Dhesi Baha Raja – Special Officer to the Minister (Healthtech), Ministry of Health, Malaysia



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Dr Dhesi Baha Raja, consultant in digital technologies at the Malaysian Ministry of Health, introduces the government's plan to enter digital health through electronic medical records (EMR) and shares his insights regarding the use of blockchain technology and artificial intelligence in the Malaysian healthcare system.

What are your main priorities as the digitalization consultant for the Ministry of Health of Malaysia?

I have always been working in the public health sector, first as a physician and then, as a data science and artificial intelligence (AI) specialist. As a Malaysian citizen, I also feel invested in helping my community and since 2010, I have worked on several governmental projects such as the first Health-related Data Management Program focused on helping identify high-risk pregnancies in Malaysia and reduce infant and child mortality. This program was launched in more than 50 hospitals and 800 government & health clinics in the country. In 2015, I was accepted in the Graduate Studies Program of the Singularity University at NASA Ames Research Park (California) where I invented an Artificial Intelligence tool to predict and stop dengue and zika outbreaks, in order to prevent the epidemic. The application was rewarded with several prices, grants & recognition from Pistoia Life Science King's College, MIT Under 35 Innovator Award and

even from the United Nations Exceptional Solution Award. Recently, Dr Dzulkefly, our current Minister of Health, heard of my specialization in digital health and invited me to join his team to start a concrete plan towards the digitalization of Malaysia's healthcare ecosystem as it is one of his priorities.

Therefore, I arrived at the headquarters of the Ministry of Health with the main goal of building the foundations of digital health in the country. My first priority is to complement the Minister's goal, and one of them is to digitize Malaysian Health records seamlessly across various health providers – to setup Electronic Medical Record for all our health facilities in Malaysia. It is important to build strong foundations before bringing more innovative processes and life-changing technologies.

E-Health has been on the Ministry of Health's agenda in Malaysia in order to make the healthcare system more efficient. As an expert in the field, what do you see as the main issues to tackle in priority?

One of the main issues in the country is the lack of Big Data. Malaysian hospitals are not interconnected, and some are still using paper medical records. However, having an electronic platform that is shared by all hospitals, health and dental clinics and gathers all patients' medical records would help the Ministry of Health understand the evolution of specific health burdens in different region and adapt their policies to the Malaysian needs. Therefore, we are looking at implementing an agile and lean electronic medical records system gathering the entire country. This model should be sustainable and help us establish the government's future strategies. It will also allow us to build on other digital platforms to better manage claims or drug supply and deliveries and inefficiencies in waiting time for example.

Another important issue with digitalization is being able to change the mindset of people, whether it is doctors, nurses, patients or the industry. Indeed, the implementation of digital health will require all players to use the digital platform. However, the system will not be efficient if there is resistance from the stakeholders and they need to be well educated on the platform and we should also take our end users opinions into account. In order to move forward with digitalization, we have to change the mindset of people and make them less risk-adverse, especially when it comes to trying out new things.

We really want our digital health systems to be patient-centric so that Malaysian can be empowered by choosing their preferred health centres and doctors. This goal cannot be achieved if we do not have the participation of all key stakeholders and that includes healthcare professionals.

We are also looking to work closely with industry players as one of the Minister’s goal is to enhance public private partnerships in order to achieve the new, digitalized and healthy Malaysia.

How is Malaysia positioning itself vis-à-vis Blockchain Technology and what is your opinion on the main issue highlighted for Blockchain which is patients’ data protection?

Blockchain Technology has been a global topic in healthcare in the last few years and we are thinking of ways to be part of this change in Malaysia. However, when implementing a system, it is important to ensure that it fits the requirement of the country. I believe that it would be interesting to use blockchain technology in the drug supply chain field where diverse players are participating to ensure the efficiency of the system.

Can Artificial Intelligence become a point of attractiveness for Malaysia?

Malaysia has the capacity to develop artificial intelligence technologies, especially in the areas of diagnostics and disease prediction, & we are ready to fully implement such technologies in the country. We would benefit from international recognition if we were to develop and scale up artificial intelligence tools in healthcare for other ASEAN countries, to be seen as being at par with the US and other develop nations. digital health industry is booming and Malaysia must be part of this exponential growth in digital health.

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