Letter to the Editor

Centripetal external quality assessment for laboratories located in remote and rural areas

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The conventional programs for external quality assessment for health-care laboratories involve the distribution of representative samples of known but undisclosed content from a central laboratory/organization for their evaluation at several individual laboratories located elsewhere. The results obtained from individual participants are analyzed to categorize individual laboratory performance. Individual laboratories receive a full report including statistical data on their performance [1]. Such participation is not likely to be common in several countries in Africa, Asia, and Latin America since in rural and even urban areas, most laboratories lack trained personnel and sophisticated equipment to perform multi-step, complicated investigations [2]. Their poor performance can be improved through the introduction of a program of centripetal external quality assessment as an introduction to internal quality control.

A beginning could be made with serologic investigations for typhoid fever. The over-diagnosis of typhoid fever in Kinshasa, Democratic Republic of the Congo, due to the clinicians' excessive dependence on the Widal test and a flawed interpretation, and lack of technical competence [3], has been disastrous. Aliquots of serum samples which have tested positive for different H and O antibodies in rural locations can be sent to district/regional reference laboratories for an evaluation of the trustworthiness of local results. Receiving confirmation of their results would encourage local health personnel to perform better in their diagnostic work.

Laboratories in remote locations can also be encouraged to pick up positive serum samples from culture-confirmed cases and prepare 20 aliquotes for further testing. Testing such aliquots repeatedly would facilitate the determination of local mean antibody titers as well as their standard deviations (SD). A graphical representation denoting ± 2SD would be useful. Ideally, good laboratory techniques should result in only 1 in 20 aliquots having titers higher or lower than ± 2SD while values ≥ 3SD can be expected in 1 in 100 aliquots.

In conclusion, it would be possible to upgrade the performance of laboratories in rural and remote areas by adopting a centripetal program of external quality assessment as an introduction to internal quality control.

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