

Revolutionizing the clinical research landscape in Saudi Arabia

Ahmed Alaskar, executive director of KAIMRC, discusses how his institute is spearheading an initiative to develop clinical trials in the kingdom

From the lab bench to the market, King Abdullah International Medical Research Center (KAIMRC) wants to transform basic research, drug discovery and clinical research in Saudi Arabia and the region.

The center has already been namechecked as a promising hub for offshoring clinical research by pharmaceutical giants. KAIMRC is also spearheading a national command center to develop clinical trials in the kingdom. Ahmed Alaskar, executive director, says it is only the start of a major medical overhaul, powered by government backing, a solid research framework and selected and focused international partnerships.

The drug development and clinical trials ecosystem in Saudi Arabia is nascent but growing strongly; how far has the kingdom come on that front?

Saudi Arabia is transforming in all aspects; the economy, medicine, healthcare, research and education. In alignment with Vision 2030, a knowledge-based economy becomes a must, and as such we realized early on that medical R&D and clinical trials play a pivotal role in improving healthcare, with a direct impact on patients, and making the latest developments in the pharmaceutical industry available and accessible to the larger pool of patients in Saudi Arabia.

We have positioned KAIMRC to lead an initiative at the national-level to improve and coordinate the setup for clinical trials and make it attractive to the international industry. We set up various agreements with local and international partners to build capacity internally, and we have government support. We're working closely with the Saudi Food and Drug Authority (SFDA) to align regulations with the fast pace of clinical trials considerations and draw ethical guidelines. Recently, the SFDA gave us our first accreditation to establish a phase I clinical trial unit at KAIMRC. That is the first in the country. We have also received approval on our phase I clinical trial project at the national level, testing a MERS-CoV [Middle East respiratory syndrome-coronavirus] vaccine that is developed in collaboration with the University of Oxford.

What are some of the challenges that KAIMRC has faced developing the MERS-CoV vaccine?

In 2015, our hospital saw a MERS-CoV outbreak, which led to the closure of the hospital for a few days to minimize the spread of the infection. This led KAIMRC to prioritize MERS-CoV as a strategic project, which led us to send one of our scientists to the University of Oxford to co-develop a vaccine with scientists there.

That vaccine went to various pre-clinical trials in animals. Over three years, we successfully completed trials of the vaccine in camels in Saudi Arabia. It was proven safe and promisingly effective. Our next step would be to expand this study to a greater

number of camels and wait longer to see how long the immunity lasts in these camels. We published the findings in Scientific Reports and our first human trial conducted first in Oxford. The second part just started in KAIMRC this December.

A 2019 study showed that there are positive attitudes towards clinical trials in the kingdom, but relatively low level of knowledge. What are you doing to change this?

We're trying to raise awareness about the importance of clinical trials and change some of the misconceptions in the community, like the idea that a research subject is "a guinea pig" to experiment on. Instead, we want the public to look at clinical trials as an opportunity to benefit from an otherwise non-existing treatment.

We have also launched an informational website that has a database for what we call "research friends" where people can register as ambassadors to promote clinical trials in their respective communities.

What are some of the understudied areas related to drug discovery and clinical trials that you believe KAIMRC should prioritize?

We have identified several strategic projects and diseases based on the prevalence of these diseases in the country, and the unmet need in general. We focus on breast cancer, leukemia, lymphoma and colorectal cancer. Diabetes is another focus, and so are infectious diseases, like MERS-CoV, and anti-microbial resistance. Another area of focus is cardiovascular diseases like ischemic heart disease, which is a common cause of mortality in the country and worldwide. We have a trauma registry because motor accidents are one of the top causes of death, especially among youth, in this country.

We currently have a biobank with more than 2,000 strains of bacteria available for researchers. We have also decided to focus on hyperthermia, as heat stress is a devastating health challenge for the pilgrims.

Are results from clinical trials, bio-bank data and the genome sequencing data open source or are they available to other researchers across Saudi Arabia?

It is indeed open and we encourage collaboration with other institutions from the country and internationally and to attract scientists who are interested to work with us. Perhaps not all the universities have the funding and the resources available to KAIMRC. We definitely open our doors to collaborators, and we invite scientists who have a successful research record to be part of KAIMRC, including offering them joint appointments.