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Educational Discussion

2024-A Accuracy-Based Urine (ABU)

The Laboratory Working Group of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and the International Federation of Clinical Chemistry (IFCC) Working Group on Standardization of Albumin in Urine (WG-SAU) are collaborating to facilitate the development of reference measurement procedures for urine albumin. Candidate reference measurement procedures (cRMPs) for urine albumin are under development at the National Institute of Standards and Technology (NIST), the Mayo Clinic Renal Function Laboratory, the University of Minnesota, and the Chemical Metrology Division of the Health Sciences Authority in Singapore.

Urine albumin target values for the 2013-2020 ABU Surveys were based on value assignments provided by the Mayo Clinic Renal Function Laboratory. However, comparisons among the cRMPs have suggested that metrological traceability of calibrations needs to be refined. In 2021, we recommended using all-method mean values for self-assessment in the ABU Survey. Beginning in 2022, participant results for albumin were formally evaluated against the all-method mean values until the reference system network is further developed. The all-method mean values provide assessment of the agreement of results among the measurement procedures represented in the Survey. Participant results for creatinine are graded against the reference measurement procedure target value provided by the CDC Reference Laboratory, Division of Laboratory Sciences, Centers for Disease Control and Prevention. The albumin-to-creatinine ratio (ACR) is not graded but is informative. The 2024 ABU Survey evaluation criteria for each analyte are shown on the previous page.

For ABU-A 2024, the overall albumin participant pass rates were 97.9%, 91.1%, and 97.9% for specimens ABU-01, ABU-02 and ABU-03, respectively. The overall participant pass rates for creatinine were 96.1%, 96.1% and 100.0%, respectively. The ABU Survey materials are prepared from minimally processed human urine and thus assumed to be commutable with clinical urine samples, and their results can be used to evaluate agreement among measurement procedures.

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