

Improving the quality of laboratory testing in RESAOLAB countries through a regional approach

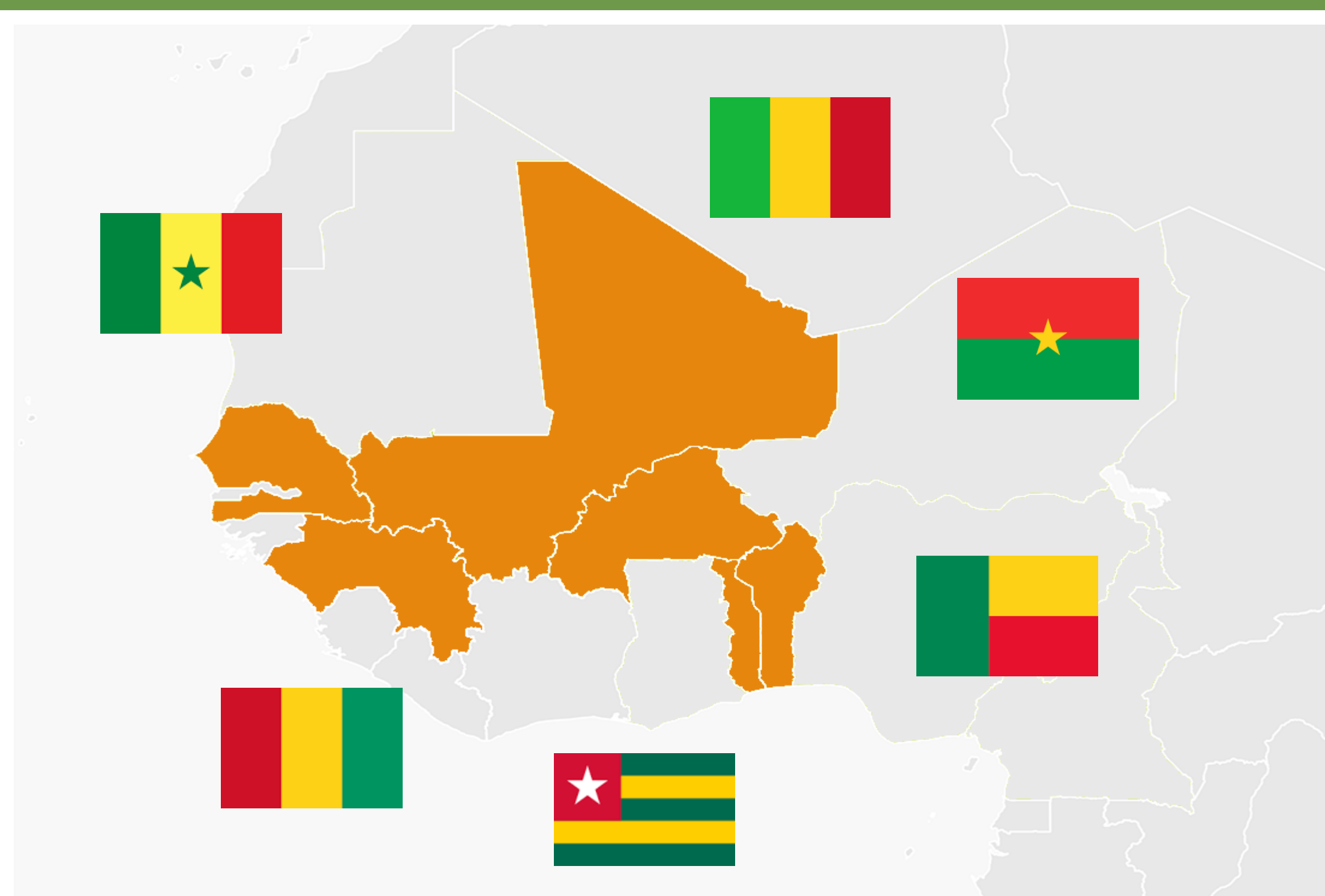
Kato Kayembe¹ and Nicolas Steenkeste², Bibiane Biokou³, Fernand Gbaguidi³, Abdoulaye Nikiema⁴, Charles Sawadogo⁴, Lakiss Saïd Kalil⁵, Mamadou Saliou Bah⁵, Keita Abdelaye⁶, Yaya Coulibaly⁶, Rokhaya Diagne⁷, Roughyatou Ka⁷, Iyane Sow⁷, Kafui Codjo Kouassi⁸, Gilles Adjane Koura², Monique Dorkeno⁹, François-Xavier Babin², Jean Sakandé², Jean-Louis Machuron²

Objective

The West African Network of Clinical Laboratories (RESAOLAB) is the first regional program in West Africa launched in 2009 by the Mérieux Foundation, an independent family foundation with public interest status, committed to fighting infectious diseases in the field, in partnership with the Ministry of Health of Burkina Faso, Mali and Senegal. Four additional countries joined the network in 2013: Benin, Guinea, Niger and Togo. RESAOLAB's aim is to improve the quality of biomedical services in these seven countries by strengthening their laboratory system through a regional approach. In collaboration with Oneworld Accuracy (1WA), a pilot EQA program was created with the goal to start national EQA schemes to monitor and improve the quality of laboratory testing.

Implementation of the EQA pilot program

In August 2016, an External Quality Assessment (EQA) pilot project consisting of monthly biochemistry surveys was launched for RESAOLAB's countries in Ouagadougou (with the exception of Niger).



Ten laboratories from each country were chosen, trained by 1WA and supported by the laboratory directorate of each Ministry of Health in a four-month pilot project. Their participation rate and performance rate were calculated to view the overall performance. After the pilot phase, each country continued in 2017 with an expanded national EQA scheme of 3 test events of 2-5 samples in a variety of EQA programs.

Results at the EQA program

Overall, participation rate varied between 62% in the first event of 2016 to over 87% in the third event of 2017. The performance rate varied between 68% in the first event of 2016 and 78% during the last event. Major Holidays and strikes but also logistics issues were factors affecting participation.

Figure 1: Participation Rate and Performance Report

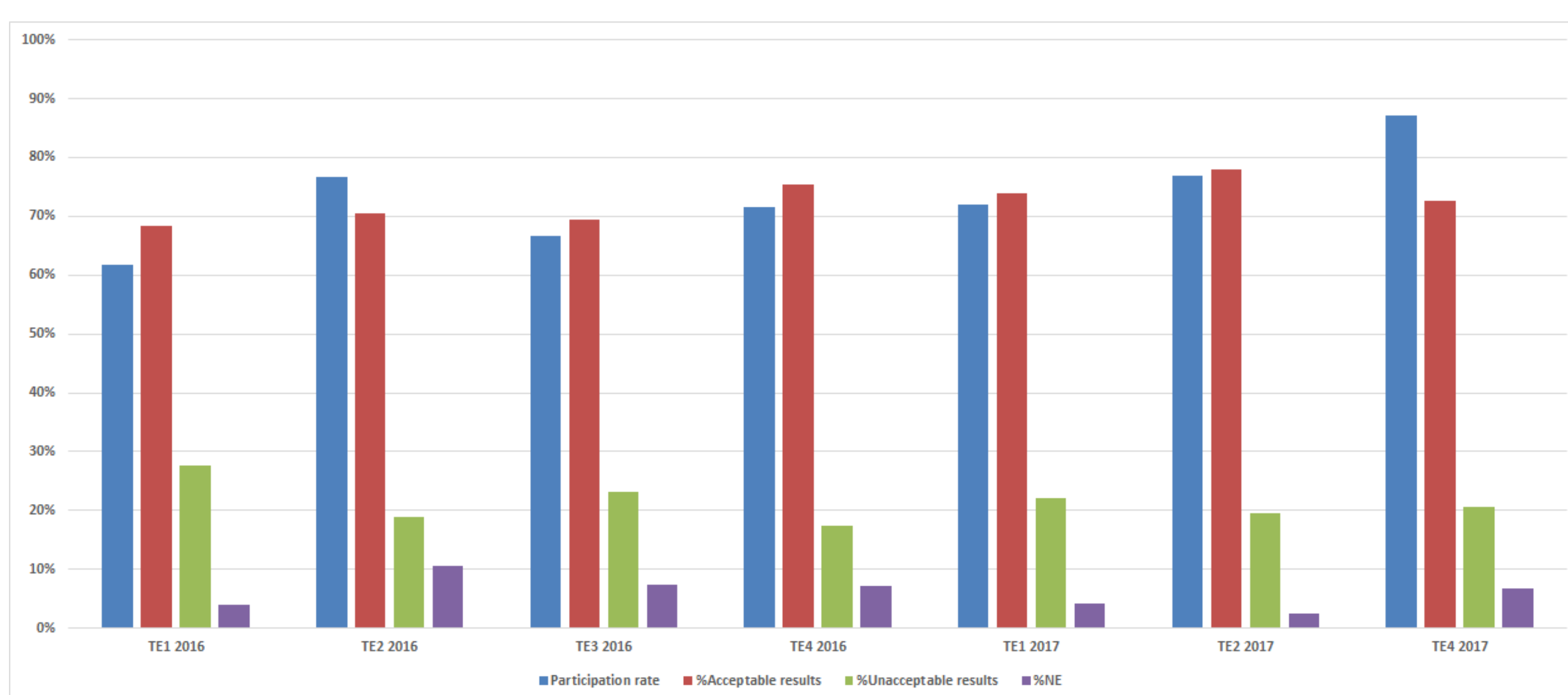
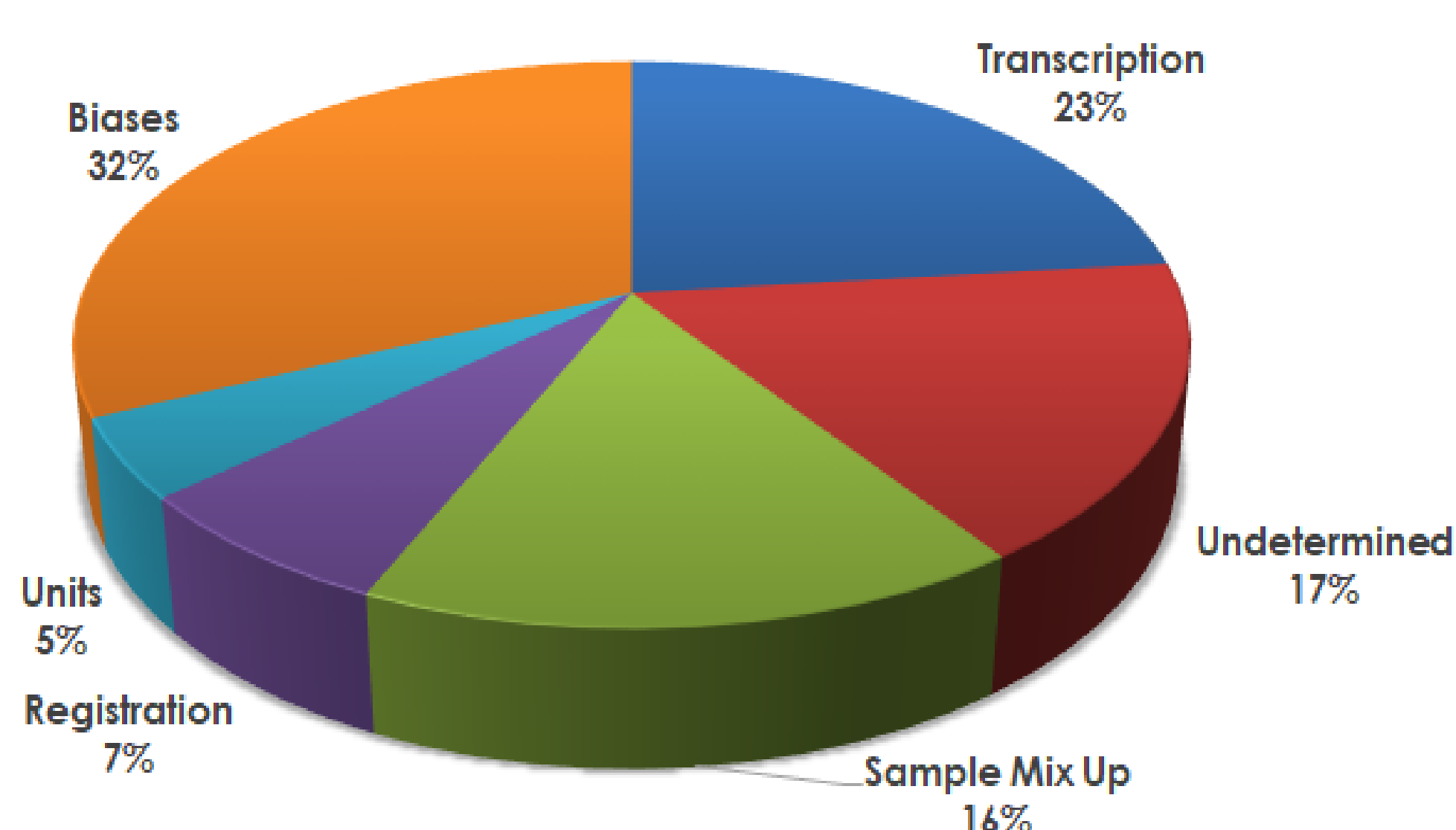


Figure 2: Possible Sources of Error



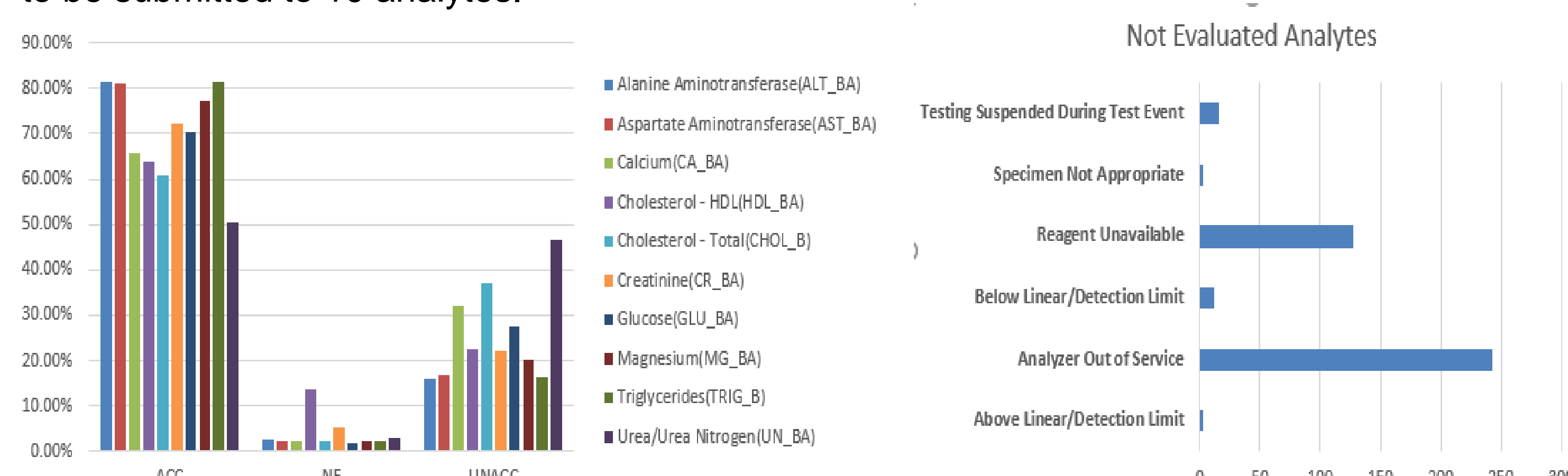
Supervision and Mentoring, a key step for Quality

The project has addressed systemic weaknesses within the laboratory sector that hinder effective diagnostic, surveillance and response under the leadership of the laboratory directorate from the Ministry of Health.

10 laboratories in each country were chosen to participate in the pilot project that would provide a total of 7 biochemistry samples (BCHE4121) to every laboratory in the span of 7 different test events.

Each sample enabled laboratories to submit results for up to 99 of the most popular analytes in chemistry, lipids, immunoassay and therapeutic drugs.

In order to overwhelmed all laboratories, some countries opted to limit the number of analytes to be submitted to 10 analytes.

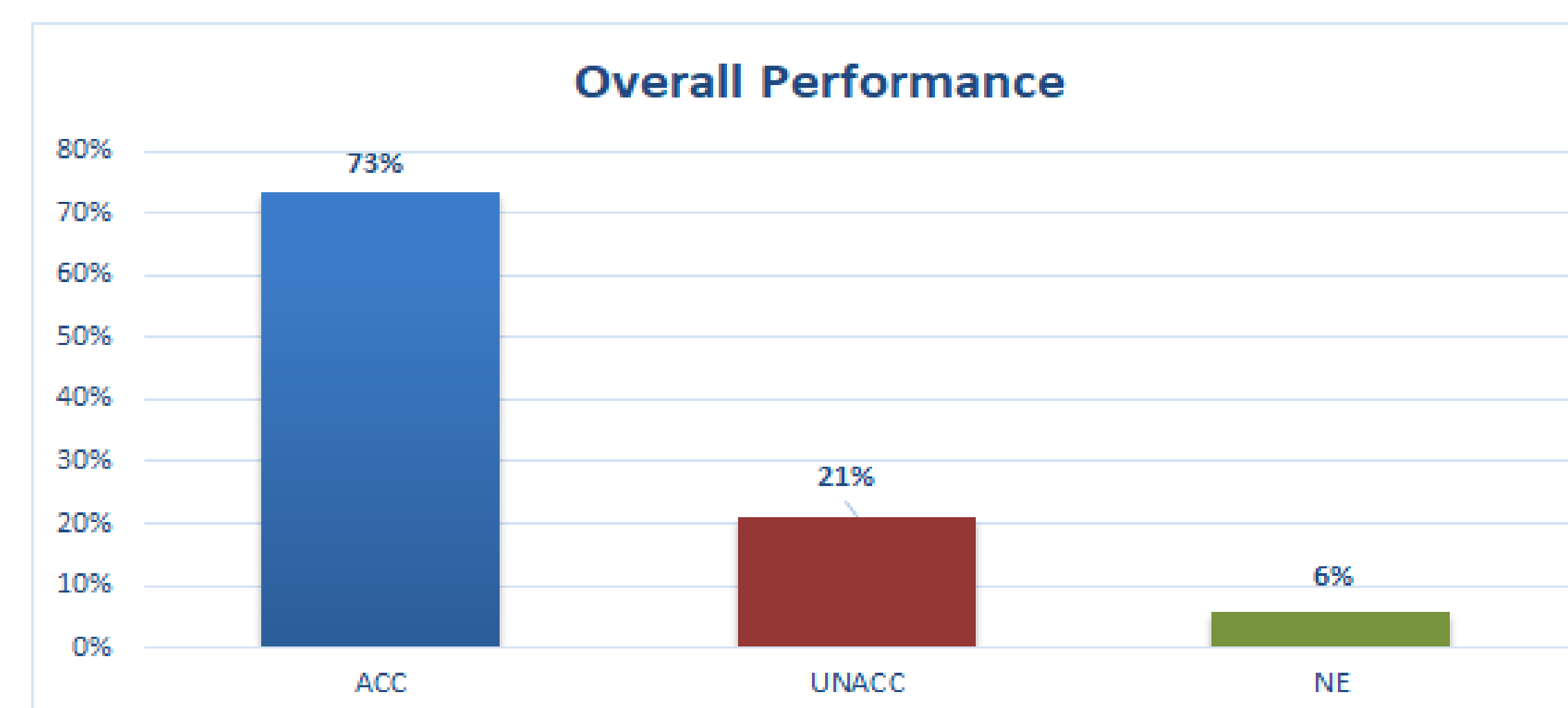


Graphs of the overall results of the 10 most tested analytes in the monthly BCHE4121 program and the most common reasons for not evaluated analytes. The second graph doesn't reflect the analytes registered but not resulted mainly due to a lack of registration on OASYS.

One of the goals is to reproduce the same quality in any other discipline that deals with principal causes of morbidity and mortality in the region, like malaria, HIV/AIDS, and tuberculosis.

Perspectives

The collaboration and networking of countries through the RESAOLAB organization, with the support of Mérieux Foundation and Oneworld Accuracy, successfully facilitated the establishment of national EQA programs in West Africa. The enrollment in EQA programs and the quality of laboratory testing in clinical chemistry have improved. EQA schemes have continued into 2018 and expansion is being planned to have national EQA schemes in each country. The role of laboratory directorate as the key national coordinator was identified as essential to integrate the EQA program with strong supervision and mentorship systems.



ACC: 73% / UNACC: 21% / NE: 6%

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Affiliation : 1 Oneworld Accuracy / 2 Mérieux Foundation / 3 Direction de la Pharmacie, du Médicament et des Explorations Diagnostique, Ministry of Health, Benin / 4 Laboratory Directorate, Ministry of Health, Burkina Faso / 5 Laboratory Directorate, Ministry of Health, Guinea / 6 Institut Nationale de Recherche en Santé publique du Mali / 7 Laboratory Directorate, Ministry of Health, Senegal / 8 Lomé University, Togo / 9 Laboratory Directorate, Ministry of Health, Togo