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Thailand launches newborn genome sequencing project

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For early detection and prevention of genetic diseases

The Center of Excellence in Medical Genetics, Faculty of Medicine, Chulalongkorn University, has launched one of the world's first projects to perform long-read whole genome sequencing in newborns.

The initiative screens for 113 genetic diseases, with the goal of early prevention and treatment, opening a new frontier in precision medicine and improving lifelong health outcomes.

Modern medicine has entered a new era by decoding the genetic foundations of diseases. Genomic medicine can reveal who is prone to which illness, at what age symptoms may appear, and which medications will work best for an individual. These answers lie hidden in every person's genetic code. Modern medicine, known as genomic medicine, has developed processes and technologies to decode an individual's genetic information to enable more accurate and specific diagnosis, treatment, and disease prevention.

This principle inspired the launch of the Long-Read Whole Genome Sequencing Screening Project for Genetic Diseases in Newborns.

The project uses Long-Read Whole Genome Sequencing, one of the world's most advanced DNA sequencing methods, to determine if a child is at risk for serious genetic diseases. Once the data is collected, the child can be monitored and cared for.

Professor Dr Vorasuk revealed that this project has been approved by the Human Research Ethics Committee of the Faculty of Medicine, Chulalongkorn University, and is now recruiting volunteers (pregnant women). About 300 participants are expected in the first year. If abnormalities are found, children can receive early, targeted prevention and treatment.