

BERITA ONLINE
THE MALAYSIAN RESERVE
TARIKH: 24 OKTOBER 2022 (ISNIN)
The Malaysian Reserve JOIN THE REAL CONVERSATION

Malaysian-made vaccines: Laudable, but challenging
Developing a homegrown vaccine is not just about human capital

by S BIRRUNTHA

MALAYSIANS will surely cringe at the news that the country's own COVID-19 vaccine development efforts are being scrutinized. It is important to note that the journey of formulating vaccines can be extremely complex.

Dr Osel Group medical director, chief clinical and innovative scientist Datuk Seri Dr Kris See said developing a homegrown vaccine is not just about human capital, but also requires cooperation across many fields.

He added that Malaysia is certainly not short of talent for vaccine development, and the country possesses the expertise and skills needed in research and development (R&D).

However, Dr See, who is also Asia Metropolitan University adjunct- professor, expressed that the economic, social and political issues that continue to plague the country's administration will make the development of local-made vaccines even more challenging.

"I suspect it might be an uphill task to achieve that, and moreover, the COVID-19 vaccine development is time-consuming and is for nearly 16 years, and it is also being disrupted by the pandemic."

"Generally speaking, this effort for Malaysia to be self-reliant, especially during the early stages of the COVID-19 pandemic, is what we all witnessed the work to acquire vaccines and learn about from other countries," he said.

Malaysia should have learned a lot more about Covaxin, which means developing a vaccine is pretty more likely

Malaysia should have learned a lot more about Covaxin, which means developing a vaccine is pretty more likely

Malaysia should have learned a lot more about Covaxin, which means developing a vaccine is pretty more likely

Malaysia should have learned a lot more about Covaxin, which means developing a vaccine is pretty more likely

by S BIRRUNTHA

MALAYSIAS path towards creating its own Covid-19 vaccines deserves praise and commendation, but it is important to note that the journey of formulating vaccines can be extremely complex.

Osel Group medical director, chief clinical and innovative scientist Datuk Seri Dr Kris See said developing a homegrown vaccine is not just about human capital, but also requires cooperation across many fields.

He added that Malaysia is certainly not short of talent for vaccine development, and the country possesses the expertise and skills needed in research and development (R&D).

However, Dr See, who is also Asia Metropolitan University adjunct- professor, expressed that the economic, social and political issues that continue to plague the country's administration will make the development of local-made vaccines even more challenging.

"I suspect it might be an uphill task to achieve the set milestone. The Covid-19 vaccine development in Malaysia is expected to be ready in 2024, and it is also being designed as a booster shot.

"I personally applaud this effort for Malaysia to be self-reliant, especially during the early stages of the Covid-19 pandemic.

"After all, we all witnessed the rush to acquire vaccines and issues arising from vaccine equity," he told The Malaysian Reserve (TMR) in a recent interview.

Commenting further, Dr See explained that for the production of a Malaysian-made Covid-19 vaccine, Universiti Putra Malaysia (UPM) is collaborating with the Institute for Medical Research (IMR), which channels the allocation of research grants for Covid-19 inactivation efforts.

He noted that by now, the country should have learned a lot more about the virus, which means developing a vaccine is more likely compared to before.

"However, we have to remember that the Covid-19 virus is continuously mutating, with the latest variant, Omicron XBB, quickly emerging as the likely dominant strand in the latest wave of infection.

"As such, to develop an effective and variant-specific booster vaccine will still remain challenging, be it domestically or internationally," he said.

Speaking on Malaysia's post-Covid-19 treatment programmes, Dr See pointed out that they are vague at best and vary in public, private or people's settings.

He said on the ground, most patients rely on their family doctors or community pharmacists to provide advice.

"Ideally, symptomatic post-Covid sufferers must be managed by a multidisciplinary team of doctors, physiotherapists, occupational therapists, speech and language therapists, psychologists, nurses, dieticians and pharmacists.

"Post-Covid symptoms, such as longCovid, very often affect the functionality of an individual. Hence, addressing these impairments with the bio-psycho-social-physicaltechnological approach is important.

"I think more healthcare workers should be trained in this area, just like how we used to be trained as frontline workers in the early days of the pandemic," he added.

Dr See said overall, more concerted cooperation between the public-private-people in addressing this issue is needed.

Previously, Science, Technology and Innovation Minister Datuk Seri Dr Adham Baba said the progress of Malaysian-made Covid19 vaccines is now at the preclinical trials stage for animal testing.

He noted that the process would be conducted through the Malaysian Genome and Vaccine Institute (MGVI).

"Now we are about to enter into the preclinical testing stage on animals," Dr Adham said when attending the launch of National Biotechnology Policy 2.0 (DBN 2.0) on Sept 13.

The minister added that his ministry is also preparing to ensure the conditions to manufacture the vaccine in the country are in compliance with the requirements.

According to Dr Adham, Malaysia will be developing two types of Covid-19 vaccines, namely a ribonucleic acid (RNA) vaccine or messenger RNA vaccine and an inactivated vaccine.

He noted that a team of researchers from the IMR is currently in the works of developing the vaccines.

Last year, caretaker Prime Minister (PM) Datuk Seri Ismail Sabri Yaakob launched the National Vaccine Development Roadmap (PPVN) and Malaysian Genome and Vaccine Institute (MGVI) in an effort to turn the country into a hub for vaccine production.

Ismail Sabri had expressed that Malaysia is able to pave the way for the production of its own quality, effective and safe vaccine products in accordance with the conditions set by the National Pharmaceutical Regulatory Division (NPRD).

He added that it is through the implementation of the PPVN and the establishment of MGVI which is a government initiative to strengthen the country's vaccine development ecosystem.

The then PM said this will elevate the country to become a hub for vaccine production, as well as increase confidence in the use of vaccines.

"Through the implementation of PPVN and the establishment of MGVI, highly skilled human capital in various fields of research, especially those related to health and vaccines will be born.

"More job opportunities will also be created for Malaysian Families, which can improve the living standards and the health of the people," he noted in a statement.

Additionally, Ismail Sabri said the local vaccine development is not limited to Covid19 vaccine production but will also focus on the development of cholera, as well as head and neck cancer vaccine.

As a vaccine-producing country, he said Malaysia will have autonomy over the procurement of materials and methods of vaccine production.

Meanwhile, Dr Adham had said that PPVN sets the production of vaccines in two phases, namely in short term (one to five years) and long term (five to 10 years).

He said the development of this vaccine aims to produce human vaccines for domestic use especially in the National Covid-19 Immunisation Programme (NCIP) to ensure the country is ready to face any pandemic threat in the future.

According to Dr Adham, the PPVN framework is divided into six priority areas, namely governance, vaccine manufacturing infrastructure, clinical studies, human capital development, vaccine technology and development procurement, as well as vaccine communication.

He said PPVN emphasises collaboration between government, scientists, medical practitioners and industry players through ecosystems, governance and strategic approaches to provide an ecosystem of collaboration between the various parties involved from among ministries, agencies and manufacturing companies at the national, regional and international levels.

"The governance of MGVI will be led and centralised under the National Institutes of Biotechnology Malaysia (NIBM), an agency under the Ministry of Science, Technology and Innovation (Mosti).

"Meanwhile, research activities will be implemented in decentralised facilities together with four centres of excellence, namely Vaccine Discovery Centre of Excellence, Preclinical Research Centre of Excellence, Clinical Research Centre of Excellence and Process Development Centre of Excellence to leverage capabilities, expertise and existing facilities," he said.

Dr Adham also said that MGVI is believed to be able to increase collaboration and provide access to research facilities to meet the needs of vaccine development, in line with the National Science, Technology and Innovation Policy (DSTIN) 2021-2030.

On that note, it was reported that the Malaysian-made Covid-19 vaccine is expected to be ready in 2024.

IMR director Dr Tahir Aris previously stated that it was important to continue the country's defence against Covid-19 and Malaysia should not rely wholly on imported vaccine supplies.

According to him, the IMR, which is under the Ministry of Health (MoH), is working with experts from UPM and the Veterinary Research Institute, which is under the Veterinary Services Department.

Whether the vaccine will require one or two doses will be known only in the later stages of its development.

Dr Tahir hoped that Malaysia's Covid-19 vaccines would match the quality of those produced overseas.

"The initiative to develop the Covid-19 vaccine goes beyond the current pandemic, as it will prepare Malaysia in case of future outbreaks.

"We also need to develop young researchers in this field for the benefit of the nation," he noted.

Generally, vaccines are substances or compounds that function to form endurance. They contain active ingredients called the antigens, which are obtained from parts or all of the virus or bacteria structures that have been killed or attenuated.

The antigen in the vaccine serves to stimulate the body's immune system to form immunity against specific infection or disease outbreaks.

According to Sanofi Pasteur Malaysia, Singapore and Brunei GM Camille de Lataillade, vaccine manufacturing is a very intricate process, hence it has to be held to the highest standard of safety.

Speaking to TMR back in 2020, de Lataillade said the manufacturing process involves dealing with live organisms and substances that must be rigorously purified and treated for hygiene and safety, while ensuring the efficacy of the finished vaccine.

"This means that every single step must conform to the highest levels of quality controls and stringent tests to ensure that they meet the requirements of health authorities around the world.

"Almost 70% of vaccine production time is spent on quality control, with further tests being conducted by health authorities in each country, in addition to a strict cold chain to preserve their efficacy throughout the distribution and delivery," she added.

de Lataillade also noted that it usually takes from six to 36 months to produce, package and deliver high quality vaccines to those who need them.

The vaccines will then be manufactured, approved by the manufacturing country's health authorities and delivered to the respective countries.

The cycle is repeated again the following year.