Cross-Network IQA CD4 Working Group: Guidelines for non-U.S. Laboratory IQA Monitoring, Data and Communication Flow

Abbreviations and Acronyms

- The Immunology Quality Assurance (**IQA**) program refers to the contract partner which conducts the IQA program, based at the Duke Human Vaccine Institute
- National Institutes of Health (**NIH**)
- Division of Acquired Immunodeficiency Syndrome (**DAIDS**)
- Network members include:
    - HIV Prevention Trials Network (**HPTN**)
    - HIV Vaccine Trials Network (**HVTN**)
    - AIDS Clinical Trials Group (**ACTG**)
    - International Maternal Pediatric Adolescent AIDS Clinical Trials Group (**IMPAACT**)
    - Microbial Trials Network (**MTN**)
    - International Network for Strategic Initiatives in Global HIV Trials (**INSIGHT**)
- National Institute of Child Health and Human Development (**NICHD**)
- Network Site Affiliated Laboratory (**NSAL**)
- HIV Clinical Trials Network Laboratories (**NL**)
- Total Quality Management (**TQM**) Program
- Patient Safety Monitoring and International Laboratory Evaluation (**SMILE**)

Introduction

The validity of diagnostic and monitoring tests is dependent on the quality of the measures employed before, during, and after each assay. The consistent production of valid results will more likely occur when an overall program that includes Quality Assurance (QA) and Quality Control is utilized. To this end, the HIV Clinical Trials Network Laboratories (NL) endeavor to improve the quality and efficiency of protocol-related testing under a Total Quality Management (TQM) Program. Oversight of the TQM Program is provided by the Cross-Network Laboratory PI Committee and the Laboratory Focus Group (LFG). The Lab PI/Manager Committee will guide the working groups and participants responsible for the implementation of the TQM Program, and is comprised of representatives of DCLOT each of the networks, NICHD, and EQA contractors. The Laboratory Focus Group represents a subset of the Lab PI/Manager Committee and is comprised of key Network Laboratory (NL) and/or Operations personnel of each network. These Network Laboratory and Operations personnel serve as network contacts and are responsible for monitoring EQA results for each network.

The QA Working Groups in support of the TQM Program include the Immunology Quality Assurance (IQA) CD4 working group, comprised of representatives from the IQA program, representatives from the DAIDS Laboratory Oversight Team, representatives from each of the respective networks, and contractors such as Immunology Quality Assurance (IQA) and Patient Safety Monitoring and International Laboratory Evaluation (SMILE). The function of the IQA CD4 working group includes:

1. Review data from immunology assay proficiency testing.
2. Coordinate proficiency testing materials (e.g. qualification/troubleshooting panel) and shipping support.

3. Establish monitoring standards, which should differentiate between missing data, transcriptional or computational errors, and technical problems. Decisions regarding the consequences of unacceptable performance should take each of these types of problems into consideration. These standards will be considered for:
   A. Protocol startup: Any new lab must run and pass a VERIQAS panel, which includes the equivalent of 10 rounds of testing, before initiating protocol testing. The IQA will notify the networks of the results, and the networks will notify the labs when they are approved to do network studies.
   B. Protocol continuation/cessation of testing: Protocol testing continues until a network determines that the lab's performance is poor enough to cease testing.

Overview of Responsibilities and Data and Communication Flow

The delineation of roles and responsibilities follows the IQA CD4 flow diagram of general roles and responsibilities in Figure 1 at the end of this document.

The following are the steps in the iterative process for data and communication flow:

1. Networks will notify the IQA program will of specific NSAL IQA needs.
2. Rarely, when UK NEQAS panels cannot be used, the IQA program will coordinate with the networks and DAIDS-funded laboratories to order, or assist in ordering, acceptable IQA panels.
   a. Communicate with acceptable vendors to ensure that all laboratories have EQA coverage.
   b. Arrange for the payment as directed by DAIDS.
   c. Arrange shipping as appropriate.
   d. Develop and provide to the NSAL and networks IQA shipping schedules that will cover all IQA providers and surveys ordered for the year.
   e. Request that laboratories obtain the necessary import permits and forward paperwork to all relevant IQA providers. A copy of the permits should also be sent to the IQA program to facilitate management of importation problems.
3. The IQA provider (e.g. UK NEQAS) will ship survey material to the NSAL on the given shipping date. The IQA program will:
   a. Use direct shipping by IQA provider; surveys will be shipped via a courier service where necessary.
   b. Arrange third party shippers, as needed –FedEx, Norvick, World Courier, and F&M Imports are the most used alternative shippers.
   c. Resolve delivery problems with the NSAL and others.
   d. Maintain a resource page on the IQA Website that states the shipping date and results due date for the upcoming round of testing.
4. The NSAL will submit survey results directly to the IQA provider as feasible. The IQA program will:
   a. Provide support to the NSAL to ensure survey results are correctly submitted to IQA providers on time. This support may consist of facilitating electronic access, FAX, or email submission.
   b. Coordinate with the IQA provider to allow delayed submittal of results and survey evaluation.
   c. Follow up with the NSAL in the case of missing results.
5. The IQA provider will generate **IQA Provider Survey Event Reports** (e.g. **UK NEQAS Survey Event Reports**, see IQA CD4 Appendix A for an example), post them on their website, and send email alerts to the IQA and participating labs when the reports are available.
   a. The IQA will access all its **UK NEQAS Survey Event Reports** on the UK NEQAS website
   b. Labs will access only their own reports on the UK NEQAS server
   c. Reports from previous trials will be posted in their own folders

d. The previous six reports will also be accessible on the UK NEQAS website; older reports will be archived but quickly accessible by contacting UK NEQAS
e. The reports will be divided per trial and coded according to lab ID#
f. Note: Network Laboratory and Operations personnel will not have access to the reports on the UK NEQAS website

6. The IQA program will obtain **IQA Provider Survey Event Reports** from the IQA provider, or if necessary, manually grade survey results. The IQA program will:
   a. Post the **IQA Provider Survey Event Reports** in the NSAL folders on the IQA website.
   b. Communicate with each NSAL (copy Network Laboratory and Operations personnel) to:
      i. Confirm pass/fail status of each analyte
      ii. Solicit an **IQA Corrective Action Investigation Form** (IQA CD4 Appendix B for an example) from the NSAL, if necessary
   c. Distribute **IQA Survey Event Reviews** to:
      i. Labs
      ii. Lab folders on the IQA website
   d. Create/distribute to Network Laboratory and Operations personnel **International CD4 Lab Performance Summary** spreadsheet, which will include:
      i. UK NEQAS Performance sheet
         1) Lab ID
         2) UK NEQAS Status (Active/Inactive)
         3) Lab name
         4) Country
         5) Site Contact
         6) Cohort Study
         7) Flow Cytometer and Assay Platform
         8) Summary of results for current round and six previous six rounds (Satisfactory/Unsatisfactory)
      ii. Round Summary sheet
         1) Date and number of trial
         2) Total number of reports reviewed
         3) Total number of participating labs
         4) Total number of labs with satisfactory status
         5) Total number of labs with unsatisfactory status
         6) List of labs that failed or did not submit results in 2 of the last 3 trials
7. If necessary, within 30 days of receiving notice that an **IQA Corrective Action Investigation Form** is required, the NSAL will complete and submit it to the IQA program and to the appropriate Network Laboratory and Operations personnel. The IQA will maintain a delinquency list of NSALs that haven't responded to the request and the network contacts(s) will follow up with the lab as necessary.
8. The IQA program will communicate with the NSAL regarding **IQA Corrective Action Investigation Forms**.
   a. Emails and phone calls between the IQA and lab are collected in an **Event Communications Log** (see IQA CD4 Appendix C for an example), which will be posted in the lab folder on the IQA Website). The **Event Communications Log** will include (see example below):
      i. Basic laboratory information:
         1) UK NEQAS ID:

2) Lab Name (Nickname-City-Country-LDMS)
3) Site Contact(s)
4) Affiliated network(s)
5) Flow Cytometer(s) and Assay Platform(s)
6) UK NEQAS Performance Status
7) Testing Round

ii. Communication Information:
1) Date
2) Email/Phone
3) Participants
4) Communication Summary

b. Network Laboratory and Operations personnel will be copied on all email communications.

9. Corrective Actions will be discussed with Network Laboratory and/or Operations personnel via email, telephone, and the IQA CD4 Working Group Call as necessary; these communications will also be summarized in the **Event Communications Log**. This will allow for all interested parties to be part of the discussion in shared NSAL.
   a. Specific questions or issues should be addressed to the IQA site representative via email. An updated list of IQA program site representatives is available in each laboratory's folder on the IQA website.
   b. The IQA program will include all applicable Network Laboratory and/or Operations Center personnel on communications as requested via email lists maintained by the IQA program. Email, IQA website access, and telephone calls are all possible means of communication with network personnel.
   c. When sufficient corrective action is completed, the IQA will sign the **IQA Corrective Action Investigation Form**
   d. The **IQA Corrective Action Investigation Form** will be posted on the IQA Website in the NSAL folder, and distributed to the NSAL and all applicable Network Laboratory and/or Operations Center personnel.
   e. The IQA will prepare a summary **Exceptions/Deliquencies List**, which will be distributed to the members of the IQA CD4 Working Group and posted on the group's team site on the HANC portal on a bimonthly basis.
10. The IQA will maintain an **IQA Laboratory Performance Summary** (see IQA CD4 Appendix D for an example) for select labs with variable performance history that will be on the NSAL page on the IQA website and show for each round of testing (see example below):
    a. Survey Date
    b. Link to UK NEQAS Report
    c. Unsatisfactory Analyte(s)
    d. Link to IQA Survey Event Review
    e. Link to IQA Corrective Action Investigation Form
    f. Link to Event Communications Log
    g. Date Corrective Action Approved
11. Any problems or exceptions can be brought to the Laboratory Focus Group or Lab PI/Manager Committee for discussion and recommendations for actions to be taken.

Figure 1. IQA CD4 WG EQA Monitoring, Data and Communication Flowchart