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QATAR

'Qatar well positioned for more leadership roles in genomics'

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Dr Robert Green

Qatar is well positioned to assume leadership roles in genomics globally, Dr Robert Green, an internationally renowned genetic professor told *Gulf Times*.

“I am really impressed by the sophistication, the collaborative nature, and the ambition of the Qatari scientists that I have met," observed the physician–scientist at Mass General Brigham, an integrated healthcare system in the US,

and a professor of medicine at Harvard Medical School.

"It is stunning how quickly traction is being gained here in genomics and precision medicine. I think Qatar has the ability to move into leadership positions, as it already is there in some areas, but can move into more and more leadership positions, and I genuinely admire that," he said.

Dr Green, recently in Qatar for the first time, was interacting with Gulf Times at an event. A pioneer in genomics, his work is accelerating the implementation of preventive genomics and precision medicine.

He explained: "I admire the commitment and the ambition, and particularly the collaborative nature of the research at so many levels, both within Doha and in the country and with the international community. I think that is what it takes in genomics. This is really an international community, and the scientists here are part of it and are going to continue to be part of it in the years to come."

Dr Green said many countries in the Middle East have ambitions around genomics, and have stated their projects. "I think that creating biobanks, creating screening programmes, creating workflows within the electronic health record, are different stages of piloting and implementation in all the countries I have visited. I am very much impressed with what is going on here in Doha. This is my first visit to Doha, and I am thrilled to be here and looking forward to coming back and contributing in any way I can."

He noted that the field of genomics is looking at large numbers of genes to detect either a diagnosis in somebody who is sick, or the presence of a risk factor in someone with a family history, or even in the general population.

He elaborated: “One of the most exciting things that my work involves, is the idea of screening people, both adults and children, who don't manifest symptoms at this particular moment, and screening them for conditions that may manifest later in life. That's called population precision health. It is a very exciting development, made possible by the fact that the technology is becoming cheaper and more sophisticated.”

Most countries, according to the genomic expert, has already started screening newborns. “We have what is called newborn screening, which is a blood spot that goes to a laboratory and looks for mostly biochemical abnormalities, and that has been one of the public health miracles around the world and it is working very well. Now the question is, can we add to that, and detect rarer disease using these new technologies. We call that newborn sequencing, which is in addition to conventional newborn screening,” he remarked.

The genomics professor highlighted that his project ‘BabySeq’ was one of the first in the world to try this and has generated a lot of scientific reports. “We have demonstrated that it is not dangerous, it is not so stressful. We discover an enormous amount of information, most of that information is

actionable, meaning you can do something about it to prevent future disease, or mitigate future disease. A number of companies and countries have followed suit, providing this in different ways," he said.

"We have created a startup company, Nurture Genomics, which is a dynamic platform, so you sequence once, and then you can dynamically update the interpretation every year to find the new 100, 200 or 300 mutations that have been discovered that year, and to find those specific children who need a treatment that year," added Dr Green.

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