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Pre-analytical and analytical aspects affecting clinical reliability of plasma glucose results

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Abbreviations

WHO: World Health Organization; GDM: gestational diabetes mellitus; PG, plasma glucose; CV_P: pre-analytical variation; CV_I: within-subject biological variation; CV_A: analytical variation; ADA: American Diabetes Association; HAPO: Hyperglycaemia and Adverse Pregnancy Outcome Study; BV: biological variation; CV_G: between-subject biological variation; APS: analytical performance specifications; HbA_{1c}: glycated haemoglobin; FP: false positives; FN: false negatives; IFG: impaired fasting glucose; TE: total error; EFLM: European Federation of Clinical Chemistry and Laboratory Medicine; IVD: *in vitro* diagnostics; EQA: external quality assessment; POCT: point-of-care testing; CEG: consensus error grid; CLSI: Clinical and Laboratory Standards Institute; FDA: Food and Drug Administration.

ABSTRACT

The measurement of plasma glucose (PG) plays a central role in recognizing disturbances in carbohydrate