Overview

COVID-19 has had a devastating impact on Black, Hispanic, and other underserved, disadvantaged populations. Here anti-SARS-CoV-2 tests are characterized in disadvantaged patients to examine equivalence in US populations. The recently published findings from the MRCIS study clearly demonstrate that despite concerns and mistrust from certain communities, antibody tests for detecting SARS-CoV-2 infection do not discriminate by race/ethnicity and age.

Study Design and Participants

A full description of the participant population and accompanying serum biobank has been published elsewhere. Approximately 66% of the MRCIS participants who contributed samples to the biobank were selected at random for inclusion in this study; the MRCIS subset of samples included here is coined the “MRCIS SARS-CoV-2 Antibody Cohort.”

Briefly, eligible participants included adults (age > 18 years) from underserved populations who were at risk for SARS-CoV-2 infection. Participants were enrolled as a convenience cohort of adults between November 2020 and April 2021 at 5 federally qualified health centers in California, Florida, Louisiana, Illinois, and Ohio funded by the Health Resources & Services Administration.

This analysis only included SARS-CoV-2 unvaccinated participants

Race and ethnicity were categorized as:

- 53% Hispanic/Latino
- 21% Non-Hispanic White
- 26% Non-Hispanic Black/African American

Non-Hispanic individuals in the “other” category were excluded due to small numbers.
The Roche Elecsys Anti-SARS-CoV-2 assay detects polyvalent antibodies against the nucleocapsid protein in serum, was utilized with the cobas e 601 analyzer.

The Abbott Architect SARS-CoV-2 IgG assay detects IgG antibodies against the nucleocapsid protein in serum and plasma, was utilized on the Architect 2000 system.

The Ortho Clinical Diagnostics VITROS Anti-SARS-CoV-2 IgG assay detects IgG antibodies against the spike protein in serum and plasma using the 5600 analyzer.

Results (Values represented here are Kappa (95% CI))

**Race/Ethnicity Based**
- Hispanic/Latino: 0.68
- Non-Hispanic Black/African American: 0.57
- Non-Hispanic White: 0.53

The Kappa for non-Hispanic Whites was **lowest at 0.53** for the O-anti-S test results.

**Age Based**
- 25-34: 0.65
- 35-54: 0.65
- 55+: 0.59

The Kappa for participants >55 years of age was **lowest at 0.59** for the O-anti-S test results.

This demonstrated **no significant variability in agreement between results** from the anti-SARS-CoV-2 assay methods examined by race/ethnicity or age.