

EXTERNAL QUALITY ASSESSMENT SCHEME FOR NUCLEIC ACID TESTING OF BLOOD DONATIONS AND PLASMA.

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Objectives: Developments in technology in the past 10 years have enabled Nucleic Acid Testing (NAT) to detect early infection with HIV, HCV and HBV. The National Serology Reference Laboratory, Australia (NRL) conducts an External Quality Assessment Schemes (EQAS) to help monitor the quality of this testing,

EQA Schemes are designed to assess the integrity of the entire laboratory testing process. EQAS panel samples must be correctly identified on arrival at the laboratory; they must be tested on appropriate assays and reported without error for a satisfactory result to be obtained. The NRL provides EQAS to diagnostic and blood service laboratories worldwide.

Methods: EQAS panels were designed to examine issues including assay sensitivity and cross-contamination. Results were analysed by the NRL and laboratories performances were compared.

Results: Forty two laboratories, from Europe (28), Asia (3), Australia (7), New Zealand (2) and the Americas (2) using nine commercial test methods and three in-house methods participated in the donor screening NAT EQAS in 2006. EQAS results identified problems in testing within laboratories, such as false positive results reported for samples that contained no viral nucleic acid.

Conclusions: By participating in EQAS laboratories are alerted to potential deficiencies in their testing processes and can initiate necessary improvements.