

## Case Study: Dr. Majid Alfadhel and Dr. Ahmed Alfares are Diagnosing Rare Diseases at King Abdulaziz Medical City

King Abdulaziz Medical City (KAMC) in Riyadh commenced its operations in May 1983. Since then, it has continued expanding, while providing services for a rapidly growing patient population in all of its catchments areas. Today, King Fahad National Guard Hospital has evolved to be part of the King Abdulaziz Medical City with many other prominent medical centers. Since its inauguration in February 2001, and within a short period, KAMC has been recognized as a distinguished health care provider.

National Guard Health Affairs (NGHA) has passed the requirements for accreditation under the (JCI) Joint Commission International standards with excellent performance in December 2006. This accreditation included all of NGHA hospitals, namely King Abdulaziz Medical City in Riyadh, King Abdulaziz Medical City in Jeddah, Imam Abdulrahman bin Faisal Hospital in Dammam and King Abdulaziz Hospital in Al Hassa. And reaccredited again at 2009, 2012 and 2016.

In 2004 NGHA established the College of Medicine and the College of Nursing and Allied Medical Sciences. NGHA added to its mission an academic dimension through the establishment of King Saud bin Abdulaziz University for Health Sciences which will comprise all academic activities and will be the core of the medical scientific university for future generations.

These broaden the academic interests and activities of KAMC and open the globe for international collaboration in undergraduate and postgraduate fields. To date, there are 420 Residents in the different 23 residency training programs and 50 Fellows in the different 40 fellowship programs.

Dr. Majid Alfadhel and Dr. Ahmed Alfares are two well established and recognized scientists working in Riyadh. Both doctors are focused on applying NGS technology to diagnose rare diseases, specifically focusing on health issues resulting from consanguineous marriages in Saudi Arabian populations.

Dr. Majid Alfadhel is a Genetic and Pediatric Consultant at National Guard Health Affairs. Additionally, Dr. Alfadhel has been an associate professor at King Saud bin Abdulaziz University for the past five years. Alfadhel's impressive educational background includes a Master's degree in Epidemiology from the University of British Columbia, as well as fellowships in Neurometabolics and Biochemical Genetics.

Dr. Ahmed Alfares works at National Guard Health Affairs as well as attending physician in clinical, molecular and biochemical genetics. In addition, he is an assistant professor at Qassim University where he has worked since 2004. Alfares has a prestigious education, having attended Harvard Medical School for his clinical fellowships and McGill University



King Abdulaziz Medical City, Riyadh, Saudi Arabia

### QUICK FACTS

**Name:** Dr. Majid Alfadhel & Dr. Ahmed Alfares

**Title:** Genetic & Pediatric Consultant and Attending Physician

**Institution:** King Abdulaziz Medical City

**Laboratory:** Odyssey DNA Lab

**Location:** Riyadh, Saudi Arabia

**Research:** Next Generation Sequencing to diagnose rare diseases

for his residency.

Dr's Alfadhel and Alfares are currently using Golden Helix software solutions VarSeq and VSReports in their medical practice. Dr. Majid says, "VarSeq and VSReports significantly speed up our ability to zero in on variants that are highly suspicious or causative to observed phenotypes. We are impressed by the efficiency and ease with which the team can conduct genetic analytics in the lab."

#### *About Golden Helix*

*Golden Helix has been delivering industry leading bioinformatics solutions for the advancement of life science research and translational medicine for over 16 years. Our innovative technologies and analytic services empower scientists and healthcare professionals at all levels to derive meaning from the rapidly increasing volumes of genomic data produced from micro-arrays and DNA sequencing. With our solutions, hundreds of the world's top pharmaceutical, biotech, and academic research organizations are able to harness the full potential of genomics to identify the cause of disease, improve the efficacy and safety of drugs, develop genomic diagnostics, and advance the quest for personalized medicine. Golden Helix products and services have been cited in over 800 peer-reviewed publications.*