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Abu Dhabi unveils world's most comprehensive Genome Program

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Transforming health and well-being with genomics and Artificial Intelligence, the nation's leading strengths



The Department of Health - Abu Dhabi has announced the launch of the Population Genome Program, a national project set to use population-scale genomic data to improve health and well-being.

This ground-breaking program aims to be the first of its kind worldwide to provide citizens with their own high quality genome as a baseline and incorporate genomic data into healthcare management.

This will be achieved by using advanced sequencing technology to generate the highest quality, most comprehensive genome data. One of the world’s top supercomputers, Group 42’s Artemis, located in Abu Dhabi, will be used to analyse the massive amount of data and generate new insights.

The understanding of genetic variation in the Arab population is a challenge due to the lack of a high-quality Emirati reference genome. This program will enrich the current data by producing a reference genome specific to UAE citizens and drive large scale scientific discovery. The objective of the Genome Program is to advance health management and position Abu Dhabi as an omics-driven research and innovation hub.

Commenting on the initiative, H.E. Sheikh Abdulla Bin Mohamed Al Hamed, Chairman of Department of Health - Abu Dhabi, said: “Embracing innovation and providing a comprehensive healthcare program in the Emirate of Abu Dhabi remains at the forefront of our priorities. Two of the world’s most exciting technologies – DNA sequencing and Artificial Intelligence (AI) – will come together in this project. The Genome Program will enhance our knowledge of citizen’s genomes and establish a strong foundation of health and well-being.”

The successful outcome of the program will equip physicians and other healthcare practitioners with high quality information and knowledge, which will enable them to provide advanced diagnosis and treatment options as well as deliver personalized and preventive programs tailored to an individual’s unique genetic makeup.

This ambitious program will be led by the Department of Health - Abu Dhabi (DoH) and executed and delivered by Abu Dhabi-based technology leader Group 42, in collaboration with global genome sequencing leaders BGI and Oxford Nanopore Technologies. Furthermore, Abu Dhabi Health Services Company (SEHA) will apply the results of the Genome Program to ensure the delivery of world-class healthcare services.

Peng Xiao, CEO of Group 42, Gordon Sanghera, CEO of Oxford Nanopore Technologies, and Jian Wang, co-founder and chairman of BGI, expressed their commitment and cooperation to ensure the success of the Genome Program, which is expected to attract worldwide interest and propel a wave of innovation, education and business in Abu Dhabi in areas of bioinformatics, healthcare, personalized medicine, research and development.