

PROGRESS IN THE DEVELOPMENT OF VACCINES IN INDONESIA TO FIGHT COVID19

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Good afternoon colleagues from the media...

Thank you very much, Her Excellency, Minister For Foreign Affairs, Ibu Retno Marsudi.

Good afternoon colleagues from international media, thank you for joining us in this I hope ...everyone is healthy and doing well...

The breakout of Covid-19 pandemic occurred simultaneously around the globe has caught us by surprise. To date, the number of positive cases has yet to decrease in Indonesia and consequently will claim more victims if not properly handled. One of the avenues to handle the spread of covid-19 is through vaccination. Therefore, ascertaining the 265 million Indonesian people to have access to efficacious vaccine is paramount.

Thus, in today's press briefing I would like to focus on the national effort towards self-reliance on the access to safety and efficacious vaccines for covid-19 pandemic, that is conducted through our own national collaboration or under cooperation with other countries/entities.

The current progress on Vaccines and timeline for development

First, I would like to emphasize that the end of the tunnel of pandemic covid-19 are vaccine and medicine. While the effective medicine is yet to be found, vaccine development that is self-reliant, fast and effective is pertinent in securing the state of health and livelihood of Indonesian people.

Currently, Indonesia develops sub unit protein vaccine and isolate viruses conducted by Eijkman Institution in which Ministry of Research and Technology/ National Agency for Research and Innovation assigns Eijkman Institution to hold the vaccines research.

Eijkman has succeeded to amplify the gene coding for the Spike (S) and Nucleocapsid (N) proteins from the SARS-CoV-2. Some versions of the S gene, such as the Receptor Binding Domain or full-length has also been successfully amplified and cloned into a basic vector (carriers).

We have scheduled for vaccines development, started from March 2020 to prepare the study design and resources/funding seeking. Currently, it is in the process of transfer/ cloning to mammalian cell strain vector expression. General reagents are available, but some special reagents are still in order. In addition Supporting equipment for protein production is still in the process of delivery/order. Culture and propagation of the SARS-CoV-2 virus from Indonesian isolates have been carried out and will be prepared as a positive control in immunogenicity testing of experimental animals

Nowadays, S gene transfers from carrier vector to mammalian cell strain expression vector. Next following steps is that the expression vector sequencing for sequence verification inserting of vector expression into mammalian cell lines Production of recombinant proteins (S and N) in small-scale mammalian cell lines (lab scale).

In the end of January and February 2021, Eijkman will conduct Immunogenicity and adjuvant characterization in mouse model also Seed vaccine construct ready for large-scale vaccine production

Vaccine cost and the capacity to Vaccinate the whole population against covid 19

Second, let me inform the cost of vaccine product. RISTEKBRIN through covid 19 concorcium has allocate funding to develop vacciness production. Here the description of funding support from RISTEKBRIN and some institutions.

National Consortium is of collaboration between national pharmaceutical company, Ministry of Health, Ministry of Research and Technology, Ministry of Foreign Affairs, state-owned enterprise (Bio Farma), and a number of research department from various universities spearheaded by the Eijkman Institute for Molecular Biology for development and production of a local vaccine.

Biofarma Industry also develops Scheme option of cost estimation for collaborate with Sinovac/ other International Technology Platform (Inactivated Vaccine IDR 40,5 Billions). Concorcium to develop National Vaccine (BRIN, Eijkman,dll) for Technology Platform : Sub Unit Recombinant Protein IDR 63,2 Billions. Also Vaccine development mRNA/DNA-based IDR 71,6 Billions

The cost estimation above is a cost out of factory development which is not needed as at this moment Bio Farma has own factory facility which is ready to develop Covid-19 vaccine; It includes development step cost started from phase of pra clinic, clinic test up to registration step. The cost estimation has not included commercial phase. This vaccine development scheme with the assumption that Government through Health Ministry will be *Off Taker* from vaccine produced by Bio Farma; Specially for Vaccine Covid 19 production, Biofarma capacity can be optimized to 250 millions dose per year

Indonesia's current role in vaccine development and production, and companies approached Indonesia for partnerships

Nowadays, Indonesia current role in vaccine development and production is to produce vaccines as quickly as possible by arranged the team concorcium who manage the programs which Guarantee some institution such as eijkman and hospotals with the availability of Covid-19 vaccine and distribute the vaccine nationally within 12 months.

Some efforts which should be conducted by Indonesia involves Increased ability domestic institutions to develop vaccines. Some instition develops their own research. To prevent the overlap in vaccine research and development, Indonesia through RistekBrin coordinates hospital and other instition in order to be synergied and save the budget to produce vaccine.

In addition, Indonesia's current role is to increase cooperation with countries that have covid-19 vaccine development institutions that are proven to have qualified and measurable performance in this field. Indonesia needs cooperate with other countries in order to complement

the progress of vaccines product. To enhance the ability of domestic industries for producing Covid-19 vaccines. Indonesia needs to trigger the industry to produce covid 19 by providing some incentives in order industry could participate to collaborate with researcher for trial and mass production. Tax incentive also should be provided to industry to spread/sell the vaccine product.

Also Supporting the ability of domestic industries to provide Covid-19 vaccines through production cooperation with vaccine-producing overseas industries. Indonesia could facilitate industry to take part in international market/free market in which it can give the income for the country

Bio farma is a company approached Indonesia for partnerships, as reasons, first, PT. Bio Farma has exported Polio oral vaccine to 118 countries. However, the company in develop countries, influences WHO to ban the usage of Polio oral vaccine. Second, Indonesia which can not produce Polio injection vaccine, has stop or reduce the export. In contrast, Indonesia must import Polio injection vaccine in multiply prices. Fortunately, in 2019, Bio Farma is requested to produce it again as few country need so that PT. Bio Farma can export. US President has announced that pra COVID-19 vaccine is available around 157 and found also developed in Europe, it is requested to be used in US first.

The motivations for making Indonesia own vaccine

This question appears as the questions of Is it because Indonesia worried it'll be shut out or last in line for one made by the US or China? (Bloomberg)

The motivation for Indonesia for making Indonesia own vaccine are as follows, Indonesia wants to overcome the covid 19 pandemic and prevent the covid cases spreading more which cause the death of covid 19 patients. Also It can anticipate the other viruses of covid 19 in the future. Next, Indonesia needs more vaccines so that how to provide the vaccines are available in quckly. How to protect and effectively recover patients also does not depend on other country to produce vaccines.

In addition, Infonesia has the competent human resources who can research and develop the vaccine products in some research institutions and universities. Also, it is supported by the laboratorium facility.

Besides, Indonesia has experience to develop vaccine and after succeed trying to research another vaccine . The benefit to produce own vaccine, Indonesia can save the budget and does not need to buy from other countries with higher prices. In the end, It will result the foreign exchange if Indonesia can export the vaccine

As such we have to ensure that the local capacity in development and production of vaccine will truly benefit Indonesia and not merely as a place to conduct clinical trial for potential market only.

In the medium and long run, we must ascertain the sustainability of vaccine self-reliant effort. The outbreak of COVID19 is a one tough lesson learned for us, that we need to strengthen our health security and accelerate the capacity of our health industry through development of raw materials for medicine, vaccines and biopharmaceutics.

That is all from me.Thank you very much.

Jakarta 2 July