

Deaths in a world where the coronavirus is endemic

A closer look at the data provides a better understanding of what's behind the recent rise in the number of Covid-19 deaths in Singapore

Teo Yik Ying and Vernon Lee

Speaking about death is never easy. Every death means the passing of a loved one – a father, mother, brother or sister – a relative or a friend.

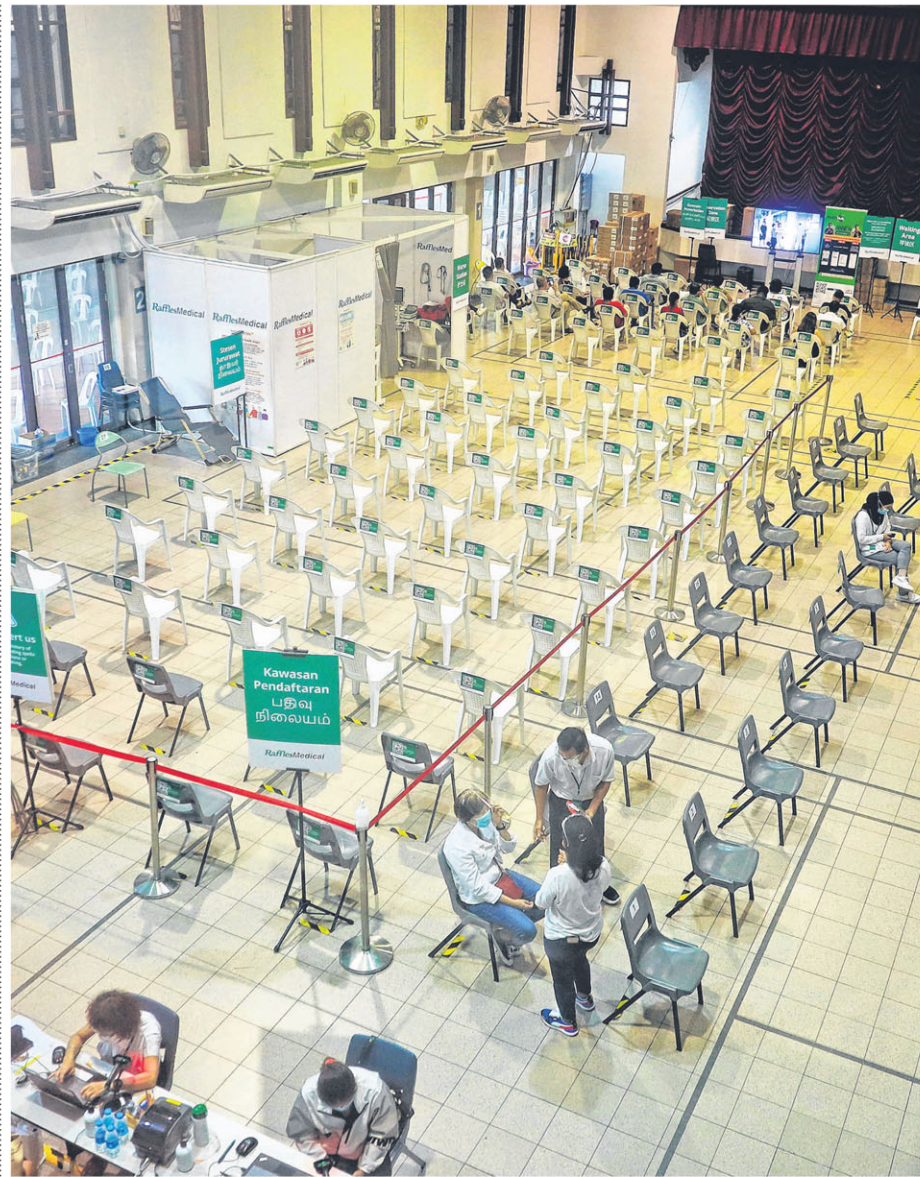
Yet, as Singapore transits to treating Covid-19 as an endemic disease, we need to speak frankly about deaths from the disease.

The commentary by Professor Teo Yik Ying in *The Straits Times* on Aug 13 presented the possibility that as Singapore opens up, just like the United States, Israel, Britain and many European countries have done, the number of deaths here will go up, especially among the unvaccinated, as it has done elsewhere.

Since then, the overall national vaccination rate has risen to 86 per cent. Vaccination rates among seniors have also increased substantially, making Singapore one of the most highly vaccinated countries in the world. We have also rolled out vaccine boosters, which have strengthened the protection against severe disease by at least 10 times, on top of the protection conferred by two doses. These steps have helped to avert many instances of infections and deaths, and made Singapore's Covid-19 death rate one of the lowest in the world. The authorities continue to do their best to protect lives and livelihoods and prevent unnecessary deaths by taking a cautious and calibrated approach to reopening the economy, instead of a big bang.

Even so, over the past four weeks, Singapore saw the deaths of about 300 people with Covid-19. Every loss is felt keenly. Naturally, the rise in Covid-19 deaths has also raised concerns.

It is necessary to address these concerns squarely, with data and facts that people may not be aware of. Let us start with an explanation of reported deaths.



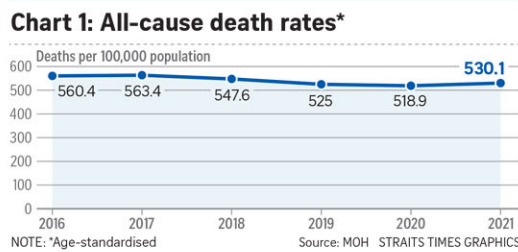
The Covid-19 vaccination centre at Tanjong Pagar Community Club last month. Singapore's overall national vaccination rate is 86 per cent, making it one of the most highly vaccinated countries in the world, say the writers. ST PHOTO: JASON QUAH

Tracking and explaining deaths

Chart 1 shows death rates over the past five years, including last year and this year (up to end-September and extrapolated to cover the whole of this year). The death rates are age-standardised – which means removing the effect of population ageing from year to year.

Significantly, death rates have remained stable throughout this period, including the 22 months of Covid-19. Our experience stands in stark contrast to that in many other countries, where death rates surged last year and this year as Covid-19 overwhelmed their healthcare systems. Our death rate this year is lower than it was in 2016, 2017 and 2018 – all Covid-19-free years – and is only marginally higher than in 2019.

If we break down the overall

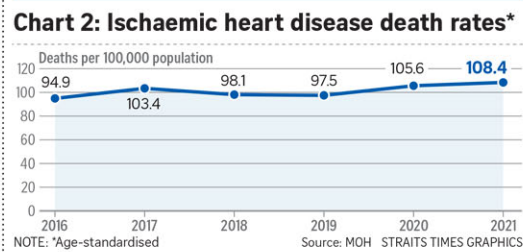


figure, five causes of death account for 78 per cent of all deaths here. Three are consistently featured – ischaemic heart disease, pneumonia and cancer. In particular, the number of deaths due to ischaemic heart disease went up slightly this year and last year, but deaths due to pneumonia came down significantly. Both trends need to be explained.

Why did deaths from ischaemic heart disease go up last year and this year, as shown in Chart 2? The increase is not statistically significant, but there is a well documented phenomenon in epidemiology known as “mortality displacement”.

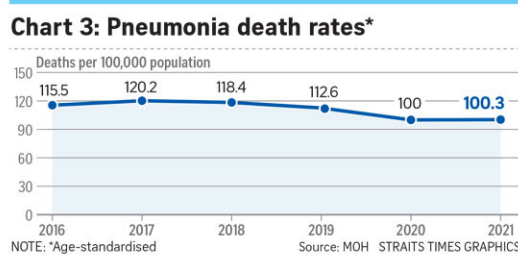
This often happens during crises such as epidemics, famine and war. These shocks take a toll on people who are sick and already frail – especially the very old. This hastens some deaths, and produces a temporary forward shift in mortality.

Covid-19 may be doing this to those with severe underlying illnesses. In other words, Covid-19 may have aggravated these people's existing illnesses, which could in turn have triggered heart failures and deaths.



Why did deaths from pneumonia come down last year and this year (Chart 3)? That seems counter-intuitive, especially because Covid-19 causes pneumonia. Pneumonia is often cited as a cause of death because it is the last medical condition leading to death.

To illustrate: A person may have an existing life-threatening condition like diabetes or hypertension. When he subsequently catches a viral or bacterial infection that impairs his



lungs, resulting in respiratory failure and death, the cause of death will be reported as pneumonia and not diabetes or hypertension.

The sharp decline in pneumonia deaths has most likely come about from the many public health measures rolled out during the pandemic – masks, better personal hygiene and safe distancing.

These measures significantly reduced not just viral and bacterial pneumonia, but also other

endemic, highly transmissible respiratory diseases like influenza, which together with pneumonia, have killed more than 4,000 people annually.

Our hospitals are reporting all-time-low hospitalisations from influenza. Many of us also find that we are catching a cold less often.

So, while Covid-19 led to more pneumonia-related deaths, this has been more than offset by the sharp reduction of other non-Covid-19 viral and bacterial lung infections.



By wearing masks and practising good personal hygiene, we reduce the chances of being infected by Covid-19 and other diseases. ST PHOTO: CHONG JUN LIANG

Comparison with influenza

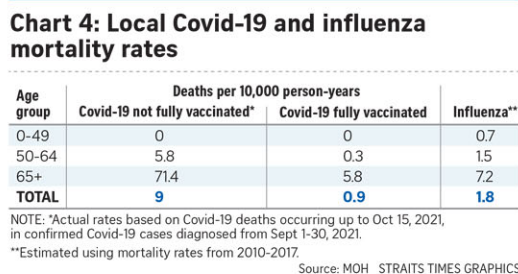
We cannot look at the impact of Covid-19 on deaths in isolation, but must look at it holistically, as one of many causes of deaths.

Despite the apparently high and even alarming number of Covid-19 deaths this past month, Singapore continues to buck the worldwide trend, with no noticeable increase in overall deaths last year and this year.

We remain one of the countries with the lowest Covid-19 death rates.

In fact, our local data shows that someone who is fully vaccinated against Covid-19 is less likely to die from Covid-19 than from influenza, an endemic disease.

For example, of the Covid-19 deaths that occurred up to Oct 15 in cases that were diagnosed in September, the death rate of those



not fully vaccinated was about five times that for influenza. However, for those fully vaccinated, Covid-19 mortality was half that for influenza (Chart 4). That is why Covid-19 has now been described as a “pandemic of the unvaccinated”.

Living with Covid-19

As Singapore transits to endemic Covid-19, the number of deaths attributed to the virus will rise. At a steady state, when we can live normally with the coronavirus, we may see about 2,000 Covid-19-related deaths a year, just as we have about 800 influenza deaths a year and more than 4,000 attributed to pneumonia. This is barring new and more dangerous Covid-19 variants.

However, the number of deaths that will eventually be attributed to Covid-19 is not totally out of our hands.

Our healthcare workers continue to do their utmost to care for every patient who is severely ill and put him on the path to recovery.

There are also several things we can all do to protect ourselves as

much as possible.

Vaccination, including a booster, will reduce the rate of transmission of the virus, and permit many of us to avert severe illness and death when infected with Covid-19.

By living a healthy lifestyle and preventing chronic illnesses, we will be less likely to get seriously ill if Covid-19 hits us.

By wearing our masks and practising good personal hygiene, we will reduce the chances of being infected in the first place, not just by Covid-19 but also other viral and bacterial diseases.

Precisely because death is such an important and personal matter to us, we believe it is important to understand our annual reported deaths, and to realise both how untimely deaths can be averted

and also when they have become unavoidable.

Our overall mortality rate need not increase because of Covid-19. This is one of the key reasons why we believe it is entirely possible to live with Covid-19. But we must all do our part.

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