Taylor A. **Quality assessment of analysis.** Plenary lecture, 4th International Symposium on Trace Elements and Minerals in Medicine and Biology St. Petersburg, June 9-12, 2010. published in J Trace Elem Med Biol2011, 25, S17-21

Abstract

Assessing the quality of measurements is of interest to organizers of external quality assessment schemes (EQAS, or proficiency testing schemes), laboratory analysts and managers, users of laboratory results and other agencies. Scheme organizers run test programmes, define standards of acceptable and non-acceptable performance, and interact with participants and oversight authorities. Laboratory personnel are responsible for the quality management system and to choose whether to accept the standards set by scheme organizers or to adopt their own. Users receive and act upon the laboratory results. Schemes within the same analytical sector are often organized very differently causing contradictory assessment of performance. The Network of EQAS in occupational and environmental laboratory medicine established collaborative projects designed to enhance assessment of measurement quality and to improve the reliability of laboratory results. To address the issue of variations in assessing the quality of measurements, and in response to comments from some participants, standards derived from biological variation, rather than on the analytical performance of participants have been developed. Evaluation of test materials with respect to homogeneity and stability, and work on methods to give the assigned value to test materials, has also been undertaken. Following from these projects, further collaboration is planned which will provide better quality assessment of measurement to scheme participants and their users.