

When fear spreads faster than the disease

Social media amplifies panic with every new outbreak, but the real challenge lies in fostering science literacy and measured vigilance.

Hsu Li Yang

In November 2023, China's capital Beijing and Liaoning province saw a surge in hospitalisations after people were infected with the bacterial pathogen *Mycoplasma pneumoniae*. Many of those affected were children. The incident sparked a widespread sense of unease and uncertainty.

Similarly, alarm bells were raised when avian influenza (H5N1) spread among cattle herds throughout the United States in 2024, with occasional human infections as well as a human death earlier in January.

Such reactions are common whenever new respiratory outbreaks occur, especially when these involve pathogens that are less well known outside healthcare and research communities. It's partly because of the Covid-19 imprint on our psyche – for better or worse – which will likely linger on for years.

Recently, the spike in respiratory illnesses throughout China has transiently ratcheted up anxiety worldwide regarding a possible human metapneumovirus (hMPV) pandemic.

The increased reporting of outbreaks caused by lesser-known pathogens in mainstream and social media reflects both greater public interest and the wider adoption of more diagnostic tests in the healthcare sector.

Testing for hMPV, for instance, is not routinely done for individuals with respiratory illnesses even within Singapore's technologically advanced healthcare system. However, it is increasingly diagnosed worldwide in very ill patients – particularly young children – with severe lung infections, where it is one of a panel of potential respiratory pathogens that can be identified via commercial multiplex

polymerase chain reaction (PCR) tests.

Before 2008, such testing was only performed on an experimental basis in research rather than service laboratories.

Of the three pathogens mentioned above, current scientific understanding is that only avian influenza will have the potential to cause a pandemic anywhere near the scale of Covid-19 or the 20th century influenza pandemics.

What we commonly understand as pandemics – essentially large-scale outbreaks affecting multiple countries' health systems and economies – are almost always triggered by one of three scenarios: the emergence of novel pathogens (that is, Sars-CoV-1, HIV and Sars-CoV-2 when these first appeared), major re-assortment of existing viruses creating a version of the pathogen that our immune system does not quite recognise (that is, pandemic influenza), or existing pathogens transferred into communities with no prior exposure (that is, the Mpox clades, the Black Death during the 14th century).

The common factors are regions where large swathes of the population are immunologically naive to the pathogen, and where conditions permit rapid spread.

Mycoplasma pneumoniae and hMPV are present worldwide and have been infecting humans for decades or longer. While re-infection can happen – since immunity, as with Covid-19 or influenza, is not lasting – almost everyone above the age of five will have some degree of existing immunity to hMPV from prior exposure, resulting in less severe infections.

Furthermore, there are no new societal or environmental factors that present either pathogen with opportunities to spread more explosively.

Yet, with every outbreak, we seem to enter a familiar cycle of anxiety – even paranoia – about potential pandemics. Social media

buzzes with warnings, mistrust and fears. Media coverage intensifies. Hospitals brace themselves by preparing extra beds. Governments issue reassurances to calm public nerves. Is this the new normal?

IN DIFFERENT TIMES

The past is not a useful guide in this instance. Each of the influenza pandemics of the 20th and 21st centuries resulted in significant public fear and anxiety while they were ongoing, but – if archival and media records are any indication – these concerns faded rapidly when the pandemics ended. Worries about future outbreaks were not sustained.

The historical context and circumstances are different each time, which might account for the rapid fading of public fear.

The 1918 influenza pandemic was even more devastating than the Covid-19 pandemic, but was overshadowed by the conclusion of World War I, becoming a “forgotten pandemic” as countries and communities largely focused on post-war recovery and commemoration.

There was also limited understanding of viruses and infections – in colonial Singapore and elsewhere, great effort was spent clearing streets and buildings of dust, which was believed to be a fomite capable of spreading the influenza virus.

Up until the 21st century, most governments and health authorities believed there was little they could do to detect pandemics early and alter their course, and focused on the more pressing health needs of their people. There was also no social media or internet to amplify the fears and views of people.

The first serious global attempt to alter the course of a pandemic occurred during the 2009 H1N1

influenza pandemic. However, the overall severity was lower than initially feared – the virulence of the pandemic virus was no different from seasonal influenza – and public concern also rapidly subsided.

Covid-19 was both prolonged and devastating. However, we have also had historical and measurable achievements that have altered the pandemic's course.

Public health interventions in countries like Singapore, China, Australia and New Zealand have visibly protected their people from the virus during the course of the pandemic, albeit with significant trade-offs in socioeconomic and mental well-being. Effective vaccines were developed with large-scale roll-outs worldwide within a year – an unprecedented feat.

This led many governments and international health organisations to believe that we should do even better next time at preventing or limiting the spread of a pandemic pathogen, while minimising the cost and trade-offs of these interventions.

Post-pandemic, government officials and many health experts have repeatedly stressed that the next pandemic is a question of time rather than probability.

Many countries have improved their existing outbreak surveillance systems, and are reporting outbreaks in a more timely and transparent manner. There continues to be heightened mainstream media coverage. However, while responsible journalism keeps the public informed, sensationalism can exacerbate fear.

Headlines and social media posts about a “mysterious virus” or “hospitals overwhelmed by new outbreak” without sufficient context contribute to a perception of imminent danger that is often amplified and distorted in social

media.

All of this contributes to a feedback loop leading to the widespread sense of unease and uncertainty that arises with each new outbreak.

What can or should we do about this? Is this an acceptable trade-off in exchange for heightened vigilance as well as preservation of institutional and communal memory against a future pandemic?

In all likelihood, this phenomenon will fade over the next couple of years. This is natural and not a source of concern.

A BETTER RESPONSE?

Immediately after the pandemic, mainstream and social media was abuzz whenever a new Sars-CoV-2 subvariant arose, with resultant widespread public anxiety.

Today, very few people care about new variants and subvariants, even though the virus continues to mutate. We have come to accept that Covid-19 is just another regular respiratory virus, even if not everyone understands that new variants are not going to become far more virulent than past variants.

However, we should continue to improve science literacy in our current and future generations. This is perhaps the most important thing we can do, with an effect beyond the narrow issue of outbreaks and preparedness.

Empowering individuals to differentiate between credible and misleading information, to better understand and assess scientific progress, reduces the impact of sensationalism and strengthens communal resilience.

This task is challenging because of the flood of information and accelerating pace of scientific and technological advancement. Every day, a deluge of increasingly

sophisticated mis- and dis-information is broadcasted through social media, amplified by individuals unable or unwilling to verify their authenticity.

Governments, academics and media must continue to provide clear, consistent and contextual communication as far as possible.

Continuing with a transparent flow of information as our Ministry of Health has done, especially about the uncertainties and limitations of current

knowledge, will help foster public trust. Nuanced explanations of outbreaks, highlighting the nature of the disease, its severity and preventive measures without exaggeration could have tamped down fear and concern over the current spike in respiratory illnesses in China.

For instance, few media reports highlighted that – while hMPV cases had increased in China – the share of respiratory illnesses caused by this virus was actually five times less than seasonal influenza.

A state of heightened anxiety and even paranoia each time an outbreak is reported is not the new normal and we should never let it become one. It's also not a healthy long-term strategy against a future pandemic.

However, efforts to maintain and enhance public trust remain a critical component of future pandemic preparedness. Aspiring towards a timely and transparent public communications ecosystem with government, academia and media playing their respective roles with a scientifically literate community is something that we can all come together to support.

• Professor Hsu Li Yang is director at the Asia Centre for Health Security and vice-dean of global health at Saw Swee Hock School of Public Health at the National University of Singapore.

