



Covid-19, Monkeypox, And Others: When Will New Infectious Diseases Stop Emerging? – Ahmad Mahfuz Gazali

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In this day and age, new infectious diseases will continue to emerge, and we will hear about it sooner rather than later.

We have been living with the SARS-CoV-2 virus, since it was first discovered in Wuhan, China, in December 2019.

Covid-19, caused by SARS-CoV-2 infection, was declared a global pandemic by the World Health Organization (WHO) on March 11, 2020.

However, most countries have declared Covid-19 an endemic disease since early 2022.

This means governments worldwide have started to lift restrictions, and life went back to how it was before the pandemic.

Our country is no exception to this phenomenon, and we started to transition into the endemic phase of Covid-19 on April 1, 2022.

However, there have been recent shocking developments.

Monkeypox, an infectious disease caused by the monkeypox virus, was reported in more than 42 countries, as of June 15, 2022.

According to the WHO, monkeypox has not been declared a global health emergency, despite 2,103 cases reported worldwide.

This brings us to the question: when will new infectious diseases stop emerging?

The simple answer is: no.

Naturally, microorganisms, especially viruses, will continue to mutate and evolve.

Let us look at the SARS-CoV-2 virus itself.

Since the emergence of the ancestral strain of the virus in December 2019, various variants of the SARS-CoV-2 virus have emerged.

We have heard of Alpha, Beta, Gamma, and Delta, and the latest variant is Omicron.

The Omicron variant emerged in November 2021, when it was first detected in South Africa.

The variant has more than 50 mutations, compared with the ancestral strain isolated in Wuhan.

Recently, Omicron subvariants BA.2.12.1, BA.4, and BA.5 were reported to cause infections and reinfections in people who have been vaccinated, or had BA.1 or BA.2 infections.

The data from the experiment above demonstrated that these Omicron subvariants can escape neutralising antibodies induced by both vaccination and infection.

This prompted health minister Khairy Jamalluddin to predict that a new Covid-19 wave may occur in Malaysia earlier than expected.

We will continue to hear about new infectious diseases emerging globally from time to time.

How does the news of an emerging infectious disease spread so fast?

This is partly due to the open science movement, which aims to make scientific research (including publications, data, physical samples, and software) accessible to all levels of society.

Within days of the discovery of the SARS-CoV-2 virus, the genome was disclosed by a group of Chinese researchers.

This is in contrast to the SARS-CoV virus, disclosed only three months after the outbreak in 2003, because the disease was initially blamed on Chlamydia.

Another example of the open science movement, which advocates the sharing of experimental data online, made accessible for everyone.

Researchers around the globe may share data on [NextStrain](#) and [Gisaid](#), online resources that use genome data to monitor the evolution of disease-causing organisms such as viruses in real time.

These online resources have tracked outbreaks of Zika, Ebola, and dengue, and have even been used to inform the WHO's policy on seasonal flu.

In addition to online genome resources, other examples of online sharing resources are [Open Science Framework](#), [Figshare](#), and [Mendeley Data](#).

Data sharing is a common theme of the open science movement.

In addition to quick and open data sharing, you can also get access to early information about scientific papers from open-access preprint repositories.

Repositories such as [bioRxiv](#), [medRxiv](#), and [Research Square](#) enable scientists to share their research findings before peer-reviewing.

The peer review process is a process in which scientists with the same expertise evaluate research findings, although it might take several weeks to months before a scientific paper can be published.

More scientific data is now available for free, rather than waiting for the paper to be published.

In this day and age, new infectious diseases will continue to emerge, and we will hear about it sooner rather than later.

The question is: are we prepared for it?

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[Covid-19](#) [monkeypox](#)