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People at a vaccination centre at Senja-Cashew Community Club in March. Transparent and adequate communications with the public remain key when there are changes to national policies on Covid-19 vaccines, in order to build public confidence towards vaccines, says the writer. ST PHOTO: ONG WEE JIN

Covid-19: Making sense of changes in vaccine policies

Public health policies evolve as new data becomes available. Safety and effectiveness are essential guides whether the decision concerns the choice of vaccines or the pool of people eligible for vaccination.

Teo Yik Ying

For The Straits Times

Last week saw a flurry of announcements on Singapore's Covid-19 vaccination strategies, beginning with Prime Minister Lee Hsien Loong sharing an accelerated vaccination schedule for the country.

This is the result of successful negotiations for faster vaccine deliveries, allowing those above 60 to turn up at any vaccination centres for their inoculation without prior appointments, and prioritising students aged 12 and above for their inoculations from June 1. The announcements were soon followed by advisory changes from the Ministry of Health (MOH) that pregnant and breastfeeding women, patients receiving cancer therapies, or anyone with a history of severe cutaneous adverse reactions can now be vaccinated.

Of the changes last week, two received the most attention – the provision for private healthcare providers to offer vaccines approved under the World Health Organisation's (WHO) Emergency Use Listing (EUL), as well as to allow people with a history of allergies to receive the Pfizer-BioNTech and Moderna vaccines.

OTHER VACCINE APPROVAL

While Singapore has announced its intention to bring in non-mRNA vaccines to supplement the current mRNA choices of Pfizer and Moderna, this is ultimately a process that takes time for regulatory review and large-scale procurement.

In the meantime, the first change means that healthcare providers are now able to offer the EUL vaccines to anyone in Singapore for a fee, thus quickly opening up choices to beyond the mRNA vaccines currently offered under the national vaccination programme.

Other than Pfizer and Moderna, there are currently four additional vaccines approved under the WHO EUL – AstraZeneca, Johnson & Johnson, Sinopharm and Sinovac.

However, attention has focused primarily on Sinovac, as it was one of three vaccine candidates Singapore had made advance purchase agreements for, and it had already received a shipment of 200,000 doses since late March this year.

Traditional and social media were abuzz with questions on why Sinovac has been approved by WHO under the EUL, but is still not approved by Singapore's regulatory body, the Health Sciences Authority (HSA), for national roll-out.

To clarify matters, it would help to know what the WHO's considerations in granting the EUL approval are, and how the HSA decides which vaccines are suitable for Singapore's Covid-19 vaccination programme.

HOW DOES EUL WORK?

First, the EUL is actually not a full approval but rather an emergency one granted to vaccines that are deemed to confer some degree of protection in a public health emergency, such as the current Covid-19 pandemic.

The simplest way to think about this is to weigh the benefits of taking the vaccine against not taking it at all, that is, being completely unprotected. If a vaccine is proven to be safe and effective enough to save lives, then the emergency use is justified.

The crux of the matter is that approvals hinge on two key concepts: safety and effectiveness.

To qualify for EUL status, vaccine manufacturers must submit their clinical trial data transparently for independent assessment. Safety is a variable that is never compromised, as witnessed from the global attention to the adverse effects observed in several clinical trials last year. As for effectiveness, WHO has a minimum criterion of 50 per cent before a vaccine would be considered for EUL approval. Notably, this criterion was established in the first half of last year, even before there was any clinical trial data for vaccine candidates.

Back then, this was deemed to be the minimum protection offered by a vaccine for its benefits to outweigh any uncertainties or foreseeable risks during a global public health emergency.

Note that the key word here is "global".

The lens that WHO uses to decide on EUL vaccine approval is a global one, as it has to weigh the needs of the world – including those of resource-poor countries and their ability to secure and distribute vaccines – in deciding the overall strategy to vaccinate the world's population.

Importantly, technical expert committees that advise WHO on Covid-19 vaccines have always expressed caution over the availability and completeness of data for some of the EUL vaccines, but the risk-benefit assessment skews in favour of emergency use in a global health crisis.

REGULATORY CHECKS

So why do countries need an additional regulatory step to review vaccines that have already been approved by WHO? What do national regulatory agencies consider?

It is important to stress that these agencies would never compromise on safety, especially when it comes to known and avoidable harm.

However, countries may adopt different positions in trying to balance effectiveness and cost, and a comparison of the national essential drug listings between countries will reveal that this has always been the case in deciding which therapeutics, vaccines and medical devices fall under national procurement.

When there is ambiguity in either the safety or effectiveness data, it is normal for a regulatory agency to request clarification or additional data to clear the ambiguity.

National regulatory agencies cannot compromise their standards in deciding what product to roll out, especially when it will potentially be administered to millions of people.

This is why although the AstraZeneca vaccine has been approved for use in Europe and other jurisdictions, it has yet to be approved in the United States pending further data submission.

This is similarly the case for Sinovac in Singapore, where the HSA has requested additional inputs and clarifications from the manufacturer.

UNDERSTANDING EFFICACY

Crucially, Sinovac's efficacy data exhibited considerable variation across trials in different countries, from 91.25 per cent in Turkey, to 65.3 per cent in Indonesia and 50.4 per cent in Brazil. In comparison, data from clinical trials for Pfizer and Moderna consistently registered efficacy in excess of 90 per cent.

Understanding the reason for such variability requires clarification in trial designs and outcome definitions before a responsible regulatory body can conclusively decide on Sinovac's role in a national vaccination programme.

In the meantime, I am glad that the Sinovac vaccine will be made available under the Special Access Route that permits access to any of the EUL vaccines, and private medical centres will be allowed to draw down the available doses for free, charging only a service fee for the inoculation.

Furthermore, this service fee will be reimbursed in full if any of the 34,000 individuals who were rejected from receiving the mRNA vaccines opt for Sinovac's inactivated virus vaccine.

This is clearly a concrete step in opening up more avenues for people to get vaccinated.

In fact, the majority of the 34,000 people will now be eligible for mRNA vaccinations, the subject matter of the second key change.

ENSURING PUBLIC CONFIDENCE

Making policy decisions during a global public health crisis is never easy, especially when data is scarce in the beginning and policymakers are forced to rely on an overabundance of caution rather than jeopardise public confidence and safety.

However, when sufficient data from local and international sources has been accrued and reviewed, new decisions may be needed that appear to contradict previous stances.

This was the case in initially rejecting, then later allowing individuals with a history of medicine or food allergies to get the mRNA vaccine.

With more local and international data on people likely to experience a severe anaphylactic event, the expert committee advising MOH was able to revise the original cautious stance.

At the same time, regulatory bodies locally and worldwide continue to monitor the global vaccine roll-out for new discoveries in vaccine safety and efficacy. For example, recent data from the United Kingdom reassuringly showed that the Pfizer vaccine remained efficacious against the more contagious Alpha and Delta variants, albeit with a slight drop in effectiveness to 93 per cent and 88 per cent respectively.

As a public health professional, I know first-hand how fragile public confidence towards vaccines is, and how important it is to build confidence in the community that the vaccines are not only effective but also not harmful to people receiving them.

And this is precisely why transparent and adequate communications with the public remain key when there are changes to national policies on Covid-19 vaccines.

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