scoring system	Mid-March	NICD	Malaria group will decide on criteria to score parasite count challenges and will share with all the groups.
Translations in French and Portuguese	For each panel	AFRO/HSS	HSS for Malaria discipline and TB. DSR for Bacteriology
2 additional referee labs from America		NICD and HQ	HQ to contact PAHO to get full contact details of the 2 additional referee labs
Teaching aids for survey 2	Survey 2	NICD	Share the document to WHO
3- Enteric			
Questionnaire for assessing challenges in English, French and Portuguese	Before panel 1	NICD and AFRO	The questionnaire will assess the following: reagents, training, internet, equipment, staff ie Self-assessment of status of each lab. Corrective actions will be conducted based on the findings. AFRO will send the questionnaire to WCOs. The questionnaire will cover all the disciplines. The questionnaire will be initiated by NICD and share to WHO comments. The questionnaire should address the issues for the annual meeting.
Recommendations/Job aids for enteric reference labs: Cholera and Salmonella as priority	End of April	NICD enteric lab and AFRO	Job aids taking into account the context in the region. Standardization and minimal requirements with clear options on media. NICD will initiate the first draft Job aids. In the future, it will be expended to the other disciplines if it is more useful for the laboratories

Activity	Timeline	Responsible	Comments
4- Mycology			
Include fungal pathogens in the meningitis panel: Cryptococcus, Candida	2013	NICD	The burden of HIV-associated cryptococcal meningitis is still high
5- Tuberculosis			
Scoring system	Before the end of 2013	NICD	Review the scoring system. Retrospective analysis based on the new scoring system across other disciplines. 2011-2012 including 2013. NICD to discuss if it is feasible.
6- General Bacteriology			
Recommend the lab to consult EUCAST document	Q1	NICD	EUCAST not commercial Guidelines available for AST, teaching tools Link to be shared by NICD to the labs and WHO
AST issues		WHO NICD	Corrective actions should be continuously promoted and the AMR guide and other manuals should be distributed. Capture zone diameters should be encouraged. Among the issues are the follows: appropriate methodology including QC, Lab not using appropriate media, not know how to use E-test and procurement. The importance on promoting the LQMS. Share regularly trends analysis including the list of labs with good performance. Lesson learned from previous years need to be document. Identify the issue and support labs with performance between 50-74 % [these are the potential labs need support at this stage].
7- Plague			
Update list	End of March	AFRO	The issue of adding other countries if relevant such as Algeria and Mali. Confirm the list of labs with at potential risk of plague outbreaks/list of labs performing plague specimen. Risk assessment should be conducted
Find referral lab	End of March	AFRO	HSS to start identifying lab in close collaboration with other programs and HQ
Panels microscopy and culture	All panels	NICD	RDT to be removed in the panel at this stage.

List of participants

WHO

- Harry Opata (WCO South Africa)
- Francis Kasolo (AFRO)
- Jean Bosco Ndihokubwayo (AFRO)
- Ali Ahmed Yahaya (AFRO)
- Chloe Masetti (AFRO)
- Sébastien Cognat (HQ/GCR/SID/HLS/-Lyon office)
- Christopher Oxenford (HQ/GCR/SID/HLS Lyon office)

NICD

- Shabir Madhi*
- Olga Perovic
- John Frean
- Adrian Puren
- Janusz Paweska
- Bhavani Poonsamy
- Anne von Gottberg
- Linda de Gouveia
- Arvinda Sooka
- Peggy Willson
- Crystal Viljoen
- Marshagne Smith
- Ashika Singh-Moodley
- Jenny Rossouw
- Ruth Mpembe
- Yoliswa Bacela

* unable to attend