Clinical Pathology Department
Chemistry Unit
"Measured Versus calculated Parameters and adjusted Parameters"

UNDP, Hall 2, On Wednesday 12th of November 2025, 10:00 am-1:00 pm

- The workshop addressed the fundamental definitions of measured parameters obtained directly from analytical systems, calculated parameters derived solely through mathematical equations, calculated/measured combinations that integrate analytical results with estimation models, adjusted parameters corrected for patient-specific variables such as age, body size, or albumin concentration, and fractionated parameters produced by separating a total measurement into clinically meaningful components.
- Through detailed laboratory and clinical examples, including lipid profile calculations, estimated glomerular filtration rate, corrected calcium, and protein or bilirubin fractionation, the workshop illustrated the practical differences between these parameter types and their impact on clinical interpretation.
- Particular emphasis was placed on the limitations of calculated parameters, including cumulative analytical error, biological variability, method-dependent bias of input analytes, population specificity of equations, and the risks of misinterpretation when assumptions underlying the calculations are not met.
- The workshop further explored proficiency testing and external quality assessment considerations for calculated parameters, highlighting challenges related to standardization, traceability, commutability, and performance evaluation when results are not directly measured.
- Comparative clinical scenarios were used to demonstrate discrepancies between measured and calculated values and their potential consequences for diagnosis, monitoring, and therapeutic decisions.
- The workshop concluded with practical recommendations for the routine use of updated, validated, and clinically applicable equations, verification of calculated parameters within individual laboratories, and appropriate documentation and reporting practices aligned with quality management systems and accreditation requirements.

The workshop was well attended by a diverse group of staff members, including professors, associate professors, lecturers, assistant lecturers, chemists, and laboratory technicians, reflecting strong interdisciplinary engagement and commitment to continuous professional development and quality improvement in laboratory practice.