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Abstract

Reliability of blood glucose (BG) measurements is a prerequisite for successful diabetes management. Publications on the evaluation of self-monitored glucose values, however, are frequently characterized by a confusion in terminology. We provide an inventory of key terms such as accuracy, trueness, precision, traceability, calibration, and matrix effect to avoid future misunderstanding. Definitions are taken from the metrological literature and international norms and explained in a language intended for nonspecialists in metrology. The terms are presented in light of the need to apply generally accepted definitions. In addition, a description of requirements and components for a sound evaluation of BG measurement systems is presented. These factors will also enable improvement in future comparisons of study results.


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Abbreviations: (BG) blood glucose, (ID-GC/MS) isotope dilution gas chromatography mass spectrometry, (ISO) International Organization for Standardization, (SMBG) self-monitoring of blood glucose

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