

KFSH Embeds Genomic Medicine into Frontline Care, Turning Genetic Insight into Clinical Decisions

NY, UNITED STATES, September 10, 2026 /EINPresswire.com/ -- King Faisal Specialist Hospital and Research Centre (KFSH) is addressing a central gap in global genomic medicine: the underrepresentation of Arab populations in the datasets used to interpret genetic variation. KFSH researchers have documented close to 3,000 variants specific to Arab populations, 34% of which are absent from the Genome Aggregation Database, while contributing nearly 8,000 variants to ClinVar.



The model brings together medical genomics, an internationally accredited precision medicine laboratory, AI-driven computational sciences and translational genomics under unified institutional governance. This connects laboratory interpretation with clinical decision-making, allowing genomic findings to move more efficiently from testing into patient care.

The peer-reviewed Nature Genetics article "Building genomic medicine in Saudi Arabia" documents the scale and clinical impact of the model. Genomic testing at KFSH increased from approximately 22,000 tests in 2022 to more than 44,000 in 2024, a near doubling in two years as genomic analysis became more deeply integrated into routine clinical pathways.

During the same period, KFSH completed more than 5,000 precision-oncology analyses. Pharmacogenomic alerts, which help clinicians assess how genetic differences may affect a patient's response to medication, resulted in treatment changes in 70% of documented cases in which they were activated.

This representation matters clinically. Reference databases built primarily from other populations can make locally relevant variants harder to interpret. By expanding Arab genomic evidence and connecting it to accredited laboratory and clinical services, KFSH is helping clinicians reach more informed diagnoses and treatment decisions for the populations they

serve.

The hospital's experience indicates that genomic medicine can evolve from a specialized laboratory function into a clinical operating model supporting diagnosis, prevention, therapeutic selection and population-level research. This model is among the themes KFSH will address at the C3 US NYC Davos of Healthcare™ Summit 2026, to be held on September 14 in New York City.

King Faisal Specialist Hospital and Research Centre has been ranked first in the Middle East and Africa and 12th globally among the world's top 250 academic medical centers for 2026. It was also recognized as the most valuable healthcare brand in the Kingdom and the Middle East for 2026, according to Brand Finance, and listed by Newsweek among the World's Best Hospitals, World's Best Smart Hospitals, and World's Best Specialized Hospitals for 2026.

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