

Covid-19: There's more work to be done

It seems like the battle with Covid-19 is over. But realistically, we are in a new phase of the fight, building on new vaccines, drugs and science breakthroughs

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About three years after the onset of the Covid-19 pandemic, it continues to affect us all.

Although vaccines have provided substantial protection from severe disease, Covid-19 remains deadly for certain patients – mostly the unvaccinated – and there are multiple new variants circulating around the world.

The virus keeps evolving, and this means that we will continue to see new waves of infection for the foreseeable future.

However, a certain level of fatigue has set in – stemming from the ongoing response over three years, the need for multiple booster shots and continued dedication of resources to the pandemic – and this needs to be guarded against. There are lessons that need emphasis.

For instance, there are strong indications that vaccinated individuals continue to be resilient against new infections. Importantly, new information has led to policy shifts and updates to align our practices with our evolving understanding of the pandemic, such as how the guidelines on masking changed over time, or how recommendations for boosters are rolled out now as new data on virus strains and breakthrough infection frequency are obtained.

This new phase of consolidating and building on the evolving knowledge in tackling Covid-19 requires transparent and science-driven communication and community outreach.

The former involves communicating the ways that vaccines work, their safety profiles and the advantages of each vaccine platform. Miscommunication and mistrust surrounding vaccines remain causes of poor booster uptake against newly emerging variants.

We continue to hear good news



New versions of the booster doses have already been updated based on new knowledge of the virus strains – and taking those is the most appropriate course of action, say the writers.
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current and newly emerging coronaviruses as well as to limit our need for boosters. For now, a minimum of one booster a year is recommended for healthy people.

We also have new drugs that have recently been approved in Singapore for the treatment of Covid-19. One example is Paxlovid, an oral pill that was shown to reduce the risk of developing severe Covid-19 by 88 per cent in one study, if used within three days of symptom onset.

Other drugs that are available include antivirals, which target viral proteins required for replication, including molnupiravir and remdesivir, and immunomodulators such as baricitinib and tocilizumab, which can dampen our body's own inflammatory response and are approved for some hospitalised Covid-19 patients.

With updated vaccines and second-generation drugs, we are better prepared to deal with newly emerging variants. So, looking forward, are we prepared for the next pandemic?

While the public outreach of the Covid-19 pandemic has increased public awareness of the science behind viruses, vaccines and our immune systems which allow individuals to make informed and safe choices for their health, there remain downsides to all of the discussion surrounding Covid-19, including misinformation, politicisation in some countries, and fatigue with keeping up to date on current guidelines and public health recommendations.

This makes it important to continue our public outreach and education surrounding Covid-19, specifically, and preparations for future pandemics, generally.

A lesson comes from the recent Nobel Prize in medicine, won by Professor Katalin Kariko and Dr Drew Weissman for their discoveries that helped enable mRNA to be used as a vaccine. The Covid-19 vaccines that seemed to appear overnight were actually built on decades of work by them and many other scientists.

This highlights the need to continue our preparations for the next pandemic through continued basic research into vaccine development. Vigilance in monitoring outbreaks and our environment for new viruses that have the potential to cause epidemics is also important.

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about the efficacy of vaccines.

The Straits Times reported that a Singapore study found the newborns of mothers who received a Covid-19 vaccination during pregnancy were significantly protected against the disease, which is consistent with the results of other studies of pregnant women around the world that have shown vaccines to be protective for both the mum and foetus or infant.

It remains important to communicate these successes of vaccines to the public to assuage fears and counter misinformation. For example, community outreach could involve explaining prevention measures that a person can take to limit disease spread – such as continued masking when feeling unwell – as well as the safety and efficacy of drugs and vaccines as new options emerge. Clear policy guidelines and explanations to the public of changes to policies are essential, through the media or other channels, and this should build trust that policies are rational and based on up-to-date knowledge.

THE SITUATION NOW

In many ways, the Covid-19 pandemic has reframed how we think of vaccines and what we demand of them.

Prevention of severe disease has emerged as the most important value of current vaccine formulations. As stated by Health Minister Ong Ye Kung: "The Covid-19 virus has not become milder since the pandemic crisis. It is us who have gotten stronger and more resilient because of vaccinations and safe recovery from infection."

In Singapore, the Omicron variant Eris (EG.5) and its descendant variant HK.3 have taken over as the leading viruses causing infections. Their accumulated mutations allow them to evade vaccine-induced immune responses to a greater extent than their parent, which is a likely factor contributing to the recent surge of cases – more than 15,000 reported each week in Singapore in recent weeks.

In the US, the Centres for Disease Control (CDC) pointed to slow progress on booster uptake as being linked to a recent rise in Covid-19-related deaths there, emphasising the importance of boosters to continued protection.

Ultimately, we are watching carefully as the virus mutates.

New versions of the booster doses have already been updated based on new knowledge of the virus strains – and taking those is the most appropriate course of action. Several vaccines, including

those made by Moderna, Pfizer and Novavax, have been updated to target the Omicron variant descendant strains.

LONG COVID AND THE IMPORTANCE OF BOOSTERS

Mild infections still occur in many of those who are vaccinated, and transmission is not completely blocked by vaccination. In some, even when they are vaccinated, recovery is arduous. Long Covid, or post-Covid-19 conditions, have emerged after infection, which can last for months and even years.

Symptoms of long Covid include fatigue, heart palpitations, brain fog, sleep problems, diarrhoea, and stomach and muscle pain. Diagnosis is made difficult as these are non-specific or general symptoms that could be triggered by a variety of health conditions.

It is estimated that there are four million people who experience symptoms of long Covid in the US. Although the numbers are much lower in Singapore, this highlights that Covid-19 and post-Covid-19 after-effects continue to have an impact on health.

Since people can be infected with the virus that causes Covid-19 multiple times, the risk of developing long Covid persists

with each new infection. However, studies have found that long Covid is rare among vaccinated individuals. As well, if they do get it, they appear to recover more quickly than the unvaccinated – another important reason to keep oneself up to date on boosters.

Studies continue to shed light on complex questions like why some people develop severe Covid-19 or long Covid but others do not, or how vaccines could be updated to provide improved protection.

Based on the continued research advances in these areas, it is likely that vaccines, treatments and public health guidelines for Covid-19 will continue to be updated in the years to come.

NEW VACCINES AND DRUGS

Along these lines, new vaccines or vaccine formulations are being developed that are given through the nasal ("mucosal") passages, where the Sars-CoV-2 infection begins. Such vaccines may be able to block the spread of infection.

There are also efforts under way to develop universal pan-coronavirus vaccines. Although much work is still needed before they could be tested on humans, this is a promising strategy to block