



Agreement is only one part of a useful comparison

Five briefs cover rapid AST, LDL equation uncertainty, active B12, point-of-care troponin, and antifungal QC.

Reading key: Findings report the source; practical implications are BRR editorial interpretation. Resource spotlights identify useful existing references. Each item includes its own limitation.

Core developments and resources

01 Rapid AST agreement needs an interpretable-result denominator

Infectious Diseases and Therapy | 2026-10-05 | Research update | [SOURCE](#)

Finding. A comparison of 97 gram-negative positive blood cultures produced 6,715 test results across five approaches. Categorical agreement ranged from 82.2% for four-hour disk diffusion to 95.4% for Vitek Reveal. Interpretation gaps and organism-drug-specific errors differed among methods.

Why it matters. A high overall agreement figure can hide results that cannot be interpreted or errors concentrated in a clinically important subgroup.

Limits. The small number of samples and resistant strains limits transfer to high-resistance settings. The 6,715 results are not 6,715 patients. Resistance-gene detection and phenotypic susceptibility are different outputs; no patient-outcome benefit was tested.

02 LDL equation disagreement identified a vulnerable subgroup

JALM | 2026-09-26 | Research | [SOURCE](#)

Finding. The study compared three LDL estimation equations in 10,799 All of Us lipid panels, with external testing in 14,549 hospital panels. When equations disagreed across a treatment threshold, classification accuracy against the direct-LDL comparator fell to 48%-61%; a simple calibrated model improved performance in that subgroup.

Why it matters. Disagreement between calculations may be informative even when a single reported value appears precise. It offers a way to study uncertainty using data already present in a lipid panel.

Limits. The reference was direct LDL, not a universal reference measurement procedure. Dataset provenance, assay differences, and local validation remain relevant; this does not establish a ready-to-use reporting rule.

03 Active B12 adds a different analytical question

JALM | 2026-09-17 | Research | [SOURCE](#)

Finding. This review compares total vitamin B12 with holotranscobalamin, the circulating fraction available for cellular uptake. It discusses the analytical and clinical limitations of both, including situations in which total B12 is difficult to interpret and the more limited set of methods available for active B12.

Why it matters. A test-menu discussion should consider what each marker represents, its method-specific performance, and the clinical question it can answer. A biologically appealing marker still needs a workable interpretive pathway.

Limits. This is an evidence review, not a new randomized comparison or proof that active B12 is always superior. It does not establish a universal replacement strategy or diagnostic cutoff.

Core developments and resources - continued

04 High-sensitivity point-of-care troponin still needs assay comparison

JALM | 2026-09-22 | Research | [SOURCE](#)

Finding. An i-STAT high-sensitivity troponin I evaluation included repeat testing, induced-hemolysis experiments, and 200 samples compared with four laboratory assays. Imprecision was below 10% at 10-20 ng/L. Agreement at the upper reference limit varied, with kappa values of 0.67-0.89.

Why it matters. A strong concentration correlation and a high-sensitivity label do not mean two methods classify every near-limit specimen identically. Comparison at the decision boundary remains useful for point-of-care implementation.

Limits. This was an analytical study on one assay, with small repeatability and interference sets. It did not test a patient-management pathway or show improved outcomes.

05 Antifungal QC requires the correct method document

EUCAST | Version 8.0; valid from 2026-01-01 | Resource spotlight | [SOURCE](#)

Resource. EUCAST's antifungal QC page lists version 8.0, valid from January 1, 2026, for MIC determination and agar dilution in yeasts, moulds, and dermatophytes. The document is a method-specific reference for reviewing the quality-control framework behind antifungal susceptibility results.

Why it matters. Keep the method and current document version together when comparing QC results or revising training. The official page is the place to obtain the complete ranges and any later notices.

Limits. QC ranges and patient susceptibility breakpoints serve different purposes. Do not transplant ranges to a different testing system or mix EUCAST and another standard without a reviewed local approach.

Progressive Research Updates

Building on Edition 008 (2026-09-08). Adds a head-to-head comparison and specific interpretability limitations to the earlier rapid-AST speed story. It evaluates other methods, not iFAST, and does not justify cross-platform equivalence. [Earlier issue](#) | [Earlier primary source](#).

Clinical Laboratory World resources

Related teaching pages: [Microbiology](#). The source-linked implementation proposals remain pending qualified review. These newsletter summaries do not approve a method, reporting threshold, or clinical workflow change.

One question for the next team discussion

In a fictional method review, separate concentration correlation, classification at a decision limit, interpretable-result yield, and quality-control performance. Give each its own denominator. A single impressive percentage should not stand in for all four questions.

Teaching prompt: original fictional scenario. It does not describe real specimens, patients, or implementation results.

References, disclosures, and access

The numbered references match the five briefs. Dates distinguish paper publication from a current-resource check; an existing resource is not presented as newly published research.

1. Christine Uitz; David Siebenhofer; Kristin Aurenhammer; Robert Krause; et al.. [Comparison of Five Assays for Rapid Antimicrobial Susceptibility Testing \(RAST\), Including Disk Diffusion, MIC-Based Systems, and Genotypic Methods: A Prospective Evaluation](#). Infectious Diseases and Therapy. 2026-10-05. DOI: [10.1007/s40121-026-01451-z](#).

Evidence/access: Peer-reviewed prospective single-center assay comparison; open access. Primary source reviewed.

Disclosure: Medical University of Graz funded the study and publication fee. Karl Dichtl received devices, consumables, and technical support from bioMerieux and Quantamatrix; another author disclosed presentation honoraria.

2. Ronald Doku; Nana Yaw A Osafo; John Kwagyan; William M Southerland. [Equation Disagreement as a Zero-Cost Uncertainty Signal for LDL-C Classification: An Interpretable Regime-Aware Calibration Model Rescues Misclassification at Treatment Thresholds](#). JALM. 2026-09-26. DOI: [10.1093/jalm/ifaq139](#).

Evidence/access: Peer-reviewed retrospective modeling and external validation. Publisher full text reviewed.

Disclosure: NIH/NIMHD support; no competing interests declared. The authors disclosed reviewed AI assistance with code, verification, and editing.

3. Martina Marandola; et al.. [Holotranscobalamin vs Total Vitamin B12: Current Evidence and Laboratory Challenges](#). JALM. 2026-09-17. DOI: [10.1093/jalm/ifaq131](#).

Evidence/access: Peer-reviewed evidence review. Publisher full text reviewed.

Disclosure: No potential conflicts were declared. The paper identifies an earlier preprint version; this brief cites the peer-reviewed article.

4. John W Pickering; Vanessa Buchan; et al.. [Analytical Verification of a Point-of-Care High-Sensitivity Troponin I Assay](#). JALM. 2026-09-22. DOI: [10.1093/jalm/ifaq143](#).

Evidence/access: Peer-reviewed analytical verification study. Publisher full text reviewed.

Disclosure: Abbott supplied equipment, cartridges, and testing support; several authors disclosed diagnostic-industry consulting, honoraria, or research support.

5. EUCAST. [Routine and extended antifungal internal quality control, version 8.0](#). EUCAST. Version 8.0; valid from 2026-01-01.

Evidence/access: Official/professional resource, not a new research study. Current resource page reviewed.

Disclosure: Official or professional-body resource; no new intervention effect is claimed.

How to read this issue

A concise research summary does not establish a new laboratory policy. The finding, study design, population, comparator, limitations, and relevant financial relationships should be considered together. Where access was limited, this issue states the review boundary instead of inferring missing details.

The five main items use distinct sources. The Progressive Research Updates section supplies historical links and the specific added question; it does not count the same paper as an extra finding. Earlier issue numbers and publication dates have been preserved.

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